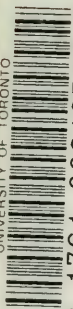
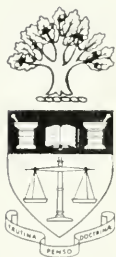


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ERRATA.

“In the original plan of the work, it was intended that Chinese characters should be *followed* by the Romanization in parentheses. In some instances, in the early pages of the book, this order has been inadvertently reversed, the Romanization standing first, followed by the Chinese characters in parentheses. This is especially true in the articles on *Aconitum* and *Acornus*. The names of the natural orders should appear in Roman letters; a few are in Italics. When used adjectivally, these should *not* begin with a capital letter.”

The above is from Dr. Stuart's own pen. Would that he could have completed these Errata that they might have been more perfectly done.

A table of errors, excepting the ones mentioned here, is placed in the back of the book following the indexing.

Both words of Customs Lists; the first word in botanical names of more than one word; the first word in the Romanization of Chinese terms, and the word Appendix should always begin with capital letters.

A few other mistakes in the use or nonuse of capitals will be noticed. Szechuen should be Szechuan. Caret e should always be found in Li Shih Chên. Parentheses marks and punctuation marks are not invariably correct.

A. G. S.



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CHINESE MATERIA MEDICA.

PART I. VEGETABLE KINGDOM.

ABRUS PRECATORIUS.—相思子 (Hsiang-ssü-tzŭ), 紅豆 (Hung-tou), 423. This is a twining shrub, growing to the height of several feet, and found in the south of China and parts of the East Indies. The first Chinese name given above, meaning "love sick", refers to the legend of a man who died by the side of one of these shrubs, and his wife sat beneath its shade and wept until she died also. The bright scarlet seeds, of the size of large shot, with a black spot at the hilum, are used as beads by children. They are said to be slightly poisonous (emetic) and to have the power of preventing Baroos camphor from evaporation when they are kept with it. When taken as medicine, they are said to "permeate the nine cavities of the body" and to "expel every sort of evil effluvia from heart and abdomen", to be diaphoretic, expectorant, antiperiodic, and to "destroy every sort of visceral or cuticular worm". The *Pentsao* gives in this connection what is regarded as a reliable prescription for the destruction of a "cat-devil". "If a cat-devil has been seen or its cry heard, use *Abrus precatorius*, *Ricinus communis*, *Croton tiglium*, of each, one bean; pulverized cinnabar and wax, of each, four *shu*; make into pills the size of a hemp seed and administer at once. Then surround the patient with ashes and place before him a cinder fire. Spit the medicine into the fire, and as it bubbles up, mark a cross on the surface of the fire, when the cat-devil will die".

The root of *Abrus precatorius* is long and woody, pale reddish-brown externally and yellowish internally. It has a thin bark, a peculiarly disagreeable odor, and a bitterish acid flavor, leaving a faintly sweet after-taste. It is used in India and Java as a substitute for licorice, but is not employed medicinally by the Chinese. Waring directs an extract to be prepared in the same way as the *Extractum Glycyrrhizæ* of the

British Pharmacopœia. The leaves have been found to contain a sweet principle similar to that of licorice. The wood has an excellent grain, but as the plant is small it is not of much value.

One of the *Abrus* berries is said by Dr. Williams to be the unit of weight employed by the Burmese. From the fact that these berries are red, and look something like "crab's-eyes" (a concretion found in the stomach of *Astacus fluviatilis*, and on account of its comparative rarity counted among precious stones), some persons have given them this name. Under the name of *jequerity*, this substance, or its globulin *Abrin*, was formerly recommended in Europe and America for the treatment of granular lids and corneal opacities; but on account of its action being beyond the control of the surgeon, it has rightly fallen into disuse. *Abrin* is a tox-albumin similar in its action to *Ricin* and *Croton*.

Tatarinov and others have fallen into the error of confounding *Abrus precatorius* with a genuine species of bean, the *Phaseolus radiatus*, perfectly distinct, and separately described under the division of grains as 赤小豆 (Ch'ih-hsiao-tou), or "red small bean", 141. Other Chinese names given in various books for the *Abrus precatorius* are 相思豆 (Hsiang-ssü-tou), 423, and 馬料豆 (Ma-liao-tou), 804; but the two given at the head of this article are the only ones authorized by the *Pêntsao*.

ABUTILON INDICUM.—According to Ford and Crow, the seeds sold at Hongkong as 冬葵子 (Tung-k'uei-tzŭ), 1393, are so identified. But in other parts of China the article so sold seems to be the seeds of a *Malva*, which see.

ACACIA CATECHU.—兒茶 (Erh-ch'a); 288; 孩兒茶 (Hai-êrh-ch'a); 烏爹泥 (Wu-tieh-ni). The names given in the *Pêntsao* to this drug are partly founded on the old notion that it was an earth or a preparation of tea, and partly are an imitation of the Bengalese word *khaiar* and of the Hindu word *teni*, by which the drug is known at the place of its origin. The same idea is perpetuated in the old pharmaceutical name, *Terra Japonica*, when the "earth" (in Chinese *ni*) was brought from Japan. The account in the *Pêntsao* is to the effect that

Java, Siam, and the countries of the Indian Archipelago furnish a drug prepared by putting fine tea dust into a bamboo tube, which is then closed up at both ends and buried in the wet mud of a sewer for a long time. It is then taken out, the juice expressed and boiled down to a thick syrup, which when cold forms the extract. The country of the Laos tribes living between Yunnan, Annam, and Siam, and a district in the north-west part of Yunnanfu, are said to have formerly yielded this drug.

The catechu entering into the world's commerce is largely exported from Calcutta and from Pegu. Since much of it comes from the borders of the Gulf of Cutch, the substance is often called *cutch*. Or, this name may come either from a corruption of the Malay name *cachu* or of the Indian name *kutt*. Dr. Williams says: "That brought from Bombay is friable, of a red-brown color, and more hard and firm than that brought from Bengal. The cakes resemble chocolate, and when broken, have a streaked appearance. Good cutch has a bright uniform color, a sweetish astringent taste, and is free from grittiness". He suggests that this variety may indeed be pale catechu, or gambier; but it may be a kind of *Acacia catechu* which is manufactured in Northern India, in which the process of evaporation is stopped before the liquid becomes too thick, thus resulting in a paler and clearer preparation. There is a black catechu, the *Kassa* of Persia, which occurs in round, flat cakes, from two to three inches in diameter and from a half an inch to an inch in thickness, having the properties of *Acacia catechu* extract. It is the product of the betel-nut (*Areca catechu*, which see) and is prepared in India, where it is known as *catta-cambu*. It does not appear in commerce, and is not known in China; unless, indeed, the Ping-lang hsin (檳榔心), 1026, or Ping-lang-ka0 (檳榔膏), 1027, are this article.

Chinese medical works recount the astringent, antiphlogistic, styptic, and corrective properties of this excellent drug; but at the present time it is mostly used as a detergent, stimulating, styptic, or constringing application.

ACANTHOPANAX RICINIFOLIUM.—刺楸樹 (Tz'ü-ch'iu-shu). This, the "thorny catalpa", from the resemblance of its leaves to those of *Catalpa kämpferi*, is a tall tree, with

grey bark mottled with yellowish-white, and having thorns on the branches. The bark and leaves of this tree are recommended for insecticide purposes and for the treatment of skin disease and all sorts of ulcers and infected sores. The Customs Reports say that the substance known as 海桐皮 (Hai-t'ung-p'i), 357, or 桐皮 (T'ung-p'i), 1402, is probably in part the bark of this tree; that exported from Ningpo being so considered, while that exported from Canton is thought to be the bark of the cotton tree. See *Bombax malabaricum* and *Catalpa*.

ACANTHOPANAX SPINOSUM. — 五加 (Wu-chia), 五加皮 (Wu-chia-p'i), 1449. This is probably the proper identification of the shrub or tree which produces this drug. But, without doubt, the product found upon the market comes from a number of Araliaceous plants, allied to angelica, spikenard, and sarsaparilla. So we find it classed by Tatarinov as *Aralia palmata*, and by Henry identified as *Eleutherococcus Henryi* and *Eleutherococcus leucorrhizus*; and, in addition to these latter the Customs Reports mention *Eleutherococcus senticosus*. Indeed, in the Chinese books it is described by some as a tree or shrub, and by others as a climbing plant. One observer wisely says that the plant which grows in the north in sandy soil is a tree, while that which grows in the south in hard soil is an herbaceous plant. The *Pentsao*, following the *Pentsaoching* of Shennung, classes it among the trees.

The part used is the cortex of the root. It is found on the markets as yellowish-brown quilled pieces, odorless and tasteless. It is specially recommended in rheumatism, general debility, and for the cure of tertiary syphilitic manifestations. It is usually prescribed as a tincture.

ACERANTHUS SAGITTATUS. — 淫羊藿 (Yin-yang-huo), 1536. This is identical with *Epimedium sagittatum*. It is a Berberidaceous plant said to have strong aphrodisiac properties. Goats eating the plant are said to be incited to excessive copulation, hence the Chinese name. It is commonly called 仙靈脾 (Hsien-ling-p'i), and grows in mountain valleys

throughout China. The root and leaves are parts used in medicine. It is prescribed in sterility and barrenness, and is said to have great virtues in these conditions. In decoction it is used in corneal affections and ulcerations of the eye after exanthematous diseases.

ACER TRIFIDUM.—三角楓 (San-chio-fêng). It is uncertain whether the leaves reported in the Customs Lists are from this tripartite maple, or whether they are the leaves of the *Liquidamber formosana (orientale)*. There is not much uniformity of classification of this substance at the different ports; at one place it being called "oak leaves", which, to say the least, is a bold guess. The Chinese names for *Acer trifidum*, in addition to the one given above, are 槲楓樹 (Ya-fêng-shu), 1481, and 楓紅樹 (Fêng-hung-shu). Bretschneider and the Japanese have been followed in the use of the term placed at the head of this paragraph. This tree is not mentioned in the *Péntsao*, and what its leaves may be used for (if, indeed, it is the leaves of this tree that appear in commerce) it has not been possible to learn. The supply reported by the Customs came from Anhui and Kiangsu.

ACHILEA SIBIRICA.—著 (Shih). This is a common plant in the mountains of Northern China, and is so identified by the Japanese. Legge calls the *Shih* plant milfoil. Williams, in his dictionary, says it is a sort of "syngenesious plant resembling the *Anthemis* or mayweed, the *Plarmica siberica*, which grows around Confucius' grave in Kùhfeu, and as was done in ancient times, is still sold there in parcels of sixty-four stalks for divination; the stems were once used for hair-pins". In the Historical Record (史記) it is said that a hundred stalks of the *Shih* plant come out of the same root. "Where this plant grows neither tigers, wolves, nor poisonous plants are found." The Shuo-wên (說文) says: "The *Shih* is a kind of *Hao* (蒿 *Artemisia*). The plant will yield, when a thousand years old, three hundred stalks. The lengths of the stalks used for divination were: for the Son of Heaven, nine feet; for the feudal princes, seven feet; for the high officers, five feet; and for the graduates, three feet."

The use of this drug is said to benefit respiration, to invigorate the skin and muscular system, to brighten the eye, to promote intelligence, and if taken for a long time to prevent hunger and tissue waste. It is prescribed for dyspepsia and dyspeptic constipation.

ACHRYANTHES BIDENTATA.—牛膝 (Niu-hsi), 903. This is an Amarantaceous plant, with greenish-purple stems, having large joints resembling the knee of an ox, whence the Chinese name (ox-knee). The product sold under this name in the Chinese drug shops is not always of this species; other products of the same or allied genera being included: as *Achryanthes aspera*, *Amarantus*, and *Cyathula*. Tatarinov has wrongly identified this as *Pupalia*, in which error he was followed by Porter Smith.

The product of the shops varies considerably in appearance, as might be expected from the number of different species of plant used. The best quality, which comes from Huaiching-fu in Honan, occurs in straight flexible roots of the size of a small quill, wrinkled longitudinally, and of a brownish yellow color. The taste is bitterish and somewhat acrid. This is probably the true "ox-knee". Another specimen of the root is of a bark brown or yellowish color, twisted, knotted, irregular, light and open in structure, with fibrous rootlets attached, of a dirty-white color in the interior, and with very little flavor. A coarser variety, known as 川牛膝 (Ch'uan-niu-hsi), 2452, differs in no material respect, excepting size, from the last. One ancient observer says that the plant with the large purple joints is the staminate one, while that with small green joints is pistillate. The former is the best for medical purposes. The stalk and leaves are also used in medicine, being regarded as having virtues similar to those of the root. The shoots of all of the different varieties are edible. Anti-rheumatic and anodyne properties are among the chief ones ascribed to this drug. It is also said to be of use in ague, fever, urinary difficulties, puerperal and cutaneous diseases. So persistently is it recommended in labor and puerperal conditions, that it might well be worth while to investigate its virtues in this respect. The stems and leaves are especially

recommended in chronic malarial and palludal poisoning. In India diuretic and astringent properties are attributed to *Achryanthes aspera*.

ACONITUM. —A great many species of Aconite are met with in China. Maximowics met with nine in the Amur region, four near Peking, and three in Mongolia. Doubtless, if all of the wild and cultivated varieties of Szechuan were enumerated, the list would be very much enlarged. It is also probable that several drugs prepared for the market are derived from the same species, being altered in appearance by cultivation and domestication. Identifications are exceedingly difficult, and it is only necessary to go through the list of those already attempted to see the hopeless state of the subject. In Peking a specimen with a blue flower called 草烏頭 (Ts'ao-wu-t'ou) is identified as *Aconitum kusnezoffii*. Tatarinov identified another, called 草烏 (Ts'ao-wu), from specimens of the root, as *Aconitum japonicum*. Among other identifications are 附子 (Fu-tzū), a blue flowered kind, *Aconitum fischeri*; a green flowered plant, 烏頭 (Wu-t'ou), *Aconitum lycoctonum*; and Henry called the wild 烏獨 (Wu-tu), which grows in the mountains of Hupei, *Aconitum fischeri*. The principal names under which the article appears in commerce are 草烏 (Ts'ao-wu) and 草烏頭 (Ts'ao-wu-t'ou), 1353; 川烏 (Ch'uan-wu), 262, 光烏 (Kuang-wu), 655, and 烏頭 (Wu-t'ou), 1472; and 附子 (Fu-tzu), 343, 天雄 (T'ien-hsiung), 1291, 附片 (Fu-p'ien), 337, and 川附 (Ch'uan-fu), 243. Of the three groups, the Customs Lists classify the first as being derived from *Aconitum kusnezoffii* at Newchwang, and from other ports, *Aconitum volubile* and *Aconitum unciatum*; the second, possibly *Aconitum napellus*; and the third, *Aconitum fischeri*. The 附片 (Fu-p'ien) is sliced aconite root, probably of the last named species.

The statements of the *Pentsao* in regard to the derivation and classification of the drug are interesting, if not accurate. T'ao Hung-ching, the compiler of the *Pentsaoching*, says that *Fu-tzū* and *Wu-t'ou* are names applied to the root of the same plant. That taken up in the eighth moon is called *Fu-tzū*, while that dug up in the spring, when the plant

begins to sprout, and resembling a crow's head in shape, is called *Wu-l'ou*. That with a pedicle like an ox-horn is called *Wu-lui* (烏喙). The inspissated juice is called 射罔 (*Shê-wang*). The *T'ien-hsiung* resembles the *Fu-tzū*, but is more slender, and from three to four inches long. The *Tsê-tzū* (側子) is a large lateral horn of the *Fu-tzū*. All of these names refer to the root of the same plant. Another author considers them to be applied to different plants, each of them growing in a different locality. Li Shih-chen, the author of the *Pên-tsao*, however, makes a statement similar to that of T'ao Hung-ching's. Among other terms applied to aconite by the Chinese are 漏藍子 (*Lou-lan-tzū*), which are said to be the smallest lateral tubers; 兩頭尖 (*Liang-t'ou-chien*), which is a synonym for *Wu-hui*; 竹節烏頭 (*Chuchieh-wu-t'ou*), which is synonymous with *Ts'ao-wu-l'ou*, or the wild species; 耿子 (*Kêng-tzū*), 毒公 (*Tu-kung*), and 帝秋 (*Ti-ch'iu*). A kind known as 土附子 (*T'u-fu-tzū*) is specially spoken of as furnishing the arrow poison.

It may be said in regard to this matter of identification and classification, that as all of these varieties contain either Aconitine, Japaconitine, Pseudoaconitine, or possibly Delphinine, so far as the pharmacist and physician are concerned, the distinction becomes of less importance. Varying strengths of the alkaloid represented in different specimens of the drug would be the only question of importance to the dispenser, and under the new methods of drug assay this can be readily regulated.

The so called *Ch'uan-wu-t'ou* (川烏頭) and *Kuang-wu* (光烏), as they appear in commerce, are top-shaped, tuberous roots, from one inch and a quarter to one inch and a half in length, and rather more than half an inch in thickness, according to the number and size of the dried rootlets which project irregularly from the surface. The external cuticle is irregularly rough and hard, and of a brownish-black color, while the interior structure is firm, amylaceous, and of a dirty white color. The taste is bitter, acrid, and numbing, the tubers being seldom worm-eaten. The drug is highly poisonous. The *Pên-tsao* gives the following description of *Ch'uan-wu* (川烏), which it makes identical with *Wu-t'ou* (烏頭) and *Ts'ao-wu-*

t'ou (草烏頭): "The leaves and the flowers come at the same time, appearing in the first moon. The leaves are thick, the pedicle square and hollow. They are similar to *Artemisia* (蒿) leaves. From the fourth to the eighth moon a juice can be expressed from the stalks, which may be evaporated to make arrow poison. This, when placed upon arrow tips and used for killing birds, will produce death in a bird so shot in the time it would take one to walk ten steps. If men are shot with these arrows, they will also die." Both the *Pentsao* and the Customs Reports give the origin of this drug as the province of Szechuan.

The drug called Ts'ao-wu (草烏) and Ts'ao-wu-t'ou (草烏頭), as found in the Customs sheds and native drug stores, is somewhat different from that just described. It consists of mixed tuberous roots, evidently of more than one species of *Aconitum*; that coming from Manchuria being classified as *Aconitum kusnezowii*, and that from other parts as *Aconitum volubile* and *Aconitum unciatum*. It is possible that *Aconitum ferox* may be included in the list. The specimens, therefore, vary a good deal, being sometimes ovoid, oblong, and tapering to a point, or bifid, or even rounded at the extremities. They vary from three quarters of an inch to one inch and a half in length, are covered with smoothish or wrinkled, dark cuticle, and are frequently worm-eaten. Internally they are whitish and starchy, having very little odor, but the taste is very acrid and numbing. In Manchuria a sun-dried extract of this aconite is said to be prepared, the deadly properties of which have been confirmed by the experiments of Dr. Christison. Hanbury says that equal parts of Ts'ao-wu (草烏), Ch'uan-wu (川烏), and Nao-yang-hua (鬧羊花), in powder, is used to produce local anæsthesia. The moistened powder is applied to the surface of the part to be operated upon for two hours previous to the operation, by which means, it is alleged, insensibility to pain will be produced. The last substance above named is probably *Hyoscyamus niger*, although it may be a *Datura*.

Fu-tzŭ (附子) is probably best classified as *Aconitum fischeri*. The *Pentsao* makes this an inferior or unripe (子) sort of Wu-t'ou (烏頭), which is called 附子母. To distinguish it from Pai-fu-tzŭ (白附子), a plant of the *Arum* family, it is sometimes called Hei-fu-tzŭ (黑附子). It is said

to be cultivated upon a large scale in Changming Hsien, Lungan Fu, Szechuan. An elaborate work on its cultivation was written in the Sung dynasty, from which it appears that by the use of pig's-dung, and a long period of domestication, this species of aconite, and perhaps *Aconitum napellus*, have been rendered much less poisonous. The plant is made to develop very many appended side tubers, which, when gathered in the winter, are prepared by steeping in vinegar and salting them, and afterwards treating them by a process best known to those engaged in the trade. The tubers with numerous radicles are the most esteemed. As found in the drug shops, they are larger than the roots of the 'Ts'ao-wu (烏頭), but otherwise very similar in appearance. Fu-p'ien (附片) is merely the tubers of the *Aconitum fischeri* stripped of the cuticle, after soaking with vinegar, dried thoroughly, and cut into slices, which are brittle, curled, translucent, white, and exhibit the concentric arrangement of the vascular bundles which traverse the root lengthwise. It is but very slightly acrid, as might be expected from the action of the acid on the root, in which it is macerated for a week. Another drug, said to be derived from the small side tubers of the *Aconitum fischeri*, is called Tsê-tzŭ (側子). The first character in both *Fu-tzŭ* and *Tsê-tzŭ* are properly written with the grass radical (附 and 薺).

T'ien-hsiung (天雄) is by some classed as *Aconitum variegatum*. But, judging by the description given in the *Pên-tsao*, it would almost appear to be a stamiferous or sterile variety of the *Aconitum fischeri*, cultivated in Szechuan and altered by domestication. The prepared tubers are top-shaped, ovoid, measuring one inch and three quarters long by one inch and a half in breadth, of a black color externally, and often encrusted with a saline efflorescence. Several tubercles emboss the outer surface, more especially at the upper part. The interior is of a blackish-brown color, moist and greasy. In some fresher specimens the color was lighter and the texture more amylaceous. The taste is saltish, followed by the characteristic sensations caused by aconite.

The *Pên-tsao* considers all of the various forms of aconite to be the same. That is to say, each is a different stage in the growth or cultivation of the plant. A number of explanations

are quoted from various authors. As, for instance, one says that the product of the first year of the plant's life is called Tsê-tzū (側子); that of the second year, Wu-hui (烏喙); the third, Fu-tzū (附子); the fourth, Wu-t'ou (烏頭); and the fifth, T'ien-hsiung (天雄). A sixth form is spoken of, which is called Lou-lan-tzū (漏藍子), and is considered to be an immature form of the aconite plant. But as Mu-pieh-tzū (木鼈子) is given as another name for it, and as this is probably the fruit of the *Momordica cochinchinensis*, the terminology is here probably at fault.

The *Pêntsao* also says that an arrow poison is prepared from a plant growing in some country west of China; the plant's name being 獨白草 (Tu-pai-ts'ao). It says that this is an aconite, but not the Ch'uan-wu (川烏). This probably is because aconite is practically the only substance that has been used as arrow poison in China. The "western country" drug may as well have been *Strophanthus*, or some allied plant of the digitalis series. As the substance is not readily found in the drug shops, and its exact place of origin is not known, it has not yet been studied. Another very poisonous substance, called 狼毒 (Lang-tu, "wolf's-bane") and 狼毒頭 (Lang-tu-t'ou), 693, is possibly *Aconitum lycoctonum*, but more probably *Aconitum ferox*. The roots are large and starchy, and are often much worm-eaten. It is used as a sedative and in violent coughs. It is the common article for poisoning birds and beasts whenever this is done.

The Chinese do not seem to have considered any of the aconites as edible, but the *Pêntsao* speaks of one variety as non-poisonous. This is 牛扁 (Niu-pien), which may be the *Aconitum septentrionale*, used in Lapland as a potherb. It is entirely probable that the edible varieties indigenous to India, such as the *Aconitum multifidum* and the *Aconitum rotundifolium*, are also found in China. The Niu-pien (牛扁) is only used as a lotion for ulcers and as an insecticide on cattle.

All of the drugs included in this list of aconites, so far as they are used by the Chinese, are only employed after they have been prepared in various ways so as to diminish the poisonous properties of the plants. This explains the almost uniform practice of soaking the tubers in vinegar for a longer or shorter

period before they are placed on the market. As is the case with most drugs having strong physiological properties these aconites are prescribed for the widest variety of bodily disorders. A simple list of the diseases for which they are recommended would include most of the disorders to which flesh is heir. They are considered to be stimulant, diaphoretic, diuretic, arthritic, sedative, alterative, and deobstruent. They are accordingly used in fevers, ague, rheumatism, nervous disorders, neuralgias and all sorts of painful conditions, dropsy, cholera, and are considered to be specially efficacious in the many forms of dysentery found in Chinese nosology. Conditions considered to result from the disturbance in the balance between the dual principles are differently affected by the different varieties of this plant. For instance, if the "yin" (陰) is deficient, or the "yang" (陽) in excess, Wu-t'ou (烏頭) is the one to be employed; but if the opposite condition exists then T'ien-hsiung (天雄) should be administered. This seems, at least, to be in harmony with the sexuality of these plants.

ACORUS.—The character ch'ang (菖) is applied in China and Japan to the genus *Acorus*, of which several species, including the common sweet flag (*Acorus calamus*), are found in Eastern Asia. The character p'u (蒲) is defined by Kang Hsi as "a rush suitable for making mats". This character might be suggested as a distinctive term for the order of *Juncaceæ*. Owing to the aquatic habit of the principle representative of the genus both the *Péntsao* and Kang Hsi classify the *Acorus* with the rush family. Hence Ch'ang-p'u (菖蒲), "Acorus rush". Of the different varieties of *Acorus* the two characters 菖蒲, 29, seem to be reserved for *Acorus terrestris*, while the *Acorus calamus* is shui-ch'ang-p'u (水菖蒲) and the *Acorus gramineus* is shih-ch'ang-p'u (石菖蒲), 1139. Another variety known as ch'ang-jung (菖蓉), 28, "*Acorus okra*", and pai-ch'ang (白菖) is the *Acorus spurius*. The leaf of the latter is described as without a mid-rib, which probably means that it does not have the elevated ridge on the leaves common to the other varieties. Its rhizome is not considered to be edible, and it is used in medicine only as an insecticide and an antipruritic.

It is probable that the *Acorus terrestris* and the *Acorus gramineus* furnish the greater part of the product to the commerce of China, although it is reported as *Acorus calamus* from several ports. The provinces from which the larger part comes are Szechuan, Kuangtung, and Kuangsi; while Chekiang, Anhui, and Honan are mentioned as additional sources of supply. The plant is artificially cultivated to supply the demand for its sword-like leaves, which are hung up at the Dragonboat festival on the fifth day of the fifth moon of each year. (See the article on *Artemisia*.) The drug is met with in the form of brittle, brownish-yellow, broken rootlets, irregularly ridged, and not inaptly compared by the Chinese to whip-cord. They have an agreeable smell, and the interior is white and starchy in texture and of a sweetish aromatic flavor. As the rhizome proper is a more efficient drug, it is probable that it is also employed, although it is not so often found in the samples passing through the Imperial Customs. Stimulant, tonic, antispasmodic, sedative, stomachic, diaphoretic, anti-periodic, and other properties are referred to this drug, which has some excellent virtues, as confirmed by many trustworthy observers in India and Europe. Its insecticidal and insectifugal properties are understood by the Chinese, who refer its prophylactic powers to some such influence. It is worth while remembering that in Constantinople this drug is largely eaten as a preventive against pestilence. The powder, the juice, and a tincture are the favorite methods of exhibition with the Chinese, who use it in hæmoptysis, colic, menorrhagia, and other fluxes, and apply the juice or coarse powder to carbuncles, buboes, deaf ears, and sore eyes. It is said to be antidotal to the poison of euphorbiaceous plants. The leaves are used to wash pustular eruptions and leprous sores. The prolific flowering of the plant is said to betoken large harvests.

ACTEA SPICATA.—Under the Chinese name of 升麻 (Shêng-ma, 1132, the roots of a number of Ranunculaceous plants are found in the markets; such as *Actea spicata*, *Astilbe chinensis*, *Astilbe thunbergi*, *Cimicifuga daurica*, *Cimicifuga foetida*, and *Cimicifuga japonica*. Porter Smith, following Hanbury, who in turn had followed a wrong identification by

Siebold, calls this *Thalictrum rubellum*. While these may all be similar in physiological action, it is scarcely probable that they are of equal value and medicinal strength. The identification of the various species remains yet to be done ; while, if the drug has the medicinal properties ascribed to it by the Chinese, the comparative value and action of the various kinds is still to be ascertained. According to the Chinese books the chief source of the drug is the mountain ravines of Szechuan ; but the Customs Reports, in addition to the province already mentioned, give Manchuria, Shensi, Chekiang, Kuangtung, and Kuangsi as sources of supply. It is possible that the various provinces may furnish roots from different but allied genera and species. The superior quality of the drug is called 升麻肉 (Shêng-ma-jou), 1133, while the inferior is designated 升麻頭 (Shêng-ma-t'ou), 1134. The commonly used variety of the plant most nearly resembles *Actea* in the description given in the books, so this article is written under this classification.

Marvelous properties are ascribed to this drug in Chinese medical works. It is regarded as "a corrective for every form of poison, preserving from old age and preventing death ; a prophylactic against pestilence, malaria, evil miasms, and the *ku* (蠱) poison". One is reminded that forty years ago *Cimicifuga racemosa* was held in almost as high repute by a certain school of physicians in America. Whether the Chinese drug is as inert as the American product, remains to be considered. To say the least, it is remarkable that empirics separated by wide oceans and by reaches of time, should have come to practically the same estimate of what is apparently so worthless a drug. In addition to its use in miasmatic and infectious disorders it is prescribed in nervous crying of children, in skin diseases, in the treatment of malignant tumors, in aphthous sore mouth, and in post-partum hemorrhage.

ACTINIDIA.—萋楚 (Ch'ang-ch'u). This is the classical name. The Shuo-wên says it is the 羊桃 (Yang-t'ao). It is a climbing shrub with edible fruit about the size of a plum. There seems to be two varieties, which have been identified as

Actinidia chinensis (羊桃 or 楊桃, Yang-t'ao) and *Actinidia rufa* (獼猴桃, Mi-hou-t'ao). In the south of China the characters 楊桃 are used for the fruit of the *Averrhoa carambola*, 1497, or "Chinese gooseberry" as it is called by Europeans. But this usage is evidently only a local one, and the plant so designated by the *Péntsao* is certainly not the carambola, but *Actinidia*. It is described as a clambering plant, growing in hilly districts, with a round, furry leaf and a greenish fruit about the size of a hen's egg. The fruit is edible, and in the mountainous districts of Shensi, where it grows plentifully, it is greatly relished by the monkeys. Hence the name by which it goes in the north. The bark is used to make paper, and when removed in one piece from near the root and placed in hot ashes, it is converted into a firm tube, which is used for pencils. The fruit is useful for quenching thirst, and this and the juice of the stalk are of some repute in the treatment of "gravel". A decoction of the branches and leaves is used for the cure of mange in dogs.

ADENOPHORA.—Several Campanulaceous plants, the roots of which bear some resemblance to ginseng, and for which they are sometimes fraudulently substituted, are found among the flora of China. These are *Adenophora verticillata* (沙參, Sha-shên), *Adenophora polymorpha*, var. *alternifolia* (杏葉沙參, Hsing-yeh-sha-shên), *Adenophora tracheloides* (蘆薈, Ti-ni), *Codonopsis lanceolata* (土黨參, T'u-tang-shên), *Glossocomia lanceolata* (羊乳, Yang-ju), *Platycodon grandiflorum* (桔梗, Chieh-kêng), *Wahlenbergia marginata* (細葉沙參, Hsi-yeh-sha-shên), and others.

The *Péntsao* counts Sha-shên (沙參) among the five ginsengs; the other four being Jên-shên (人參), Hsüan-shên (玄參), Tan-shên (丹參), and K'u-shên (苦參). It also says that it is white in color, from which it gets the name of Pai-shên (白參), and grows best on sandy soil, from whence its principal name (沙參). The juice of the root is milky, and is vulgarly called 羊婆奶 (Yang-p'o-nai), "sheep mother milk". This root is also sometimes called 羊乳 (Yang-ju) and 地黃 (Ti-hwang). It occurs (1078) in tapering pieces, from four to eight inches in length, with a whitish-brown, wrinkled exterior, and

is much lighter and bulkier than ginseng. The interior is spongy and of a yellowish-white, and the cross-section shows a curiously plicated arrangement of the tissue, the folds radiating irregularly from the center to the circumference. As the stem grows older, this arrangement is less distinct. The taste is bitter-sweet, slightly cooling and demulcent. It is used largely in pulmonary diseases, especially those attended by fever, and as a general tonic and restorative of bodily vigor. The books say the Jên-shên (人參) is a restorative of the "yang" principle, while Sha-shên (沙參) restores the "yin".

Hsing-yeh-sha-shên (杏葉沙參) is considered to be identical with Chi-ni (薺苳). The *Pentsao* says in regard to this latter that the root is like Sha-shên (沙參) and the leaves are like the apricot; therefore, the people of Honan call it "apricot-leaved sha-shên". The plant contains a large quantity of juice, which is called 薺苳濃露 (Chi-ni-nung-lu), "chi-ni thick dew". The Chi-ni (薺苳) is *Adenophora remotifolia*, the common harebell. The properties of this root are sweet and cooling. It is reputed as an antidote for all kinds of medicinal poisons. It also is said to be efficacious in the bites of poisonous insects and reptiles, as well as to overcome the effects of arrow-poison. Virulent ulcers, poisoned wounds, and the *ku* (蠱) poison are also said to be benefited by it. As the drug seems to be a simple demulcent, one does not understand how it can have secured a reputation in such a wide range of poisonous affections. Ti-ni (蓴苳) is given as a synonym of the above, but it probably is distinct, as indicated at the head of this article. Similarity in general appearance of the root and in medical properties may account for the Chinese classification.

Tang-shên (黨參), 1251, is classed by the *Pentsao* with true ginseng. The name comes from 上黨 (Shang-tang), the ancient name of Lu-an-fu in Shansi, from which one of the two principal kinds of ginseng originally came. For this reason the complete name is 上黨人參 (Shang-tang-jên-shên). But at the present time at least Tang-shên represents Campanulaceous roots, and sometimes goes by the name of *Bastard Ginseng*. These roots are much more open than even the worst specimens of ginseng, all of which have a much sharper

and more aromatic flavor. The Customs Lists classify Tang-shên (黨參) as *Campanumœa pilosula*, and it is possible that the T'u-tang-shên (土黨參), mentioned above, is not the same, although supplying a root similar in appearance and quality to the former. It is met with in long, slender, tapering, pale yellow pieces, slightly twisted. They are about five inches in length, much smaller than Fang-tang-shên (防黨參), which they very much resemble, being wrinkled or furrowed longitudinally and transversely. The interior is brittle, brownish-yellow, open in structure, and with a lighter central pith. The taste is sweetish and slightly mucilagenous, resembling that of malt. The Customs Lists also give Ming-tang-shên (明黨參), 853, and say that this is the Chi-ni (薺芩), and that it is quite different from Tang-shên (黨參), 1251. On the supposition that Tang-shên is from a species of true ginseng, this would be correct. But even these lists give the origin of Tang-shên from the *Campanulaceæ*, and, if there is any distinction, it would be between the different genera or species of this order, e.g., *Codonopsis lanceolata* and *Campanumœa pilosula*. Ming-tang (明黨), or "clear ginseng from Shang-tang," is found in hard pieces of four inches in length, tapering at both ends like a cigar; one end being truncated and the other pointed. The cuticle is of a yellowish color, stained with reddish points, marked with fine lines or furrows, and the interior hard, white, porous, and easily separated from the translucent cortical part. Tang-shên (黨參) is distinguished in commerce by several special designations, indicating its source or the manner of packing. Among these is Fang-tang (防黨), also called Fang-tang-shên (防黨參) and Fang-fêng-tang-shên (防風黨參). This is the kind that comes from Hupeh, and is described by Porter Smith as follows: "This is a drug met with in bundles of long, tapering, angular pieces, of dirty-brown color, marked with wrinkles and fissures, or transverse rings. They average about a foot in length, and are more or less tough or brittle, according to age. There are remnants of the radicles at the thicker, or lower ends. The cross section is of a lighter color, showing the same open, plicated arrangement of the woody tissue as the Sha-shên (沙參), with a firmer central pith of a yellow color. The two

drugs resemble each other a good deal, but the one under consideration is much larger and darker, and marked externally with dark patches of the dried juice. It has a sweet, mucilagenous taste, and is used as a tonic like ginseng. It is used in syphilis, just as the *Campanula glauca* is amongst the Japanese." Ch'uan-tang (川黨) is from Szechuan, and is in large dark pieces, resembling Sha-shên (沙參); Hsi-tang (西黨) is from Shensi, Lu-tang (潞黨) from Luan prefecture in Shansi. Pao-tang (包黨) is the drug in bales, Hsiang-tang (箱黨) is that in boxes, while Fêng-p'i (鳳皮), or Fêng-p'i-tang (鳳皮黨), or Hung-tang (紅黨) is the substance in bundles fastened with red cord. Tatarinov thought to identify Tang-shên (黨參) as a *Convolvulus*, but there is no doubt that this is a campanulaceous plant.

Chieh-kêng (桔梗), *Platycodon grandiflorum*, is a red stemmed genus of the *Campanulaceæ*. The *Pêntsao* says that it is like the Chi-ni (薺苳), the latter being sweet, while the former is bitter. Like others of this order, its roots are used to falsify ginseng. It is brought from Szechuan, Hupeh, Honan, Shansi, and possibly from other provinces of North China. It occurs in short, dark-brown pieces, much shriveled and wrinkled, and sometimes moniliform, varying in size from that of a little finger to a writing quill, or even smaller. Its taste is said to be slightly bitter and demulcent. Its ascribed medicinal qualities are many, among which the more important are tonic, astringent, sedative, stomachic, and vermifuge. It is specially recommended in bloody fluxes from the bowels.

ADIANTUM.—The substance spoken of in the Customs Lists as T'ieh-sien-ts'ao (鐵線草), 1281, is given in the List of Chinese Plants known to Linnæus as *Adiantum flabellatum*, and is also included in Loureiro's *Flora Cochinchinensis* under the same classification. T'ieh-sien-ts'ao (鐵線草), as given in the *Pêntsao*, seems rather to be a *Polygonum*, and is represented to be the same as Pien-hsü (蓴蓄), *Polygonum aviculare*. The part used is the root, while the product appearing at the Customs is the stalk and leaves. Further identification of this substance is necessary. The drug spoken of in the *Pêntsao* is used in the treatment of colds.

Adiantum monochlamys, Shih-ch'ang-sheng (石長生), is a true *Filix*. It is found in mountainous districts, growing upon the edge of cliffs. The root is the part used, and its taste is said to be salty, slightly cooling, and the drug is somewhat poisonous. Its properties are febrifuge and parasiticide. It is recommended in parasitic skin diseases.

ÆGLE SEPIARIA.—In the Customs Lists 枳 (Chih), 133, 137, is so identified. But the preponderance of authority seems to be in favor of considering this as *Citrus fusca* or *Citrus trifoliata*. (See *Citrus*.)

ÆSCULUS CHINENSIS.—天師栗 (T'ien-shih-li). The fruit of this sapanaceous plant is but little different from the common horse-chestnut. The *Pentsao* says that it is found only in the mountains of Western Szechuan, but it is said also to come from the province of Hupeh. The name is derived from 張天師 (Chang T'ien-shih), a famous Taoist priest, who dwelt at Ts'ing-ch'en (青城), a city situated in this part of Szechuan, and studied "tao." It is probable that this is the same as 娑羅子 or 所羅子 (So-lo-tzŭ), as given in Tatarinov's list. The fruit is also compared to the acorn. The hilum is large and the integument of a dark, reddish-brown color. The bark of the tree contains a crystalline, fluorescent principle, and some species of this genus are poisonous, but these nuts are sweet, and are merely credited with being useful in cases of contracted limbs from palsy or rheumatism. The fruits selling at a valuation of threepence each in Hankow, induces the Chinese to put some faith in them, for they usually value a remedy in proportion to its cost.

Another representative of this genus is the *Æsculus turbinata* (七葉樹, Ch'i-yeh-shu). It is so classified in the Japanese lists, is not mentioned in the *Pentsao*, and may not be found in China.

AGAVE CHINENSIS.—土沉香 (T'u-ch'en-hsiang), 1365. This amaryllidaceous plant is not mentioned in the *Pentsao*, but is apparently met with in Formosa. The *Agave Americana* (呂宋麻, Lu-sung-ma), is said by Mr. T. Sampson

to have been introduced into Canton province from Manila; at least the fibers, sometimes called *Pita-flax*, are said to be employed in the manufacture of mosquito netting. This fiber has, however, been referred by French botanists to *Chamærops excelsa* (櫻欄, Tsung-lü), the coir-palm. The hemp has also been called Po-lo-ma (波羅麻), but it is more probable that this latter is the Chinese name for *Corchorus* or *Triumfetta*, tiliaceous plants, which see. The *Agave Mexicana* has been confounded by Professor Neuman with the 扶桑 (Fu-sang), which is evidently a malvaceous shrub, the *Hibiscus rosasinensis*, and upon his identification he has grounded a presumption in favor of an early discovery of America by the Chinese. The land named after this plant, which was seen growing in profusion there, has been identified by Klaproth with Saghaliën; by Leland with a part of the American continent, and by others with Japan. The Fu-sang, of which the ancient Chinese books speak, was not the *Hibiscus rosasinensis*, but it was the name of a fabulous tree, behind which the sun was supposed to rise. The *Agave Mexicana* has been naturalized in India, and is largely cultivated there. Indian experience has confirmed the anti-syphilitic properties assigned by the Mexicans to this plant. Dr. Hutchinson, of India, cut the large, fleshy leaves into thin slices, and used them as poultices.

AGLAIA ODORATA.—三葉蘭 (San-yeh-lan), 米碎蘭 (Mi-sui-lan). The flowers of this meliaceous plant are used to scent teas. The dried buds are called 蘭花米 (Lan-hwa-mi), 691. The leaves and root are well worth trial as tonics, as *Canella* and other excellent tonics are referred to this order. The tender leaves are eaten as a vegetable.

AILANTHUS GLANDULOSA.—樗 (Ch'u), otherwise know as 臭樗 (Ch'ou-ch'u) and 臭椿 (Ch'ou-ch'un). The *Pêntsao* includes this and *Cedrela sinenses* under the common heading of 椿樗 (Ch'un-ch'u). Although these belong to two distinct orders—the *Ailanthus* to the *Simarubaceæ* and the *Cedrela* to the *Rutaceæ*—it is well known that there is a strong

resemblance between the trees and shrubs of the former order and the *Rutaceæ xanthoxyleæ*; so it is not surprising that the Chinese should have classed these together. Several species of both genera yield timber of various qualities, but the red, fine-grained, mahogany-like wood of the *Cedrela* is far superior to the coarse, white, open timber of the *Ailanthus*, much used as fuel. Other species of trees, similar in general appearance to the Ch'u (樗), and having leaves giving off odor, are classed in the *Péntsao* with this; an effort being made to distinguish the different kinds by the odor. Reason for this may be found in the fact that the Ch'un (椿) has fragrant leaves that can be eaten, and is therefore sometimes called Hsiang-ch'un (香椿), while the Ch'u (樗) has leaves with an offensive smell, and therefore not used as food. The leaves of the *Ailanthus* are large pinnate, from one to two feet long, and are very similar to those of the *Cedrela*, both of which trees grow in profusion in the neighborhood of Peking. On close examination, however, the leaves of the former are easily distinguished by the two little glands near the basis of each leaflet, to which the species name "*glandulosa*" refers. The *Ailanthus* grows very easily and rapidly, and its wood is used only for fuel. In the phrase 樗櫟之材 it becomes, classed with the scrub oak, a figure of speech for "uselessness." The leaves are used to feed silkworms, and in times of scarcity are eaten as a vegetable, though, on account of their offensive odor, not from choice. They are said to be very slightly poisonous, and are used as astringent, anthelmintic, and deobstruent remedies. They are given in diseases of the lungs, dysuria, menstrual diseases, the *kan* (疳) disease of children, spermatorrhœa and fluxes in general, and a wash is made to promote the growth of the hair and to wash parasitic ulcers and eruptions. In most of the cases, the bark both of the tree and of the root is used, having precisely the same properties. The name Ch'u-p'i (樗皮), or as in the Customs Lists Shu-pai-p'i (樗白皮), 1168, should be confined to the bark of the *Ailanthus*; while Ch'un-p'i (椿皮), or Hsiang-ch'un-p'i (香椿皮), 275, 415, is more correctly applied to that of the *Cedrela*. See *Cedrela sinensis*.

AKEBIA QUINATA.—木通 (Mu-t'ung). A drug obtained from a Peking drug shop, bearing this Chinese name, was sent to Kew and there examined. It proved to be *Akebia quinata*. It was in thin slices, evidently the transverse sections of a ligneous stem, half-an-inch in diameter; the marrow showing small holes like a sieve. In the Customs Lists, 878, the drug is said to be derived from various species of *Clematis*; "the export from Newchwang is probably *Clematis heracleafolia*, that from Hankow is *Clematis grata*, while that from Ningpo and Canton has not yet been determined." Loureiro and Faber identify it as *Clematis sinensis*.

It is a climbing plant, with a jointed, woody stem, varying in thickness from that of a finger to about three inches in diameter. The wood is yellow, and is arranged in vascular plates, leaving tubular openings large enough for air to be blown through; hence the Chinese names, 木通 (Mu-t'ung) and 通草 (T'ung-ts'ao). This latter name, however, is also sometimes applied to *Fatsia papyrifera*. The twigs and fruit are used in medicine. The fruit, which in the south of China is called 燕覆子 (Yen-fu-tzŭ) and 烏覆子 (Wu-fu-tzŭ), is from three to four inches long, has a white pulp with black kernels, is edible and of an agreeable, sweet taste. The wood is bitter to the taste, and is pronounced to be a stimulating, diaphoretic, laxative, diuretic, stomachic, and vulnerary drug, quickening all of the senses and faculties. The fruit is said to be tonic, stomachic, and diuretic.

ALBIZZIA JULIBRISSIN.—合歡 (Ho-huan), 373, 夜合 (Yeh-ho). This is one of the leguminosæ of the suborder *Mimosæ*, and is also called *Acacia julibrissin*. Loureiro calls it *Mimosa arborea*. It is sensitive, the leaves folding together at night, as the Chinese name implies. It is probable that in this sense another name given by the *Péntsao*, namely, 合昏 (Ho-hun), "uniting dark," is more nearly correct than the first given above. It is considered to be an auspicious tree, promoting agreement and affection, and therefore is given a place among domestic shrubbery. Its leaves are also edible. The parts of the plant appearing in the Customs Lists are the

flowers, but the portions recommended to be used by the *Péntsao* are the bark and wood. On account of the auspicious character of this tree, its use in medicine is also thought to be attended with the happiest results: "promoting joy, assuaging sorrow, brightening the eye, and giving the desires of the heart." In the treatment of disease, it is regarded as tonic, vulnerary, sedative, anthelmintic, and discutient. A gummy extract is prepared and used as a plaster for carbuncles, swellings, and as a retentive in fractures and sprains.

ALEURITES TRILOBA.—石栗 (Shih-li). This euphorbiaceous tree is either closely allied to, or identical with, the *Aleurites moluccana*, or Candle Nut tree of India and the Pacific Islands. It is also closely related to the *Excæcaria sebifera* (烏柏木, Wu-chiu-mu), or Tallow tree. It bears an acorn-like fruit, called by the Chinese "stone chestnuts," which is the meaning of the term given above. It is a native of Annam, or Cochin China, and was known to Loureiro as a species of walnut, just as it is called in India *Belguam*, or Indian walnut. It is incidentally mentioned in the *Péntsao* under the head of "chestnut," as growing commonly in the south of China, but it is not considered to be a chestnut. A fixed oil is expressed from the kernels, which is reported by Dr. O'Rorke to be superior to linseed-oil as an economic substance. He finds its medicinal action to be similar to that of castor-oil, but it does not cause nausea or pain, and is free from any unpleasant smell or taste. Neither the fruits nor the oil appear in the Customs Report, which seems a surprising fact when their reputed usefulness is considered. The tree abounds in the Moluccas, where the fruit is eaten as an aphrodisiac, and is met with in the island of Tahiti; a gummy substance which exudes from the bark being chewed by the natives. The name Shih-li (石栗) has been incorrectly given to the fruit of *Quercus cornea*.

ALGÆ.—海藻 (Hai-tsau), 355. The character 藻 is used for all sorts of aquatic plants, and the name above given could almost be limited to marine algæ. 海菜 (Hai-ts'ai) is also used for the same purpose. Several kinds of algæ are used by the Chinese both as dietetic articles and as medicinal agents.

Specimens of the Hai-tsaο obtained from Tientsin and identified by Professors Agardh and Gobi, proved to belong to *Sargassum siliquastrum*. The proper Chinese name of this is 海羅 (Hai-lo). The large sea-weed which is so commonly used for food in China, and called by the common name of 海菜 (Hai-ts'ai), comes from the coast of Manchuria and Korea, and is *Laminaria saccharina*; the correct Chinese name being 昆布 (K'un-pu) or 綸布 (Lun-pu). Several species of *Laminaria*, *Rhodymenia*, *Alaria*, *Iridæa*, and *Potamogeton* are found in the Chinese medicine shops. Their identification is very uncertain. The names 海藻 (Hai-tsaο), 海帶 (Hai-tai), 354, 海蘊 (Hai-yün), and 昆布 (K'un-pu), 677, are applied rather indiscriminately to these specimens. "Agar-agar" is made of *Gracilaria lichenoides*, *Gracilaria spinosa*, *Gigartina tenax*, and *Sphærococcus*, which grow upon the shores of most of the islands of the eastern sea. *Nostoc edule* is another form of edible sea-weed. In colloquial, however, these are all called 海菜 (Hai-ts'ai).

The *Pentsao* recommends all of the medicinal algæ in the treatment of goitre. Under the name of *Gillur-ka-putta*, a dried sea-weed, assumed to be collected near the mouth of the Saghalien river, is highly prized in upper India as a remedy for bronchocele. K'un-pu is recommended in dropsies of all kinds, and Hai-tai is prescribed in menstrual disorders, and is said to have the power of increasing the action of the uterus in difficult labors. The Chinese regard a diet of sea-weed as cooling, but rather debilitating if pursued for a long time. A fine quality of sea-weed, which has been cleansed and bleached, is imported from Japan and sold under the name of 洋菜 (Yang-ts'ai). It is called *isinglass* in the table of imports. Among fresh water algæ, the *Pentsao* speaks of 龍舌草 (Lung-shê-ts'ao), 790, "dragon tongue," which is specially recommended as an application in the treatment of mammary abscess and cancer. We cannot agree with Faber in classifying 石蕊 (Shih-jui) among the algæ; it is a lichen.

ALISMA PLANTAGO.—澤瀉 (Tsê-hsieh), 1354. This is the common water plantain, which in Northern China grows plentifully in ditches and ponds. Other names given for it in the *Pentsao* are 水瀉 (Shui-hsieh), 及瀉 (Chi-hsieh), 鵝瀉

(Ku-hsieh), 芭芋 (Mang-yü), and 禹孫 (Yü-sun); this last name being in honor of the Great Yü, the reputed founder of the Hsia dynasty, who drained the empire of the great flood that had prevailed up to the time of his reign. In the classics the plant is called 薺 (Yü) and 蔞 (Hsieh). In the Japanese list it is called 水澤瀉 (Shui-tsê-hsieh). The supply of the drug passing through the Customs comes from Fukien, Chekiang, Honan, and Szechuan. The *Pentsao* recommends that which grows south of the Jü (汝) river, which is a tributary of the Huai. The parts used are the leaves, which are gathered in the fifth moon; the rhizome, gathered in the eighth moon; and the achene, gathered in the ninth moon. The rhizome, which is the part most frequently employed, is globular, or ovoid, and fleshy. The drug is generally met with in the form of thin, circular sections, from one inch to one inch-and-a-half in diameter, of a pale yellow color, mealy, slightly bitter in taste, and often worm-eaten. The fresh rhizome is somewhat acrid. Tonic, cooling, diuretic, arthritic, stomachic, astringent, galactagogue, and discutient properties are attributed to this plant. In fact, any disease of the nature of a flux or dropsy, or disease of the hydrology of the system, is supposed to be benefited by this *water* plant. "If taken for a long time, the eye and ear become acute, hunger is not felt, life is prolonged, the body becomes light, the visage radiant, and one can walk upon water." It is also said to render labor easy, to stimulate the female generative apparatus, and to promote conception. The leaves, in addition to their other properties, are reputed to be serviceable in leprosy. The action of the achene is said to be similar to that of the root, even to the production of visual radiance, but its use is said to produce sterility.

ALLIUM ASCALONICUM.—薺 (Hsieh). This is the ordinary garden *shallot*; the slight variation from the European variety being produced by the different method of culture employed by the Chinese. It is indigenous to China; the wild variety being readily found in the Lü mountains of Kiangsi. The seeds are usually planted in the autumn and the small bulbs separated and transplanted in the spring. It is used as

a vegetable, though not so highly prized as the native *leek* (*Allium odorum*). The small bulbs, called 薤白 (Hsieh-pai), 449, are pickled, as in Europe, and they are also preserved for medicinal use in alcohol. Tonic, nutrient, astringent, and alterative properties are attributed to the plant, and the bruised bulb is applied as a discutient or vulnerary remedy. Combined with honey, it is said to be a useful application in burns.

ALLIUM FISTULOSUM.—葱 (Ts'ung). This is the Chinese onion, or *ciboule*, native to Siberia and Mongolia. It is largely cultivated in several parts of China. It differs from the common onion (*Allium cepa*) in never forming a globular bulb. The common onion is largely cultivated in Southern China and Cochin China, but it probably is of foreign origin. It is called 胡葱 (Hu-ts'ung) and 回回葱 (Hui-hui-ts'ung); this latter term, "Mohamedan onion," indicating its derivation from the West. The Chinese onion, belonging to the class of nitrogenous foods called 葷 (Hun), is much used as an article of diet. It, together with other vegetables of its class, constitutes a large proportion of the poor man's "meat"; being eaten with rice, millet, or bread, together with succulent and green vegetables. Several varieties are cultivated, and the article is as much used as its prototypes are in Spain and Portugal. A large, coarse variety is called 木葱 (Mu-ts'ung), or "tree-onion" (*Allium cepaproliferum*?). The wild onion, 蒼葱 (Ko-ts'ung) or 山葱 (Shan-ts'ung), (*Allium victorialis*?), and the foreign onion are specially mentioned in the *Pên-sao*. It says that the latter are indigenous to the mountains of Szechuan, but we have not been able to verify this. Onion tea is given to persons suffering from catarrh, fever, headache, cholera, diarrhœa, dysentery, urinary affections, and rheumatic disorders. It is also used as a sedative in children's diseases. The persons in charge of life boats on the Yangtse depend, in cases of drowning, upon strong onion tea to excite vomiting and reaction. Onions are applied to the noses of persons who have attempted to hang themselves. Buboës, abscesses, and fractures are poulticed with the bruised bulb, or annointed with the juice. Every part of the plant is supposed to have some special therapeutic property.

ALLIUM ODORUM.—韭 (Chiu), 203. Other names for this seem to be *Allium uliginosum*, *Allium tuberosum*, and *Allium senescens*. It is indigenous to Siberia, Mongolia, and the whole of China; is a common plant in the mountains of the north, and is cultivated everywhere in gardens. The Chinese eat the whole plant, it being specially relished when it is in flower in mid-summer. It somewhat resembles the *leek*, but is much smaller. The leaves are ligulate, and the bulb flat and continuous with the stem. The *Book of Rites* calls this plant 豐本, fêng pên (the rich root), when it is used for the sacrifices in the ancestral temple, and it is also used in other sacrifices. It is raised from the seed or from the transplanted bulbs; patches of the fresh vegetable being kept ready for use during the entire year in Central China. It is supposed to nourish and purify the blood, to act as a cordial, and to in every way benefit those who are ailing. It can be partaken of freely and for a long time. Special difficulties for which it is regarded to be efficacious are poisonous bites of dogs, serpents, or insects, hemorrhages of every sort, and spermatorrhœa. For this latter the seeds are considered to be especially useful.

The wild leek, 山韭 (Shan-chiu), also called 諸葛韭 (Chu-ko-chiu), is considered by Faber to be a distinct species, *Allium japonicum*. It is specially mentioned in the *Pentsao*, and is thought to have special action in promoting excretion and in the flatulent dyspepsia of elderly persons.

ALLIUM SATIVUM.—蒜 (Suan). *Garlic* has been known to the Chinese from a very early period; it being mentioned in the Calendar of the Hsia, a book of two thousand years before Christ. It is now called 小蒜 Hsiao-suan) to distinguish it from *Allium scorodoprasum*, which is called 大蒜 (Ta-suan). The *Erh-ya* relates that when the Emperor Huang-ti was ascending a certain mountain, some of his followers were poisoned by eating the 藜芋 yu-yü (probably an aroid plant); but by eating the garlic, which was also found there, their lives were saved. From that time it was introduced into cultivation.

The *Pentsao* gives thirty-two varieties of vegetable under the classification of 葷菜 (hun-ts'ai). In addition to alliaceous plants, there are mustard, ginger, and the like; all seeming to

be characterized by the presence of a volatile oil, carminative and stomachic in its action. Consequently some of them are used as condiments, and all are used to give flavor to the amylaceous basis of the ordinary Chinese diet. The character 葷, however, is applied as well to all kinds of nitrogenous food; the 五葷 being the five kinds of food forbidden to the Buddhist priesthood and to fasting persons generally. These are the flesh of the horse, dog, bullock, goose, and pigeon. The geomancers enumerate as the 葷, garlic, rocambole, leek, rue, and coriander; the Taoists, leek, shallot, garlic, rue, and coriander; and the Buddhists, rocambole, garlic, assafœtida, onion, and scallion. Among the common people, however, 葷, while including these articles, more properly refers to animal flesh; the lean parts being termed 大葷 and the fatty parts 油葷. Chinese patients usually request directions as to the eating of these various kinds of food.

The medicinal virtues of garlic are considered to be many. It is thought to have a special influence upon the spleen, stomach, and kidneys, acting as a sedative and removing poisons. It is supposed to correct the unwholesomeness of water, to destroy the noxious effect of putrid meat and fish, and to prevent goitre and pestilential diseases.

ALLIUM SCORDOPRASUM.—大蒜 (Ta-suan), 胡蒜 (Hu-suan), 蒟 (Hu). The *rocambole*, according to the *Po-wu-chi* and the *Pên-tsao*, was introduced into China from the West by Chang-ch'ien, a famous general of the Han dynasty. The Arabic name (*Soin*) resembles the Chinese word *suan*, but as both names date back to the earliest period of written history, it is difficult to say whether one was derived from the other, or both came from a common source now unknown. This plant is considered to be slightly deleterious, and if eaten for a long time the eyesight is thought to be affected. It is recommended as a digestive and for expelling poisonous effluvia. In combination with other drugs, it is used in the treatment of hemorrhages and fluxes.

ALLIARIA WASAHI.—蔞菜 (Han-ts'ai). One of the *Cruciferae*, closely allied to *Sisymbrium* (*Hedge mustard*). It

has white flowers and a characteristic foliage, and the plant has an alliaceous odor, from which fact it derives its name. It is recommended as an appetizer and digestive, giving a pleasant sensation of warmth to the stomach and acting as a carminative in flatulent dyspepsia.

ALOCASIA MACHRORIZA.—海芋 (Hai-yü). This aroid plant is so named in the Japanese lists. The *Pentsao* calls it also 觀音蓮 (Kuan-yin-lien), which in the Japanese identifications is *Lysichitum camtschatense*. Also, a small variety, named 野芋 (Yeh-yü), is by them classified as *Richardia africana*. The *Pentsao* seems to regard these as identical. The original habitat of the plant under consideration is said to have been Szechuen, but it now is found in various parts of the empire. It grows up in spring with a stalk four or five feet high and with leaves like the taro. In the early autumn it blooms with a sessile flower like the lotus petal, jade colored, and with a pistil which resembles the image of Kuanyin. Hence the common name for the flower is "Kuanyin lotus." The plant is said to be exceedingly poisonous, and is highly recommended in the treatment of miasmatic poisoning.

ALÖE VULGARIS.—盧會 (Lu-hui), 765. Bretschneider says that this Chinese name is so applied in Canton, and that the plant that Loureiro describes as *Alöe perfoliata* is the same. The name is probably a transliteration of some foreign name, as other names similar in sound are also given, such as 奴會 (Nü-hui) and 訥會 (No-hui). The drug is also called 象膽 (Hsiang-tan), "elephant's gall," in reference to its bitter flavor. The *Pentsao* describes it as the exudation from a tree which grows in Persia, and says that at that time it entered China only at the port of Canton. It admits, however, that it is uncertain whether the substance, which it describes as a resin or extract (膏), is the product of a tree or of a smaller plant. The substance sold under this name is met with in irregular pieces, about one inch in thickness, of a coal-black color, slightly porous and marked with brilliant crystals on the broken surface. One surface is usually marked with the impression

of a gramineous leaf. The taste is bitterish and cooling, and it is not regarded as being poisonous. Anthelmintic, stomachic, and laxative properties are referred to this drug, which would seem to have been formerly much used in the worm-fever and convulsions of children. It is now used mainly as a wash for eczematous skin affections, being combined with licorice for that purpose. Since in the treatment of worm affections it is always combined with the fruit of *Quisqualis indica*, it is very improbable that in itself there are any anthelmintic properties.

ALPINIA GLOBOSUM.—豆蔻 (Tou-k'ou), 1314, 草豆蔻 (Ts'ao-tou-k'ou). This is the *Amomum globosum* of Loureiro, and described by Hanbury as the *large round Chinese cardamom*. The cardamoms are well known in commerce, but the plant from which they are derived, does not seem as yet to have been carefully identified by botanists. Hanbury says that it is a native of the south of China and of Cochin China. The *Pentsao* refers its origin to Hainan, which name in this work often refers to any country in the seas south of China. At present it is said to be found in all parts of Kuangtung and Kuangsi, as well as in parts of Yunnan and Fukien. The plant is said to resemble the *Myristica* in appearance, and bears a red, changing to yellow, flower in the axils of the leaves, which has some likeness to the *Hibiscus*. The leaves resemble those of the wild ginger (山薑, Shan-chiang), and are sometimes gathered in the immature state in a similar manner to tea buds. The large globular capsules furnish the large round cardamom of commerce, and also the *small round Chinese cardamom* described by Guibourt. This latter is simply the unripe capsule, and therefore devoid of much flavor, but used as a salted condiment by the Chinese. Guibourt describes it as follows: "Capsules nearly spherical, from seven to eight lines in diameter, slightly striated longitudinally and much wrinkled in all directions by drying; it is probable, however, that the fruit was smooth when recent. The capsule is thin, light, easily torn, yellowish externally, white within. The seeds form a globular coherent mass. They are rather large and few in number, somewhat wedge-shaped, of an

ashey-grey, a little granular on the surface, and present on the outer face a bifurcate furrow, shaped like a Y." To this Hanbury adds: "Compared to the large cardamom, the capsules in question are more wrinkled in a net work manner, more fragile and thin, and much less adherent to the mass of seeds; they are more globose, not triangular at the base, but flat, or even depressed like an apple. Their color, in all of the specimens I have seen, is a brownish yellow." The large capsules are oval, or globular, pointed at either extremity, with a tendency to a triangular outline, especially at the base. They are sometimes attached to a long pedicle. The pericarp closely invests the mass of seeds, is brown, and strongly marked by interrupted longitudinal ridges. In taste, it is very slightly aromatic. The seeds are found in a coherent three-lobed mass, light greyish-brown in color, somewhat oblong and angular, with a deep furrow on one side. They have a slightly aromatic odor and taste, somewhat resembling that of thyme, although very much weaker. In size, these capsules vary from three-fifths of an inch to over an inch in length. In the Chinese shops the cardamom is usually found deprived of its husk.

The cardamoms and the flowers are used in Chinese medicine. The latter are employed as a carminative and stomachic remedy, and are reputed to counteract the effects of wine on the system. The seeds, in addition to the properties possessed by the flowers, are used to correct offensive breath, in the treatment of malarial disorders and fluxes, to counteract acidity of the stomach, in disordered menstruation, and in the treatment of various kinds of poisoning.

ALPINIA OFFICINARUM.—高良薑 (Kao-liang-chiang). Faber gives 山薑 (Shan-chiang), but this is probably a variety known as *Alpinia japonica*, or wild ginger. The plant under consideration produces the "*lesser galangal root*" of commerce, and it is from the Chinese name for this plant that the commercial term "*galangal*" is derived. Owing to the fact that Willdenow gave the name of *Alpinia galanga* to the plant which produces greater or Java galangal, botanical terminology in this case became separated from its point of origin. The

Chinese name is derived from 高良, which was formerly the name of 高州府 Kao-chou-fu in Kuangtung province. The plant is sometimes called 蠻薑 (Man-chiang), or the "ginger of the Man-tzū," aborigines of the southwestern part of China. The *Pentsao* says that the plant is now found in every part of Southern China, and extending into Szechuan. Galangal root is about two inches long, less than half an inch in diameter, externally of a rust brown color, longitudinally striated and transversely marked with the remnants of the leaf sheaths. Internally it is greyish-brown, and breaks with a fibrous fracture. It has an agreeable aromatic odor and a warm aromatic taste, resembling that of mingled ginger and pepper. Stomachic, carminative, sialagogue, tonic, and antiperiodic properties are the most important of the effects ascribed to this drug, which has from ancient times, as at the present time, been held in much esteem by Chinese physicians.

The seeds of this plant, 高良薑子 (Kao-liang-chiang-tzū), 紅豆蔻 (Hung-tou-k'ou), 537, 1091, are the "*Galanga Cardamom*" described by Hanbury. The capsule is about half an inch in length, oblong or pear-shaped in form, and prominently crowned with the remains of the calyx. Some are shriveled on the outside and some are smooth, apparently depending upon their maturity at the time of gathering. The pericarp also varies as to thickness and color, in proportion to the maturity of the fruit; in the less mature being pale and thick, and in the more mature of a reddish-brown and thin. The seeds are in a three lobed mass; each lobe containing two seeds, placed one above the other. The seeds are ash-colored, flattish, and somewhat three-cornered, and have a large hilum. They have a pungent, aromatic taste, and an odor resembling that of the root.

The seeds have much the same properties as the root, being given in pyrosis, cholera, diarrhœa, toothache, ague, and diseases arising from damp and chills. They seem to have the virtues of cardamoms and ginger combined, and may be suggested for more general use as a stomachic and general tonic.

In the Customs List there seems to be considerable uncertainty as to terms and classification. In 713, 眞薑 (Liang-chiang, is used for *Alpinia officinorum*. It is probable

that this term is sometimes so employed, but it is also employed for the Liliaceous *Polygonatum sibiricum*. In 1091, other characters approximating 薑 in sound are used for this character. It is probable that these are wrongly written. In several other places there are variations, unimportant in themselves, but which evidently need correction.

ALTHÆA ROSEA.—蜀葵 (Shu-k'uei). This name means "mallow from Szechuan." Another name, formerly used, is 戎葵 (Jung-k'uei), which means "mallow of the wild tribes of the west." These two names are probably identical with each other. The term used in the classics is 葦 (Chien). It is the common *hollyhock*, which may have been originally introduced into China from some Western country. It is cultivated plentifully in Chinese gardens; its flowers somewhat resembling *Hibiscus syriacus* (木槿, Mu-chin). The parts of the plants used are the shoots, root-stalk, and seeds. The properties ascribed to the shoots are stomachic, regulative, and constructive. They are used in fevers, dysentery, and to render labor easy. The root-stalk is considered to be diuretic, and when bruised, is applied to all sorts of ulcers. The seeds are put to similar uses.

Under this head the *Pentsao* mentions another plant, which it calls 吳葵花 (Wu-k'uei-hwa), and which, while it is identified as the same as the *shu-k'uei*, is made out to have medical properties sufficiently distinct from those of the latter to render it probable that this is at least a different variety. Its taste is said to be "saltish and cold" (寒), while that of the *shu-k'uei* is "sweet and cooling" (冷). Its action is tonic to the heart and antiperiodic. It is used in the eruptive and intermittent fevers of children, in dysmenorrhœa, difficult labor, and the bites of poisonous insects.

AMARANTUS.—莧 (Hsien). This term seems to be a general name for *Amarantus*. With qualifiers, it is also by some applied to *Chenopodium* and *Euxolus*. At Peking *Amarantus blitum* is so called, and Faber calls this 莧菜 (Hsien-ts'ai). The *Pentsao* says that there are six varieties of this plant, viz., 赤莧, 白莧, 人莧, 紫莧, 五色莧 and 馬莧.

These terms, together with 野莧 and 馬齒莧, are applied to different plants in different parts of China, as well as in Japan; so it is almost impossible to fix identifications in any of these cases. Faber gives 刺莧 (Chih-hsien) for *Amarantus spinosus*, which is probably correct. Han Pao-sheng says that the fruits of only the 白莧 and the 人莧 are used in medicine. They are said to have great cooling properties. They are also considered to have the property of brightening the intellect, assisting in the excretory processes, and benefiting the virile powers. The use of the plant itself is considered beneficial in fluxes, while the root is used in "cold indigestion" and in toothache. The 野莧 is said to be a small variety, also called 細莧 and 豬莧, and is good for feeding pigs. Some varieties of this plant are much cultivated and eaten as pot-herbs.

AMBER—琥 珀 (Hu-p'ò), 488, 江 珠 (Chiang-chu). According to an old saying, when a tiger dies, its spirit enters the earth and becomes transformed into stone of the form of this substance. Therefore it is called 虎魄 (Hu-p'ò), "tiger's soul." The last character was afterwards changed to 珀 (P'ò) to distinguish this substance as a gem. It is supposed to be the resin of an extinct species of *Pinus*, for this reason given the name of *Pinites succinifer*. As it is closely allied to ordinary resins, such an origin is very probable. It is worthy of note that, equally with Pliny and many modern observers upon the subject, the Chinese say it to be the resin of a pine which has "laid in the earth for a thousand years." An inferior quality is found in Yunnan, especially near Yungchangfu. Burmah, Cambodia, Korea, and Japan are said to yield supplies of the substance. But the market, formerly supplied by the overland trade routes from Asia Minor, is now supplied from the south, coming by the way of the Indian Archipelago, and, according to Dr. Williams, from Africa. The Sanscrit name is given in the *Pentsao* as 阿濕摩揭婆 (A-shih-mo-chieh-p'ò). Pieces containing insects and other bodies are held to be specially valuable. The best pieces are made into beads and ornaments, which are worn by persons of rank. Much of what is offered for sale is fictitious, being made from colophony and copal. Its reputed medical properties are very much

mixed up with certain transcendental powers which it is supposed to possess. But in addition to the many fanciful ones, it is credited with being useful in the treatment of catarrh of the bowels or the bladder, the convulsive disorders of children, and as a tonic and alterative.

Another form of amber, darker in color and more like jade, is called 璽 (Hsi). It is said to have been brought from Turfan, where it was found among the black rocks. It is considered to be an older form of the amber, having laid in the ground for two thousand years, instead of one thousand. Like the *Hu-p'ò*, the *Pentsao* suggests that it may have originated from the 伏苓, Fu-ling (*Pachyma cocos*), found growing like a fungus from the roots of fir trees, or from 豬苓 Chu-ling, a tuberiform fungus found growing on liquidamber roots above ground. Its medicinal virtues are regarded as correspondingly higher than those of amber.

Two special formulæ are given in the *Pentsao* in which amber is considered to be the chief ingredient. One, called 琥珀散 (Hu-p'ò-san), is composed of amber, the shell of *Trionyx sinensis*, the roots of *Cyperus rotundus*, the tubers of *Corydalis ambigua*, rhubarb, and myrrh. Its use is considered to be beneficial in all of the vital functions and to promote nutrition. It is specially prescribed in circulatory disorders after labor. Other formulæ are for urinary disorders, injuries, and certain nervous diseases of uterine fetal life.

AMOMUM AMARUM.—益智子 (I-chih-tzŭ), 543. This is the *bitter-seeded cardamom*, the origin of which has not yet been fully studied. The classification is therefore still doubtful. It has been referred to *Zingiber nigrum*, which is identical with *Alpinia allughas*, but is considered by Pereira and Hanbury to be a totally different species. The term was introduced by Porter Smith, who is followed by Faber. The Chinese term is also referred to, *Nephelium longan*, but later writers restrict it to the bitter-seeded cardamom. The *Pentsao* says that the fruits come from Kunlun and Lingnan (Tibet and Cochin China). They are also said to come from the island of Hainan and from Kuangtung. According to Hanbury's description, "the capsules are mostly oval; some ovate-oblong and a few

nearly spherical, pointed at the extremities, 6 to 10 lines long. The pericarp is of a deep dusky-brown, coriaceous, devoid of hairs, beset longitudinally with interrupted ridges usually about 18 in number; it has an agreeable aromatic smell and taste. The seeds are obtusely angular and adhere firmly together; they are distinguished by an aromatic, bitter, myrrh-like taste."

The drug is considered by the Chinese to benefit the stomach and spleen, and therefore to "increase knowledge;" the disposition and wits of the individual being considered to largely reside in these organs. Tonic, stomachic, cordial, pectoral, and astringent properties are ascribed to these fruits in the *Pentsao*, but the principal use to which they are applied at the present time is in the treatment of incontinence of urine, nocturnal emissions, and flooding after labor.

AMOMUM CARDAMOMUM.—白豆蔻 (Pai-tou-k'ou), 964. This is the *round*, or *cluster*, *cardamom*, and is a native of the East Indies. It was evidently imported into China about the eighth century, as it is first mentioned by writers of that time. It is said to have been produced in a country called 伽古羅 (Ch'ieh-ku-lo), evidently a Buddhist country, where the drug is called 多骨 (To-ku). It is also known under the name of 東波豆蔻 (Tung-p'o-tou-k'ou), after the celebrated poet Su Tung-p'o, who, towards the end of the eleventh century, lived for some years in the island of Hainan and wrote notices of useful plants. The *Malabar cardamom*, which is sold to some extent in China, and which is similar in odor and taste to this cluster cardamom, also goes by the name of 白豆蔻 (Pai-tou-k'ou). The Thibetans call it *sukmil*, which resembles the Sanscrit 蘇乞迷羅細 (Su-chi-mi-lo-si).

This evergreen plant, said to resemble the banana, now grows in Kuangtung province. The capsules are round, globular, smooth, ribbed, obscurely triangular, and of a brownish-white color. The seeds are packed together in a globular mass, easily broken into three portions, and have an aromatic, terebinthinate flavor. The seeds are used in pyrosis, vomiting and dyspepsia, in pulmonary diseases and in general debility. It is said to be serviceable in ague, in cases of films over the eye, and in disorders arising from drunken dissipation.

AMOMUM MEDIUM. — 草果 (Ts'ao-kuo), 'i347. This is the *ovoid China cardamon* of Hanbury, as was first described by Loureiro. It is described in the *Pentsao* together with *Alpinia globosum*, from which it is with difficulty distinguished. It comes from Kuangsi and Yunnan. The elongated, oval capsules are compared by the Chinese to the fruits of *Terminalia chebula* (訶 黍 勒). They vary from something less than an inch to an inch-and-three-quarters in length, and exhibit externally some indication of the three-celled character of the fruit. Long coarse pedicels are frequently attached to the capsules. The pericarp is of a reddish or greyish-brown color, closely corrugated, moderately thick and brittle, with a whitish bloom on the surface in many instances. The taste is woody, or but very faintly aromatic. The mass of large, hard, angular, reddish seeds is but loosely attached to the internal surface of the pericarp by membranous adhesions. The seeds have a warm, terebinthinate flavor, and the odor, when fresh, is said to be strong, like that of the Telini-fly (*Mylabris cichorii*). The small unripe fruit is called 鸚 哥 舌 (Ying-ko-shê), or "parrot's tongue." The drug is used in much the same cases as the *Amomum globosum*, to which it is preferred in the treatment of the various forms of dyspepsia. The seeds only are used, and are given in the form of a decoction for affections of the stomach, or as a tincture in ague, catarrh, or other systemic diseases. It is said to have been formerly much used as a condiment or spice.

AMOMUM MELEGUETA. — As is well known, this plant, together with *Amomum granum-paradisi* furnish the "grains of paradise," or "Guinea grains," of commerce. These plants are native of Africa, and have been transplanted in the West Indies. So far as known, neither are found in Asia. Notwithstanding, Porter Smith has the following to say about these "grains:" "These are the aromatic seeds of the *Amomum xanthoides* and the similar fruit of the *Elettaria cardamomum*, or at least, according to Dr. Waring, of the Ceylon variety of the Malabar cardamon. Dr. Williams gives their Chinese name as 細 砂 荳 (Hsi-sha-tou) and their botanical source as *Amomum grana-paradisa*." The

name given is 躡砂仁 (So-sha-jen), in which there is a palpable mistake made in writing the first character. It is possible that under certain conditions the seeds of *Amomum xanthoides* are used as a substitute for those of *Amomum melegueta*, but they are not the true "grains of paradise."

AMOMUM VILLOSUM.—陽春砂 (Yang-ch'un-sha). This seems to be a Cochin-Chinese species of *Amomum*, which has been introduced into China, and is largely grown in the district of Yang-ch'un, in the western part of Kuang-tung province. From this latter fact, and because the Chinese regard this drug as identical with *Amomum xanthoides*, it receives its Chinese name. It is not described in the *Pentsao*. According to Hanbury's description, the scape, which when perfect, is about three inches long and reclinate, bears as many as eight capsules on its superior extremity. The capsules are from six to eight lines in length. In the dried state they are oval, occasionally nearly spherical, more or less three-sided, bluntly pointed, with a scar at the summit, rounded at the base, and attached by a pedicel one to two lines long. The pericarp is externally dark brown, marked with obscure longitudinal striæ and covered with asperities, which, after soaking with water, are seen to be short, thick, fleshy, closely-crowded spines. The pericarp and seeds have a warm, bitter, aromatic flavor, tarry or camphoraceous in character. They are usually found on the market admixed with the seeds of *Amomum xanthoides*, which latter are easily distinguished by their plump and bloomy-white appearance. The same tonic and stomachic properties are ascribed to the seeds of this plant as to those of cardamoms in general. A product found in the Customs Lists, 276, known as 春砂花 (Ch'un-sha-hua) and 砂仁花 (Sha-jen-hua), is considered to be the product of this plant.

AMOMUM XANTHOIDES.—縮砂蜜 (So-sha-mi). This is the so-called "*Bastard cardamom*." It is a native of Burma, where it was discovered by Wallich in 1827. It was afterwards found by Schomburgh in Siam, and is said by Hanbury to occur in Cambodia and the Laos country. The *Pentsao* says that it originally came from Persia and Asia Minor,

but that it is now found in the marshes of Lingnan. The product appears in the Chinese medicine shops in two distinct portions, which are prescribed in different affections. The one most commonly appearing in commerce is the capsules, 砂仁殼 (Sha-jen-k'ò), 1076, which Hanbury describes as follows: "These empty capsules are mostly attached to a common stalk, which, when perfect, is about five inches long and beset with remains of sheathing bracts. The superior portion, which is much stouter than the rest, bears the fruits closely crowded together on short bracted pedicels. The capsules, having been deprived of seeds, are shrunken and compressed, but after soaking in boiling water they acquire their proper volume, becoming nearly spherical and about three-quarters-of-an-inch in diameter." These capsules are parched, pulverized, and prescribed in ulcerous affections of the throat and mouth. As they are practically odorless and tasteless, and the process of parching would probably drive away any volatile substances they might contain, it is likely that any other kind of charcoal would serve in these affections equally well.

The oblong, triangular, compact masses of the seeds of these capsular fruits are sold as 縮砂仁 (So-sha-jen), or simply 砂仁 (Sha-jen), 1075. They vary from four to six lines in length, and are covered with a white membrane, which when removed discovers the small black seeds. They have nearly the same flavor as that of the *Amomum villosum*, and are said by Hanbury to be substituted in the London market for those of the officinal *Elettaria* (or Malabar) *cardamom*. The Chinese consider the *Amomum cardamomum*, *Amomum villosum*, and *Amomum xanthoides* to be similar in composition and virtues, and this is probably the case. But as they almost invariably prescribe the drug in the form of a decoction, and as its medicinal virtues depend upon a volatile oil and a resin, it is doubtful if this substance plays any very important part in their prescriptions. Tonic, stomachic, astringent, carminative, sedative, and tussic properties are referred to the seeds. They are used as a preserve or condiment, in flavoring spirit, and are said to hasten the solution of copper or iron cash, fish bones, or any other metallic or foreign substance accidentally swallowed.

AMYGDALUS COMMUNUS.—It is pretty certain that this plant does not occur in China. Porter Smith and the Customs Reports erroneously identify this as 杏 (Hsing), but this is the apricot, the kernels of which, together with those of the peach and other such fruits, are used in China as a substitute for almonds. The true almond, brought into China from the West, goes by the name of 巴旦杏 (Pa-tan-hsing); the 巴旦 referring to some country in Asia Minor, possibly another name for Persia. (See *Prunus*.)

ANDROPOGON SCHÖENANTHUS.—茅香 (Mao-hsiang), 417. This, as identified by Loureiro, is a fragrant grass used in baths. It grows in Fukien, and is also called 香麻 (Hsiang-ma); its common name being 茅如麻 (Mao-ju-ma), "hemp-like grass." The grass is dark in color, and bears a white flower. It is also said to be found in Shensi and Kuangtung. There is an Anamese variety, called 白茅香 (Pai-mao-hsiang), which is used for the same purposes as the other. Besides its use in scenting baths, in which it is considered to have a beneficial influence in curing eruptions of the skin, it is used internally in digestive troubles, being regarded as a bland, stimulating, and carminative remedy.

ANEMARHENA ASPHODELOIDES.—知母 (Chih-mu). This is a liliaceous plant found growing plentifully in the Peking mountains. The rhizome is the part used. This is said to resemble the rhizome of *Acorus*. It has but little taste or smell. The flowers resemble those of the *Allium odorum*. The plant is found in nearly all of the provinces north of the Yangtse; but the Customs lists (136) give Chihli as the source of supply for commerce. The drug occurs in irregular, flattened, twisted, shriveled pieces, from two to three inches in length, and generally covered with reddish or yellowish-brown hairs, which become scaly at the distal extremity. The smaller pieces are usually much wrinkled, scarred, and nearly free from hairs. The interior is yellow, spongy, or mealy, and the whole drug has a slightly bitter taste and an agreeable odor. Cooling, lenitive, expectorant, and diuretic properties belong to this rhizome, which is used in precisely the same cases for

which squills is commonly prescribed, and for which drug it would make a very good substitute.

Other names given by the *Pentsao* for this drug are 蚘母 (Ch'ih-mu), 貨母 (Huo-mu), 地參 (Ti-shên), 連母 (Lien-mu), 苦心 (K'u-hsin), 兒草 (Erh-ts'ao), and 水參 (Shui-shên). The term 知母 (Chih-mu) is also used as a synonym of 沙參 (Sha-shên) for *Adenophora verticillata*. In the Japanese lists it is also used for *Chelidonium majus*, but we cannot find that it is so used in China.

ANEMONE CERNUA.—白頭翁 (Pai-t'ou-wêng). Such is the classification in the Japanese lists, and the *Pentsao* description answers pretty well to this identification. But Bretschneider says that at Peking this is *Eupatorium kirillowii*. The Customs lists (965) say that the supply comes from Hupeh and Kuangtung. The root and flowers are used in medicine.

Judging from the variety of affections for which this substance is recommended, one would feel assured that it must be *Pulsatilla*, and that Chinese physicians had gotten their estimate of this drug from Galen. The following is a partial list of the diseases for which it is held in repute. Fever, insanity, ague, obstruction of the bowels, swelling of the neck from anger, to promote the circulation of the blood, abdominal pain, wounds from cutting or stabbing, nasal polypus, virulent dysentery, "red" dysentery, toothache, all of the forms of rheumatic pain, scrofulous glands, all forms of miasmatic poisoning, hemorrhoids, and favus.

ANGELICA ANOMALA.—白芷 (Pai-chih). Porter Smith has identified this erroneously with *Iris florentina* and with *Opopanax*. Other terms given by the *Pentsao* are 澤芬 (Tsê-fen), 白芷香 (Pai-chih-hsiang), 白芷 (Pai-ch'ih), 芳香 (Fang-hsiang), and 苻藟 (Fu-li). The Customs lists (940) give Szechuan, Hupeh, and Chekiang as the sources of supply. The roots vary in size, are brownish externally, marked with wrinkles and ridges and with resin dots in the bark. Internally it is yellowish-white, and contains small points of resinous or oily secretion. The odor is aromatic and the taste somewhat pungent and bitter. It has long been a favorite

drug with the Chinese. In ancient times they wore it, together with other fragrant drugs, in their girdles. It is specially considered to be a woman's drug, and is therefore prescribed in a number of female affections, as well as being a favorite cosmetic substance. In addition to menstrual and other female complaints, it is prescribed in a large number of other disorders, such as urinary difficulties, nasal polypus, various skin affections, cuts and wounds, and certain catarrhal conditions. It is used as a sternutatory, and of the leaves of the plant a wash is made for the relief of pimples and prickly heat.

ANGELICA DECURSIVA.—前胡 (Ch'ien-hu). This is a common plant, growing in damp soil in Central and North China. The fragrant young sprouts and the leaves are eaten as a vegetable. The drug is met with in brittle, branching, irregular, tapering pieces of a root, resembling that of *Angelica officinalis*. The external surface is brown, much wrinkled, with hairy rootlets at the growing top of the root-stock, to which a portion of the stem is sometimes attached. The interior is of a dirty white color, the taste being bitterish and aromatic, and the odor agreeable, but not very strong. The root is compared in the *Pentsao* to that of the *Bupleurum falcatum*. The drug entering foreign commerce comes from Szechuan, Chekiang, and Kuangsi, 118. Shensi, Hupeh, Hunan, Honan and Anhui are also sources of supply for the native shops. The drug is said to be tonic, stomachic, expectorant, carminative, and lenitive. It is used to quiet nervous irritability, as in asthmatic attacks, fretfulness of children, and irritable uterus.

APIUM GRAVEOLENS.—旱芹 (Han-ch'in), or simply 芹 (Ch'in, or 芹菜 (Ch'in-ts'ai). The character 芹 is variously written 勤 and 蕻. This character is also applied to cress and parsley. Unfortunately it is also used for certain Umbelliferous plants allied to water hemlock. In Japan 水蕻 (Shui-ch'in) is *Ceanthe stolonifera*. But the plant referred to under this name in the *Pentsao* is certainly not considered to be at all poisonous. The only poisonous variety there given is the 紫堇 (Tzū-chin) or 赤芹 (Ch'ih-ch'in), which is the *Corydalis incisa* (which see). That 水英 (Shui-ying) is used as a synonym

for Shui-ch'in may indicate that under some conditions or in some places the Ch'in may be considered to be deleterious, as 莢 is usually referred to the Solanaceæ. At any rate, the red varieties of celery offered for sale by the Chinese ought to be eaten with great caution. There is the greatest difficulty in harmonising the statements of the *Pentsao* in regard to the use of the above characters. After the Shui-ch'in, which is also called 苦蕒 (K'u-ch'in), the plant 葶 (chin) is treated of, and 旱芹 (Han-ch'in) given as a synonym. But in the *Erh-ya* and classics, as well as in Japan, this character refers to a *Viola*, and judging by the uses to which it is recommended in the *Pentsao*, this is its proper classification. (See *Viola*.)

Celery is a common vegetable with the Chinese. They sometimes eat it raw, but they usually take it about half cooked, which certainly would be a hygienic safeguard, when we consider their manner of using fertilizers in gardening. Its properties are considered to be digestive, cooling, quieting, alterative, and tonic. It is recommended in menstrual fluxes and in digestive troubles of children. The expressed juice of the bleached stalk is the form much used medicinally.

APLOTAXIS AURICULATA. 廣木香 (Kuang-mu-hsiang), 860. This is identical with *Aplotaxis lappa* and *Aucklandia costus*. It is sometimes carelessly written 木香 (Mu-hsiang), as is also *Aristolochia*, but the true *mu-hsiang* is *Rosa banksia* (which see). Enormous quantities of this root are collected in the highlands of Cashmere, whence it is conveyed to Calcutta and Bombay, from where it is shipped to China. As it probably originally entered at the port of Canton, it was given the name it now bears. It is said that there is a root produced in Kansuh and Honan called Kuang-hsiang, which may be this same drug. Other parts of India and Syria also produce this drug, which in Sanscrit is called *kushta*, in Arabic and Persian *kust* and in Bengal *patchak*. This last name is imitated in Cantonese. The drug is met with in dry, brown, broken pieces, having much the same appearance as so many old broken pieces of bone. The smell is very fragrant, resembling that of orris root, and the taste bitter, pungent, aromatic, and slightly mucilaginous. It is used in making

incense in the south, or to preserve clothes from the attacks of moths and other insects. It is said to have the power of turning gray hair black. Carminative, stimulant, antiseptic, prophylactic, astringent, sedative, and insecticidal properties are referred to this remedy. Indian experience seems to suggest the desirability of trying this root when powdered as a substitute for opium in obstinate cases of opium smoking. The Chinese apply it with musk, which it resembles in odor and properties, to aching teeth.

APOCYNUM VENETUM.—澤漆 (Tsê-ch'í). Such is Faber's classification. The Japanese call this *Euphorbia helioscopia*, and the figure given in the *Pêntsao* looks like *Euphorbia*. On the other hand, the figure given in the Imperial Encyclopedia is that of *Apocynum*. Evidently Chinese observers have confounded two different plants under this name; for some say that it is "not poisonous," while others say "slightly poisonous;" some say that the leaves are edible, while others deny the edibility of the plant. It is also confounded with 大戟 (Ta-chi), which is certainly *Euphorbia*. So, for the purposes of this work, 澤漆 will also be considered under *Euphorbia* (which see).

AQUILARIA AGALLOCHA.—沉香 (Ch'en-hsiang). This is the substance which is variously called agallochum, agila wood, eagle wood, calambac, garoo wood, aloes wood, lign-aloes, and is supposed to be the "aloes" of the Bible. The tree belongs to the natural order of *Aquilaraceæ*. According to Loureiro, the substance is also derived from the central part of the trunk of *Aloëxylon agallochum*, of the natural order of *Leguminosæ*, sub-order *Cæsalpina*. An equivalent term given in the *Pêntsao* is 蜜香 (Mi-hsiang), and the substance is described under two different headings; the reason for so doing not being very apparent. The tree is described as being like the *Cedrela*, and is found in Hainan, Kuantung, Cochin China, Cambodia, Assam, the Laos country, India, and Persia. The Persian name, *ayalur chee*, is represented by the Chinese 阿麝 (A-chieh); while the Sanscrit *aguru* is represented by 阿迦噠 (A-chia-lu). The wood of the sandal tree is light, pale, and

very slightly odorous, being used to scent clothes. Various names are given to the drug, which seem to refer to its form or the part of the tree from which it is taken. These are 馬蹄香 (Ma-t'i-hsiang), 鷄骨香 (Chi-ku-hsiang), 青桂香 (Ch'ing-kuei-hsiang), and 棧香 (Chan-hsiang). The product of the root is called 黃熟香 (Huang-shu-hsiang). After the tree has been felled for some months or years, a dark, resinous, aromatic juice is met with in the wood, mainly deposited in certain portions of the vascular tissue, more especially of the heart of the tree. This valuable heavy wood is called *agur*, a name also applied to the drug in Bengali. The trees are sometimes buried in order to increase, or to facilitate the removal of the prized oleoresin. The coarse, reddish-brown wood, sold under the name of 沉香木 (Ch'en-hsiang-mu), and used in the making of incense, has an odor similar to that of sandal-wood, and a faintly bitter taste. It is very hard, and being capable of a very high polish, is carved into ornamental articles, as well as being burned in the form of incense sticks. Paper is said to have been formerly made of the bark of this tree. The drug is placed by Dr. Williams among Chinese imports, but it is not noted in the Customs lists. Much interesting information in regard to this substance can readily be found in Hanbury's "Notes" and Royle's Illustrations. Tonic, stimulant, carminative, aphrodisiac, and diuretic properties are ascribed to the drug, besides which it is supposed to possess certain occult virtues, making it useful in getting rid of evil spirits.

ARALIA CORDATA.—土當歸 (T'u-tang-kuei). Such is the identification of Faber and the Japanese. Siebold says that this is the same as *Aralia edulis*. It may be an *Angelica*. Its uses in medicine are not great; it being considered carminative and slightly stimulating. The young stalks are used as a vegetable. According to the Customs Reports, the root of this plant is imported into Shanghai from Japan under the name of 當歸 (Tang-kuei), 1250.

ARCTIUM LAPPA.—惡實 (Wu-shih). Other common names are 牛蒡子 (Niu-p'ang-tzū), 906, and 大力子 (Ta-li-tzū), 1226. This is the common burdock which grows plenti-

fully in North and Central China. It has a large number of vulgar names, of which the *Péntsao* gives the following: 牛菜 (Niu-ts'ai), 便牽牛 (Pien-ch'ien-niu), 夜叉頭 (Ye-ch'a-t'ou), 蝙蝠刺 (Pien-fu-tz'ü), 莠翁菜 (P'ang-wêng-ts'ai), and 鼠粘 (Shu-nien). The seeds, stem, and root are used in medicine. It is said that in former times the leaves were eaten as a vegetable. The taste of the seeds is said to be slightly pungent, while that of the root and stem is bitter and cooling. The drug is considered to be alterative, depurative, diaphoretic, and diuretic. The seeds are usually taken in decoction, or with honey and wine; the root and stalk in decoction or tincture.

ARECA CATECHU.—檳榔 (Ping-lang). This is the Araca Palm which bears the so-called Betel Nut used by the Malays in betel chewing. (See *Chavica betel*.) The Malayan name is *Pinang*, and the Chinese name is supposed to be a transference of the sounds of this word. But Li Shih Chen says that 賓郎 means "an honored guest," and these characters are used because of the practice of setting the betel box before guests. Both explanations are ingenious, to say the least. The Areca Palm is indigenous to the East Indies, where it is extensively cultivated, as also in the Philippine Islands, Hainan, and the south of China. Mr. Sampson reports that the best nuts are produced in the south of the island of Hainan. According to the *Péntsao* there are several sorts, varying according to the height of the tree and the size of the fruit. The nuts vary a good deal in size and quality, being from three quarters of an inch to an inch in length. They are brown in color, conical at one end and truncated at the other, which is marked by a depressed, whitish scar. The taste is bitter and rough, varying in different specimens. According to the analysis of Morin, these nuts contain a large proportion of tannic and gallic acids. In India, a kind of Catechu is prepared from them, which is known as *catta-cambu*. It does not appear in commerce; and, unless 檳榔心 (Ping-lang-hsin) or 檳榔膏 (Ping-lang-kao), 1026 and 1027, are this article, it is not known in China. Waring says that it is as good as the Black Catechu obtained from the *Acacia catechu*; but, inasmuch as the Areca nut does not contain any Catechin, this

catechu is usually regarded in the West as inferior. Tonic, stomachic, astringent, antiperiodic, detergent, and anthelmintic properties are assigned to the fruit, which, as a tea, was formerly used in the south as a prophylactic against malarious and mephitic vapors. One of the synonyms used in the *Pentsao* is 洗瘴丹 (Hsi-chang-tan), "antimalarious panacea," and indicates its repute in this direction. The powdered nut has long been in use in China as an anthelmintic, and the expulsion of tape worms is its chief use in the West. An alternative way of writing the first character in the Chinese name for the plant is 枳. One of the varieties of *Areca catechu* is known as 大腹子 (Ta-fu-tzū) and 豬檳榔 (Chu-ping-lang). The bark of this tree enters commerce under the name of 大腹皮 (Ta-fu-p'i), 342. It is a rough, dirty, tow-like substance, which is used for very much the same purposes as the Areca nut, such as choleraic affections, and for flatulent, dropsical, and obstructive diseases of the digestive tract. An ointment and a wash are prepared for use as detergent applications to fistulous sores and to scabious, impetiginous, and other eruptions.

ARGEMONE MEXICANA.—老鼠芳 (Lao-shu-lê). This spinous plant, belonging to the *Papaveraceæ*, is met with in the south of China. The seeds are said to be expectorant and sedative. They yield a fixed oil, which has long been in use in the West Indies as a purgative, and has since been recommended by Dr. Waring as a mild, painless purge in constipation and colic. The oil is said to allay the irritation of herpes and many other eruptions of the skin. The name is applied to *Spinifex squarosis* and to *Acanthus ilicifolius*.

ARISÆMA JAPONICUM.—天南星 (T'ien-nan-hsing), 1297. This was identified by Loureiro and Tatarinov as *Arum pentaphyllum*, and by Kaempfer as *Arum triphilum*. The Chinese have not distinguished between this and *Arisæma thunbergii*. As the *Pentsao* discusses this drug under the latter heading, we will refer to that article for the medicinal virtues and uses of *Arisæma japonicum*.

ARISÆMA RINGENS.—由跋 (Yu-po). This is said to grow in forests. By some it is considered to be the young

root of *Arisæma thunbergii*. The tendency of the Chinese is to refer the less frequently used species of a genus to the one most frequently employed, especially if the medicinal virtues coincide. In this way most of these aroid plants are considered to hold some relationship to either *Arisæma thunbergii* or *Pinellia tuberifera*, which bear the highest reputation medicinally of this class of plants. This drug is considered to be alterative and febrifuge. It is not much used.

ARISÆMA THUNBERGII.—虎掌 (Hu-chang). This plant is found in different parts of the central and northern provinces of China. The supply comes for the most part from Shensi, Szechuan, Hupeh, and Anhui. The tubers are the part used, which from their shape slightly resembling the paw of an animal, receive the name of "tiger's paws." They resemble those of the allied species *Pinellia tuberifera*, *Arisæma japonicum*, *Arisæma ringens*, and *Conophylus konjak*. Indeed the distinction between some of these tubers is difficult to make, and is probably not made by the Chinese druggists. So the description of the drug as found in the shops must have an element of uncertainty about it. In general, however, they are hard, yellowish-brown, or whitish, flattened, round, generally divided into small branching tubers grouped around the central portion, which is umbilicated and marked with pits and tubercles. The cicatricial remnant of the stalk is often seen in the umbilicus of the tubers. The interior firm, starchy, white substance has a considerable of acidity when chewed for some time. The drug is considered to be exceedingly poisonous. Alterative, deobstruent, expectorant, diuretic, discutient, and vulnerary properties are attributed to it. It is recommended in Chinese medical practice for apoplexy, hemiplegia, epilepsy, and many other diseases supposed to depend upon the presence of phlegm. It is pounded and mixed with vinegar or oil, and applied to small tumors or swellings. Having a somewhat benumbing influence, similar to that of aconite, it is sometimes used as an ingredient in certain local anæsthetic compounds, which are applied to painful growths, or to abscesses previous to being opened by those who are bold enough to venture upon such a surgical procedure.

ARISTOLOCHIA CONTORTA. — 土青木香 (T'u-ch'ing-mu-hsiang). This plant is found at Peking and northward. It is described in the *Pentsao* under *Aristolochia kempferi*. Whether the drug met with in commerce is the product of this plant, of *Aristolochia kempferi*, or of *Aristolochia recurvilabra*, is uncertain, with a probability in favor of the last named.

ARISTOLOCHIA KEMPFERI. — 馬兜鈴 (Ma-tou-ling), 813. Called by Faber 兜鈴 (Tou-ling), *Aristolochia ichilis*. The drug comes principally from the northern provinces; some being exported (possibly re-exported) from Foochow. It consists of dry, oval, pediculated fruits of one to one-and-three-quarters inch in length when whole. But they are usually broken, showing a division into six thin, papery valves, inclosing flat, obtusely-triangular, winged seeds. Some say that the Chinese name of this plant, "horse bell," refers to the shape of the leaf. As the open, cellular structure of these fruits is considered by the Chinese to resemble the human lung, they are strongly recommended in all forms of pulmonary affections. They have very little taste or smell and are not poisonous. Other diseases for which they are prescribed are hemorrhoids and ascites. One of the fruits burned over a lamp, and the charred remains taken with wine, is considered a sure cure for heartburn.

ARISTOLOCHIA RECURVILABRA. — 青木香 (Ch'ing-mu-hsiang), 192, 白朮 (Pai-shu), 961. These are the identifications of Hance. The latter is cultivated in Shaohsing prefecture, Chekiang province, and large quantities are therefore exported from Ningpo. The plant resembles the birthwort, and evidently belongs to this genus. It is said to sometimes be substituted for Indian *putchuk*. The various kinds of the drug are known as 平朮 (P'ing-shu), 生朮 (Shêng-shu), 冬朮 (Tung-shu), 土朮 (T'u-shu), 吳朮 (Wu-shu), 元朮 (Yüan-shu), 小元朮 (Hsiao-yüan-shu), and 雲朮 (Yün-shu). Besides the province of Chekiang, Kiangsi, Anhui, and Yünnan are sources of supply for the drug. The best kind is said to be produced at 於潛 (Yü-chien) in Hangchow prefecture. Of the former, the sources

of origin are Szechuan, Hupeh, Chekiang, and Kuangtung. The root of the Pai-shu is said to resemble old ginger root, dark colored without and white inside. It is considered to be constructive, alterative, tonic, and diuretic. It is a highly valued remedy, being prescribed in combination with such drugs as ginseng and China root. It is used in digestive disorders and chronic fluxes, especially those of women and children. It is regarded as being especially useful in summer diarrhœa and in chronic diarrhœa and dysentery. Under the designation of 獨行根 (Tu-hsing-kên), the root of the Ch'ing-mu-hsiang is prescribed in similar cases. But in addition, this is regarded to be especially efficacious in expelling the 蠱 (Ku) poison. So highly is it valued for this purpose by the inhabitants of Lingnan that they have given it the name of 三百兩銀藥 (San-pai-liang-yin-yao), "three-hundred-taels-of-silver-drug." It is also considered to be a good remedy for snake-bite.

ARTEMISIA ANNUA. — 黃花蒿 (Huang-hua-hao). Also called 臭蒿 (Ch'ou-hao, "stinking herbage," and 草蒿 (Ts'ao-hao), "grassy herbage." It is not eaten on account of its unpleasant odor. The leaves and the seeds are prescribed, the former for children's fevers, and the latter for consumption, flatulence, dyspepsia, night sweats, and to destroy noxious vapors.

ARTEMISIA APIACEA. — 青蒿 (Ch'ing-hao), 186. This is probably identical with *Artemisia abrotanum*, or southern-wood. Other classifications have been *Artemisia dracunculus* and *Artemisia desertorum*. This plant, when coiled into ropes to be burned to drive away mosquitos, is called 香蒿 (Hsiang-hao). This is also the term by which it is known at Peking. In the spring, when the leaves are very tender, they are eaten as a vegetable. Very early in the spring the shoots are used medicinally. The leaves, stalk, root, and seeds are all used in medicine. It is prescribed in a large number of affections, among which may be mentioned consumption, chronic dysentery, malaria, nasal polypus, hemorrhoids, wasp stings, etc.

ARTEMISIA CAPILLARIS. — 茵陳蒿 (Yin-ch'en-hao), 1532. Loureiro calls this *Artemisia abrotanum*, but the plant

he describes is not this species. This is a perennial artemisia, coming up year after year from the same roots and preserving its foliage green during the winter. Hence the name 茵陳 (Yin-ch'en). It is a mountain plant in its natural habitat; that coming from the peaks near Hochou, in Anhui province being called 石茵陳 Shih-yin-ch'en), or "stone artemisia." The best quality is thought to come from the sacred Tai mountain, in Shantung. There is also a cultivated variety, which the *Pentsao* distinguishes both as to appearance and medical uses. Under the common method of preparation, the substance of the plant is converted into a downy mass, which is called 綿茵陳 (Mien-yin-ch'en). The leaves and stalk are used as a febrifuge, a diuretic, an antispasmodic, and an antiperiodic. It is recommended in the treatment of jaundice, dysmenorrhœa, ague and ephemeral fevers.

ARTEMISIA JAPONICA. — 牡蒿 (Mou-hao). Also called 齊頭蒿 (Ch'i-t'ou-hao). Classical name, 蔚 (Wei). It grows in fields and waste lands. Li Shih-chen says: "Its leaves are flat, narrow at the base, broad and lobed at the end. The young leaves can be eaten. Deer are fond of the plant. In autumn it bears small, yellow flowers. The fruit is as large as that of the *Plantago major*, and contains minute seeds, hardly distinguishable; wherefore the ancients asserted that the plant had no seeds, and called it the male southernwood." It is reputed to promote the digestion of fat, and is therefore used to produce plumpness of figure. But it is advised not to use it very long at a time, as its prolonged use is deleterious. The expressed juice is employed as a local application in vaginitis. In combination with elecampane, it is considered a sure cure for ague.

ARTEMISIA KEISKIANA. — 蒼藺 (An-lü). Also called 覆藺 (Fu-lü). These names come from the fact that the stalks of this plant are useful for thatching village cottages. The seeds are the part employed in medicine. Their use is supposed to prolong life, and they are administered in cases of impotence, amenorrhœa, post-partum pain, and to remove extravasated blood and prevent the formation of abscess.

ARTEMISIA STELLERIANA VESICULOSA, 一白蒿 (Pai-hao). Classical names, 繁 (Fan) and 蕪 (Lü). It is considered by some ancient authors to be amphibious in its habits, but it is probable that there are two distinct but closely related species. Indeed Su Sung (11th century) says: "In ancient times the people used the leaves of the Pai-hao for food. Now they employ for this purpose the 蕪蒿 (Lü-hao), which some authors have erroneously identified with the Pai-hao." Faber calls this Lü-hao *Artemisia giloëscens*. It shoots up in the second month, and the very tender leaves and the crisp white or reddish roots are used as food by the people, being eaten raw or cooked. This plant is regarded as useful in flatulence, colds, as a stomachic, to promote the growth of hair, and as a nervine and promoter of the mental faculties. Externally, a decoction is used as a wash in ulcerous skin affections. It is probably indigenous to China, being found in most parts of the empire, and it may be the same as the Arabic *Artemisia herba-alba*. That form which grows on uplands is not used as food, and but rarely in medicine.

ARTEMISIA VULGARIS.—艾蒿 (Ai-hao), or simply 艾 (Ai). Also called *Artemisia indica*, *Artemisia chinensis*, and *Artemisia moxa*. This plant is the common mugwort, and is found in most parts of China; the trade supply of the drug coming from Hupeh, Anhui, and Fukien. The best quality, known as 蕪艾 (Ch'i-ai), comes from Ch'i-chou (蕪州), in Huang-chou-fu (黃州府), in Hupeh. Bretschneider says that this is the same as 千年艾 (Ch'ien-nien-ai), and is *Tanacetum chinense*. Faber calls the Ch'ien-nien-ai *Artemisia vulgaris*, and Ai (艾) he calls *Artemisia indica*. But from a medical standpoint, these distinctions are unimportant. Another variety, known as 紫艾 (Tzū-ai), reddish in color, comes from Kung-yang-fu, in Anhui. Common names by which the *Artemisia* is known are 醫草 (I-ts'ao, "vulnerary herb"), 灸草 (Chih-ts'ao, "burning herb"), and 灸草 (Chiu-ts'ao, "canterizing herb"). In commerce this article appears principally in four forms. Ai-yeh (艾葉), 7, is the dried leaves of the plant, while Ai-t'iao (艾條), 6, is the dried twigs done up in bundles. Ai-jung (艾絨), 3, is made by taking the best leaves and grinding

them up in a stone mortar with water, separating out the coarsest particles and refuse and drying what remains. Ai-mien (艾綿), 4, is the Ai-jung picked to pieces by hand. This latter is principally used as a stamping-ink pad for seals, being mixed with vermilion and castor oil for that purpose.

The Ai-jung is used as a moxa (艾火), both for cauterizing purposes and as a counterirritant. A small portion is rolled into a pellet the size of a pea, placed upon the ulcer or place to be cauterized and ignited. The preferred method of igniting the moxa is with a burning glass or mirror. The number of pellets used depends upon the effect desired. If it is used for the relief of pain, the process is continued until the pain is relieved, or until more than ten pellets have been used. If for the cauterization of an ulcer, or for the loss of sensation in a part, its application should be continued until acute pain is produced, or ten or more pellets have been used. This treatment is recommended and practiced indiscriminately by native doctors for nearly all of the ills to which flesh is heir—from itch to sterility. It is reported to have fallen somewhat into disuse in some parts of the empire, but in Kiangnan it seems to be as much employed by the native faculty as it ever was.

The number of diseases for which *Artemisia vulgaris* is prescribed, is very large. It is regarded as having hæmostatic, antiseptic, and carminative virtues. Therefore it is prescribed in decoction in hæmoptysis, dysentery, menorrhagia, post-partum hæmorrhage, snake and insect bites, as a wash for all sorts of wounds and ulcers, and to allay the griping pains of indigestion, diarrhœa, or dysentery. The expressed juice of the fresh plant is employed as a hæmostatic, for tape worm, and as a carminative. A tincture, made up in native spirits, is used as a nerve sedative in abdominal pain and in labor. The leaves are also steamed and used as a poultice for the relief of pain. This is called Ai-pa (艾把).

As this plant is so frequently used as a charm, and is held in a measure of superstitious veneration by the people, it is a little difficult to determine just where its remedial use in native therapeutics begins. At the time of the Dragon Festival (fifth day of the fifth moon) the *Artemisia* is hung up to ward off noxious influences. This is done either together with a Taoist

charm, in which case it is called 艾符 (Ai-fu), and is hung at the head of the principal room of the house, or together with the *Acorus calamus* (菖蒲, Ch'ang-p'u) at the door; the leaves of the latter being formed in the shape of a sword (called 蒲劍, P'u-chien) and placed over the door, while a stalk of the *Artemisia* is hung on each door post. That this was efficacious in at least one instance is attested by the fact that the famous rebel, Huang Ch'ao (黃巢), gave orders to his soldiers to spare any family that had *Artemisia* hung up at the door. The moxa is employed by Buddhist priests in initiating neophytes; three rows of three, four, or five scars each being burned on the crown of the head with this substance. Many also use the moxa on a three days' old child, burning one or more scars on the face; this being supposed to insure the child's living through infancy. The places for burning are between the brows, on each cheek a little distance beneath the eyes, and at the root of the nose on the upper lip.

ARTOCARPUS INTEGERIFOLIA.—波羅蜜 (Po-lo-mi). This is the Jack, Jak, or Jaca fruit. The Annamese name is 囊伽結 (Nang-chieh-ch'ieh); the last two characters being pronounced "chiaket" in Annamese. The first name given above is the Sanscrit name, represented in Chinese characters. In Persian it is 婆那娑 (P'o-na-sha), and in the language of the Nestorian country of 拂林 (Fu-lin), it was called 阿薩驪 (A-sa-t'o). It is a member of that very interesting natural order of Dicotyledonous plants, the *Artocarpaceæ*, which furnishes the bread-fruit, caoutchouc, the cow-tree, the deadly Upas, the sack-tree, the Trumpetwood which is used for cordage and for musical wind-instruments, and the valuable Snakewood of Demerara. The Jack-fruit is said to grow in several parts of Southern Asia, being found in China in Lingnan and Yunnan. The pulp and seeds are considered by the Chinese to be cooling, tonic, and nutritious, and to be useful in overcoming the influence of alcohol on the system.

ASARUM FORBESI.—杜衡 (Tu-hêng). Other names, 土細辛 (T'u-hsi-hsin), 杜葵 (Tu-k'uei), and the *T'ang Pên-tsao* calls it 馬蹄香 (Ma-t'i-hsiang), on account of the shape

of its leaves. It is found in rocky ravines anywhere between the Huai and the Yangtze, and probably any place else in Central China. Its continued use will give a fragrant odor to the body. The root is the part used, and it is prescribed for fevers, coughs, goitre, and for intestinal worms. A caution is offered in regard to a plant called 木細辛 (Mu-hsi-hsin), which is considered to be poisonous, and the similarity of names to the 土細辛 (T'u-hsi-hsin) might lead to error.

ASARUM SIEBOLDI. — 細辛 (Hsi-hsin), 388. This drug seems to be confused with the last in commerce. It, however, is a northern plant, being found principally in Korea, Manchuria, and the extreme northern provinces of China. The Chinese name refers to the fibrous character of the roots and their extreme acidity. The dried root appears in the shops in the form of fibrous radicles, having a strong, aromatic smell and a subacid taste, having lost some of the acidity of the fresh root in the process of drying. The *Pentsao* assigns to this drug emetic, expectorant, diaphoretic, diuretic, and purgative properties. It is prescribed in rheumatic affections, and in epilepsy. It is used in powder in the treatment of nasal polypus and in deafness, and in strong decoction or powder in the treatment of ulcers of the mouth.

ASCLEPIAS. — 白兔藿 (Pai-t'u-huo). This seems to be a Sarsa-like plant, both as to its form and as to its reputed medicinal virtues. It is said to grow in various parts of China, such as Kuangtung, Hupeli, and Shensi. Its species is not determined. It is considered to be a counterpoison, and is recommended in the treatment of insect and animal stings and bites, to counteract the 蠱 (Ku) poison, and to destroy the effects of poisons that may have been swallowed.

ASPARAGUS LUCIDUS. — 天門冬 (T'ien-mên-tung), 1301, 1302. Other names, 覺冬 (Mên-tung), 頓勒 (Tien-lê), and 萬歲藤 (Wan-sui-t'êng). This is said by the *Pentsao* to be a creeping plant with prickly leaves. In the region of Taishan, in Shantung, is the most famous place of its production. But it is cultivated in and around Peking. The Customs Lists

give Szechuan as the source of the commercial supply. It is doubtless found in other parts of China. The tubers are the part used, and they are described as being spindle-shaped, fleshy, translucent, of a reddish or yellowish color, and varying from two to five inches in length. Some are much older and more woody in structure. They are flattened, contorted, furrowed longitudinally, and have a central perforation in many cases, showing that they have been strung on a cord for purposes of drying. They have no decided odor, but the taste is something like that of the squill. They are considered to be expectorant, tonic, stomachic, and nervous stimulant. Their prolonged use is recommended in impotence. The root is preserved in sugar as a sweet-meat.

Loureiro calls this plant *Melanthium cochinchinense*, and in this he is followed by Tatarinov, Guager, Hanbury, and Porter Smith. But Hance and Henry, who studied the plant in its natural habitat, identify it as *Asparagus lucidus*, as do also Miquel, Faber, Bretschneider, and the Japanese.

ASPIDIUM FALCATUM.—貫衆 (Kuan-chung), 647. According to M. Fauvel, this term is so applied in Shantung. According to Henry, in Hupeh Kuan-chung is *Woodwardia radicans* (which see), and 毛貫衆 (Mao-kuan-chung) is *Onoclea orientalis* and *Nephrodium filix mas*. In Japan these characters indicate *Lomaria japonica*.

ASTER FASTIGIATUS.—女菀 (Nü-yüan). Other names are 白菀 (Pai-yüan), 緘女菀 (Chien-nü-yüan), and 女復 (Nü-fu). This plant grows in the north of China. In the Peking mountains this name is applied to *Plectranthus glaucocalyx*. The root is the part used in the treatment of fevers, plague, dysentery, epileptoid conditions, and it is especially recommended to be used to allay the results of overfeasting and wine drinking.

ASTER TATARICUS.—紫菀 (Tzū-yüan), 1422. This is Faber's identification. The plant grows plentifully in Northern and Central China, and resembles the last so much that they are often confounded. Another name for it is 夜牽牛 (Ye-

ch'ien-niu). The root is the part used, is fibrous, of a reddish-brown color, has a fragrant odor and but little taste. It is used in the treatment of pulmonary affections, in hæmoptysis, hæmaturia, puerperal hemorrhage, and dysuria. It is also considered to be quieting to the nervous system, and is therefore used in the restless crying of children. It is also regarded to have some tonic virtues.

ASTER TRINERVIUS.—馬 蘭 (Ma-lan), 803. Also called 紫 菊 (Tzú-chü), "purple chrysanthemum." It grows almost everywhere in marshy places and on the borders of lakes. The flower has an unpleasant odor. The root and leaves are used, and are recommended for the treatment of hemorrhages, all forms of animal poisoning, and in malaria. It is especially recommended in that mysterious disorder called by the Chinese 痧 (Sha).

ASTRAGALUS HOANGTCHY.—黃 耆 (Huang-ch'i), 510. Name also written 黃 芪 (Huang-ch'i). The first name is sometimes written 黃 蓍 (Huang-shih), but this is incorrect. Large quantities of this drug pass between the ports of China; it being produced in Manchuria, Chihli, Shantung, Szechuan, and Shensi. Several varieties are distinguished, being named for the places from which they come. It is possible that the root of a *Sophora* is included among these. The roots are flexible and long, as large as a finger, and covered with a tough, wrinkled, yellowish-brown skin, which has a tendency to break up into wooly fibers. The woody interior is of a yellowish-white color, and the whole drug has a faintly sweetish taste, somewhat resembling that of liquorice root. It is in great repute as a tonic, pectoral, and diuretic medicine. The diseases for which it is prescribed, therefore, are almost numberless. Every sort of wasting or exhausting disease is thought to be benefited by it. Like most of the tonic and diuretic remedies, it is prescribed in malaria.

ATRACTYLIS.—朮 (Shu). Hance has identified the 白 朮 (Pai-shu), which is so largely grown in Chekiang province and exported from Ningpo, as *Aristolochia recurvilabra* (which

-see). It is doubtless true, however, that some of the Pai-shu which comes from other parts of the empire is *Atractylis*. According to Hoffinan and Schultes, 蒼朮 (Ts'ang-shu) represents three species of *Atractylodes*, namely, *Atractylodes lyrata*, *Atractylodes lancea*, and *Atractylodes ovata*. Siebold, as if it were one species, calls this plant *Atractylis chinensis*. The places of origin of this drug are (1330) Manchuria, Chihli, Shantung, Szechuan, Hupeh, Anhui, and Chekiang. The roots are met with in finger-shaped, roughly-moniliform pieces, occasionally branching, and varying from one to three inches in length. The cuticle is rough, brown, or blackish, and sometimes bristled with rootlets. The cut surface is of a dirty white color, with a yellowish cortical layer. The structure is very open, and some of the interstices are filled with an orange-colored resinous substance, which dissolves in strong spirit, making a yellow tincture. The smell is somewhat aromatic and the taste warm and bitter. The drug is a warm, stomachic, stimulant, arthritic, tonic, and diuretic remedy, used in fevers, catarrh, chronic dysentery, general dropsy, rheumatism, profuse sweating, and apoplexy. It enters into the composition of several of the most famous prescriptions in use among the native faculty. Among these may be mentioned the 固真丹 (Ku-chen-tan), "strengthening virility elixir;" the 不老丹 (Pu-lao-tan), "elixir of longevity;" and the 靈芝丹 (Ling-chih-tan), "elixir of felicity." To enumerate all of the diseases for which the drug is recommended, would require a tolerably complete Chinese nosology. 平朮 (P'ing-shu) is a less pungent quality of the drug, but whether this is due to its being a different species, or to a different mode of preparation, does not yet appear. The whole matter of classification of these substances is in a very unsettled state.

ATROPA. It is exceedingly doubtful whether this genus is found in China. It is introduced here simply to call attention to two substances which may be included under this classification or that of some allied genus. The first is 纈薺 (T'ien-ch'ieh), a term used by Dr. Williams in his Syllabic Dictionary for belladonna-like plants of the Solanaceæ. It is also said to be written 天薺子 (T'ien ch'ieh-tzŭ), and this term

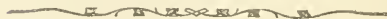
is assigned to *Solanum nigrum*. But neither of these terms is given in the *Pèntsao*, or in any other Chinese work examined.

In the *Pèntsao*, under the head of an unidentified Solanaceous plant called 坐拏草 (Tso-na-ts'ao), there is an appended account of a similar drug called 抑不蘆 (Ya-pu-lu), the effects of which resemble those of *Atropa mandragora*. It is said that after the administration of a small quantity of the tincture, a profound anæsthesia was produced, during which operations might be performed with perfect freedom from pain. The effects of the drug lasted for three days. The drug is said to have come from the country of the Mohammedan tribes north of China, and is thought to have been the drug used by the celebrated surgeon, Hua-t'ò, in certain operations upon wounded intestine. There is no description of the plant, so its identification awaits investigation.

AVENA FATUA. 雀麥 (Ch'iao-mai), 燕麥 (Yen-mai). Oats is seldom cultivated in China, although this wild variety is sometimes collected in times of dearth and used in making bread. The grain is considered to be nutritious and demulcent. A decoction of the shoots of growing grain is given to parturient women to excite uterine contractions, as in retained placenta. This action may be due to the growth of an ergot upon the shoots. In Japan the above terms are used for different gramineous plants; the first being *Bromus japonicus*, while the second is *Brachypodium sylvaticum*. The *Avena fatua* is called 鷲麥 (Yen-mai), but in China this first character is only a varied way of writing 燕.

AVERRHOA CARAMBOLA. 五斂子 (Wu-han-tzū), 五稜子 (Wu-lêng-tzū), 陽桃 (Yang-t'ao). The second character in the first name is in the south a colloquial substitute for the second character in the second name. The meaning of this name is "five ridges," and refers to the shape of the fruit, which is compared to that of the stone roller with which the Chinese farmer rolls down his fields after sowing grain. This fruit is the so-called "Chinese gooseberry," which is met with in the southern provinces of Fukien, Kuangtung, and Kuangsi, but is scarcely known in the north. In its natural habitat it is

also known as 陽桃 (Yang-t'ao), variously written 羊桃 (Yang-t'ao). On this account, Legge has erroneously identified the carambola with the 莫楚 (Ch'ang-ch'u) of the classics. This latter is *Actinidia*, and Chinese writers have not confounded the two, although there has been some local confounding of the colloquial names. The fruit, when ripe, is three or four inches long, yellow, marked by five prominent longitudinal ridges, very juicy, and rather sharp to the taste. The odor is aromatic, but rather disagreeable to some persons. Its action is to quench thirst, to increase the salivary secretion, and hence to allay fever.



B.

BALANOPHERA.—鎖陽 (So-yang), 1189. Whether this is a correct identification, or whether it is an *Orobancha*, is not quite certain. The Chinese make it out to be a kind of 菴蓉 (Ts'ung-yung), which is *Orobancha*. The *Pên-tsao* says that it grows in the country of the Mongol Tartars, and comes up in places where the wild horse and scaly dragon have dropped semen, which sinks into the ground and after a time springs up in a form like the bamboo shoot. The upper part is succulent and the lower dry. It is covered with scales and resembles the penis. It is said that lecherous women among the Tartars use it for the purpose of masturbation, and that when the root comes in contact with the female organ it becomes erect, as in the case of the organ it is said to resemble. It is a remarkable fact that an allied species in America goes by the vulgar term of "squaw root;" a similar reason for so calling it being there adduced. The drug which enters the Chinese markets probably largely comes from Mongolia, but the Customs Reports credit Szechuan and Hupeh with being its places of production. The root is fleshy, reddish-brown in color, having a more or less wrinkled surface. In accordance with the Chinese ideas as to the origin of this root, it is considered to be aphrodisiac to women and to promote the secretion of semen in men. It is also thought to be stimulant and tonic to the intestinal tract.

BALSAMODENDRON MYRRHA.—沒藥 (Mu-yao), 879. The name is also written 末藥; the first character in each case being said to be a transliteration of the Sanscrit term. The drug originally came from Persia, and was said to resemble benzoin. Its mode of collection, as given by Li Shih-chen, is by incision of the bark of the tree and collecting the exudation as it congeals. It is reddish-black in color and more or less admixed with other substances. The product, as found in the Chinese drug shops, has a bitter taste and but little of the smell of genuine myrrh. It is said now to be produced to some extent in the south of China. Its medical uses are considered

to be identical with those of olibanum. It is regarded as an alterative and sedative, and, as formerly in the west, is used in the treatment of wounds and ulcers. It is thought to be especially useful in uterine discharges and in vicious lochiæ; also in the treatment of a disease resembling hysterical mania. Loureiro mentions a 沒藥油 (Mu-yao-yu), "oil of myrrh," which is used in Cochin China for the dressing of ulcers. It is reddish in color, and has the smell of myrrh. It does not seem to be known in China.

There is also found in the drug shops of China a substance called 假沒藥 (Chia-mu-yao), which is East India *Bdellium*. This is supposed to be the product of *Balsamodendron mukul*, or *Balsamodendron roxburghii*. It is imported into China from India, and Dr. Williams says that the drug appearing in the Chinese market is much adulterated. According to Dr. Waring, good *Bdellium* occurs in roundish, dark-red pieces, softer than myrrh and much less agreeable in taste and smell. It does not respond to the tests for myrrh, but is said to answer all of the purposes of that drug. It is an excellent stimulant for the chronic ulcers so commonly found throughout the east. Its Indian name is *gugûl*.

BAMBUSA.—The number of species of bamboo to be found in China, included under the genera *Bambusa*, *Arundinaria*, and *Phyllostachys*, is doubtless very large. Rivière enumerates twenty-three coming from the region of Hongkong and Canton alone. The largest bamboos are found in Hupeh, Szechuan, and Chekiang. Marco Polo made mention of the large ones of the last named province. An interesting bamboo is the *Phyllostachys nigra*, which is a dwarf and has a black stem. Attaining to not more than the height of a man, it is cut down and used for walking-sticks and parasol handles.

Owing to the fact that the bamboo flowers and fruits only once in from thirty to sixty years, very little has been done in China as yet towards its systematic classification. Rather more has been done in Japan, but even there this work is still far from complete. The 竹譜 (Chu-p'u, "Treatise on Bamboos"), which was published in the 3rd or 4th century, is an interesting and tolerably complete account of the bamboo, the names

by which it was known in the classics, and the uses to which it was put from most ancient times. Allowing for changes in customs, we find that these uses were very much the same as at the present time. Besides the purposes for which the bamboo is employed in medicine hereafter to be mentioned, the sprouts are eaten for food, and the wood is made into mats, baskets, hats, musical instruments, bows and arrows, pillows, chairs and stools, tables and book-shelves, fences and screens, house frames, cash boxes, tallies and token money, as a substitute for paper, and the thousand and one varied uses to which one sees it put at every turn as he goes about the country. The bamboo grows as far north as the Yangtze valley, from which point it is for the most part replaced by *Pragmites* and other reeds. Of the various kinds of bamboo mentioned in the Chinese books we have several interesting specimens. The 斑竹 (Pan-chu), or "spotted bamboo," said to be marked by the tears of Queen Siang, is found in the central provinces. The Spiny Bamboo, 刺竹 (Chih-chu), attains a very large size, and is said to be capable of resisting the onsets of burglars, pirates, and the like, when formed into stockades. The 棕竹 (Tsung-chu), or "coir bamboo," is nearly solid stemmed, and is used in the manufacture of fans. *Bambusa arundinacea* is called 蘆竹 (Lu-chu) by the Chinese.

Of the many varieties of bamboo found in China, but a possible six are mentioned as being used in medicine. These are: 簍竹 (Chin-chu), 淡竹 (Tan-chu), 苦竹 (K'u-chu), 竹 (Kan-chu), 箏竹 (Kuei-chu), and 慈竹 (Tz'ü-chu). The parts used are the leaves, 222, the rhizome, the thin outside skin (茹, ju, properly written 箬), 212, and the sap (瀝, li). The leaves of the Chin-chu, which is a large southern variety, are said to be tussic, tonic, anthelmintic, stomachic, and carminative, while the root is considered as cooling, tonic and alexipharmic. The sap is used only in rheumatism. Of the Tan-chu (*Bambusa puberula*) the leaves and the root are prescribed in the form of a decoction in all diseases supposed to depend upon a collection of phlegm. A wash is also directed to be used in cases of prolapsus of the womb. The leaves of the K'u-chu (*Arundinaria japonica*) are considered to be stimulant, tonic, anthelmintic, and anti-vinous. A wash is used in favus of

children and other eruptions. The root is cooling and is used in fevers. The Lark is used in decoction for the cure of hemorrhage from the bladder, while the sap is used in ulcerated sore mouth, ophthalmia, and toothache. The Kan-chu root (species unknown) is said to quiet the uterus and to be useful in post-partum fever. The bark of the Kuei-chu is the only part used, and this only in decoction as a febrifuge. The sap of the T'zū-chu is also used in fevers and rheumatic affections. The sap is prepared by heating short pieces of bamboo, when it exudes from the cut ends and is collected. All the forms of bamboo shoot are considered cooling to the blood. It is said that if they are eaten together with sheep's liver, blindness will result. They are given to suckling mothers to increase the flow of milk, and some kinds are thought to increase all of the secretions of the body. The shoots from two kinds of bamboo, the 桃竹 (T'ao-chu, "peach bamboo") and the 刺竹 (Chih-chu, *Bambusa spinosa*), are considered to be slightly poisonous. The first is used as a wash for maggots on cattle and the second has no medical use, but when eaten it is thought to cause the hair to fall out.

The excrescences which grow on the bamboo are mentioned in the *Péntsao*. One comes upon the T'zū-chu in the form of a deer horn, is called 竹蕈 (Chu-ju), and is edible. The other, which grows upon the K'u-chu, is called 竹肉 (Chu-ju), and is considered to be very poisonous. This latter looks like a lichen, and is anthelmintic. The former is used in dysentery. The first leaves (called 籜, t'o) of the T'zū-chu are used in decoction as a wash for scald-head and other ulcerous eruptions of children. A small mountain bamboo, called 山白竹 (Shan-pai-chu), is incinerated and the ash used as an escharotic in cancer. Exploding bamboos by fire is used to drive away evil spirits and mountain sprites. The fruits of the bamboo enliven the animal spirits and benefit the respiratory organs.

The siliceous concretion called *Tabasheer*, found in the joints of large bamboos, is also used in Chinese medicine. It is called 竹黃 (Chu-huang) and 天竺黃 (T'ien-chu-huang), 211. The Chinese did not probably derive the substance originally from India, but it is possible that the knowledge of its medicinal uses were derived from that country, where it has

been held in high esteem from very early times. Hence the second name given above. It is met with in hard, broken, angular pieces, usually opaque, as smooth as porcelain, of a whitish or bluish vitreous color, easily broken, and usually scented with some perfume. It absorbs oil, and thereby becomes transparent. When the oil has been again driven away by heat, the internal structure of the concretion becomes apparent, showing it to be most beautifully veined. *Tabasheer* has the lowest refractive power of all known substances. It is made up almost entirely of silica; there being sometimes a varying amount of potash, lime, iron, and vegetable matter. It can therefore have practically no medical virtues. But the Chinese, true to their ideas of its mysterious origin, prescribe it in acute choreic, convulsive, and epileptiform diseases of children, as well as in apoplexy and paralysis. In India it is believed to have stimulant and aphrodisiac qualities. The drug is usually adulterated in China with bone earth and other substances. A similar substance has been found in jungle grass.

BARKHAUSIA REPENS.—胡黃連 (Hu-huang-lien), 482. This is the identification of De Candolle, Loureiro calls it *Picris repens*. It is a foreign drug, coming from the country of 胡 (Kukonor), where it is called 割孤露澤 (Koku-lu-tsê). As is usually the case with foreign drugs, T'ao Hung-ching says that it comes from Persia, which is the source of many, though not quite all of the drugs introduced into China from the west. Li Shih-chen says that the best quality of the root has a top resembling the bill of a bird, and when cut, the cross section resembles the eye of the mynah. He also says that the shooting plant resembles that of *Brunella vulgaris*. The dried root, as met with in the shops, is an irregular, tapering, contorted piece, varying from one to two inches in length and about the size of a lead pencil. The cuticle is dark brown or blackish, having tubercles, and otherwise irregularly wrinkled and marked. It has a hay-like odor and an exceedingly bitter taste. The *Pên-tsao* says that if the drug is true, a smoke-like dust should come from the interior of the root when it is fractured. The drug is now said to be produced in Nanhai, and also in Shensi and Kansu.

Tonic, astringent, antiperiodic, antifebrile, alterative, and resolvent properties are attributed to this drug, and it is specially recommended in the 疳 (Kan) disease of children, which is struma or marasmus due to exhausting discharges. As an external application, it is usually mixed with goose gall, in which form it is applied to every form of hemorrhoid, as well as to cancerous sores. It has a great reputation in the treatment of dysentery.

BASELLA RUBRA.—落葵 (Lo-k'uei) and 藜葵 (Chung-k'uei). It is also called 藤葵 (T'êng-k'uei), "twining mallow," and its common name is 胡騰脂 (Hu-yen-chih). The Buddhists call it 御菜 (Yü-ts'ai). In the *Erhya* the names are 繁露 (Fan-lu) and 承露 (Ch'eng-lu). Other names are 染絳子 (Jan-chiang-tzŭ) and 胭脂菜 (Yen-chih-ts'ai). At Peking the plant is cultivated under the name of 胭脂豆 (Yen-chih-tou). The plant is largely cultivated, and the leaves, which are cooling and mucilaginous, are eaten with fish and other meats. The berries are purple in color, and have a red juice, which is used as a rouge for the faces and lips of ladies, and also as a dye. The medicinal virtues are not great; the leaves being used as a demulcent in intestinal troubles, and the berries as an emolient, and a pigmentary addition to facial cosmetics.

BEGONIA DISCOLOR, or BEGONIA EVANSIANA.—秋海棠 (Ch'iu-hai-t'ang) and 春海棠 (Ch'un-hai-t'ang). Another name given is 斷腸草 (Tuan-ch'ang-ts'ao), but this is more especially used for *Gelsemium elegans* (which see). The description given in the *Péntsao* of this "foliage plant" is a fairly good one. But in regard to its medicinal properties it says that inasmuch as the plant grows by preference in cool shady places, therefore its nature must be cooling, and it is specially recommended for fevers. The juice extracted from the leaves and flowers is considered emolient, and added to honey is used as a facial cosmetic, and as an application to ringworm and other parasitic diseases of the skin. The juice expressed from the stalk is used in sore mouth and throat. Any use of the root has apparently not been thought of by the Chinese; they having had their interest attracted by the fleshy

and showy leaves and flowers; the latter being equally used with the former in the preparation of pomades. But inasmuch as the root has properties similar to those of *rhubarb*, it has been suggested that it may be used as a substitute for this drug.

BENINCASA CERIFERA.—冬瓜 (Tung-kua). Other names, 白瓜 (Pai-kua), 水芝 (Shui-chih), and 地芝 (Ti-chih). This is the large *White Gourd* of India, which is much cultivated throughout China. Its surface is usually covered with a waxy exudation, by which it is distinguished in name in nearly every language. The flesh, the pulp, the seeds, and the rind (1392) are all used in medicine. The flesh is considered to be sweet and slightly cooling. It is recommended for the relief of thirst and as a diuretic. It is considered cooling in fevers, and if "prickly heat" is rubbed with a freshly cut slice of this substance, it is a sure relief. The pulp is regarded as demulcent both for internal and external use. It is added to baths for the treatment of pimples and prickly heat. It is also regarded as diuretic, and is used in the treatment of gravel. The seeds, 1391, of which the kernels only seem to be used, are regarded as demulcent, and under prolonged use are thought to be tonic, preventing hunger and prolonging life. They are also used in cosmetic applications to the skin in simple eruptions. A famous prescription is the use of these seeds incinerated and taken internally for the treatment of gonorrhœa! The incinerated rind is administered in case of painful wounds.

BERBERIS THUNBERGII.—小檗 (Hsiao-po). It is also called 子檗 (Tzū-po) and 山石榴 (Shan-shih-liu), "mountain pomegranate." It has a bitter yellow bark and red berries. The branches are used for dyeing yellow. The root does not seem to be used for this purpose, although doubtless it is as well adapted as the European *Berberis vulgaris*. The bark is the part used. It is regarded as very cooling, and is therefore prescribed in fevers. Its anthelmintic and antiseptic properties are also highly esteemed, and it is prescribed in menorrhagia.

BETA VULGARIS.—**恭菜** (T'ien-ts'ai), **蔘蓬菜** (Chün-ta-ts'ai), and **甜菜** (T'ien-ts'ai), 1340 (?). This is the ordinary white sugar beet which grows in China. It is not mentioned in the *Pèntsao*, nor does its medical virtues seem to have been studied. This seems surprising, considering the fact that its saccharine qualities are indicated in the name.

BETULA ALBA.—**樺木** (Hua-mu) or **檣木** (Hua-mu), 498. This is the White Birch tree which grows commonly in the mountains of Northern China. The bark is used by Chinese saddlers, shoemakers, cutlers, and candle-makers, who turn its tanning or fatty principles to account in their several trades. The bark may also be used for torches. The drug is used in decoction for jaundice and bilious fevers, and the incinerated bark is used as an application in mammary cancer and rodent ulcer. It is also one of the substances used to dye the whiskers, which, developing late in life in the Chinese, are apt to soon turn grey or reddish-brown.

BIDENS PARVIFLORA.—**鬼鍼草** (Kuei-chen-ts'ao). This "imp's needle grass" is a species of "*Spanish needles*." In the south it is called **鬼釵** (Kuei-ch'ai), "imp's hairpin." The only purposes for which this is prescribed, are in bites of spiders, snakes, and scorpions, and in the unhealthy granulations of wounds. The juice is expressed from the fresh plant, and both administered internally and applied externally.

BIDENS TRIPARTITA.—**狼把草** (Lang-pa-ts'ao). The characters are also written **郎罷**. This has three-lobed leaves and a two awned achene. It grows in the marshes of elevated regions. It affords a black dye, which is used for coloring the whiskers. A decoction of the plant is specially recommended in the treatment of chronic dysentery, and as a wash to the skin in the treatment of chronic eczema.

BIGNONIA GRANDIFLORA.—**紫葳** (Tzū-wei), **陵苕** (Ling-t'iao), and **凌霄花** (Ling-hsiao-hua). This is a beautiful climbing plant, which is much cultivated in gardens throughout China. At Peking it is known by the last name.

It is the same as *Tecoma grandiflora* and Loureiro's *Campsis adrepens*. The flowers, leaves, stalk and root are all used medicinally; the first named having the preference. It is most largely prescribed for the menstrual diseases of women, and the anæmia and marasmus which often attend these. Prolonged post-partum discharge also comes into this list. It is also used in fevers, and in combination with *Gardenia florida* for the treatment of "wine nose."

BLETIA HYACINTHINA.—白及 (Pai-chi), 935. This is an orchid with violet flowers, cultivated at Peking under the name of 蘭花 (Lan-hua). The bulb is quite mucilaginous, and a thin paste made of it is sometimes mixed with India ink to give a gloss to writing or drawings done with it. It is also used in the preparation of a secret ink; the paper which has been written upon being afterwards dipped into water and held up to the light. It is also used by the manufacturers of china and of "cloisonnés." The rhizome is met with in the shape of flattish, irregularly oval, hollow disks, umbilicated on one surface, and having projecting rays at the circumference. The lower convex surface is pointed by a central tubercle and marked with rings. A great variety of irregular, tri-radiated, and other shapes of these tubers are met with in some samples. The interior is amylaceous, translucent, hard, and white in color, and has a gummy, bitterish taste. It is considered demulcent, and is used in the diseases of children, especially those of a dyspeptic character, as well as in dysentery, hemorrhoids, and ague. It has much repute in the treatment of burns, wounds, and other injuries, and also in various kinds of skin diseases.

BLUMEA BALSAMIFERA.—艾納香 (Ai-na-hsiang). This is the identification of Faber, although the account given in the *Pentsao* is not clear in many particulars. The plant is not described, and what is said evidently refers to the steareopten. It is recommended in the treatment of fevers and as a corrective of miasmatic vapors. Anthelmintic qualities are also ascribed to it.

Under the name of "*Ngai-camphor*," a steareopten, isomeric with Borneo camphor, is said to be extracted from this plant. The greater part of this substance which appears in Chinese commerce, seems to come from the island of Hainan. It is but little used in Northern or Central China, probably on account of its cost; its valuation at Tientsin being placed at five hundred Haikuan Taels a picul, while that of ordinary laurel camphor is only twelve Taels. It comes in three forms: 艾粉 (Ai-fên), 2, which is the crude product; 艾片 (Ai-p'ien), 5, the refined substance in cakes; and 艾油 (Ai-yu), 8, a by-product of distillation. It is used in the south-eastern provinces as a febrifuge and carminative, and is held in higher repute than laurel camphor for all purposes for which the latter is used. Hanbury has an interesting note on this substance in his Science Papers, in which he says that it is not only used in medicine, but also in the manufacture of the scented kinds of Chinese ink.

BOEHMERIA NIVEA.—苧麻 (Ch'u-ma). This is the plant from which is produced the "grass cloth," so extensively worn throughout China, the finer qualities of which are not despised by ladies of Western lands. In the classics the character is written 紵 (Chu). Prior to the eleventh century there is no record of where it was produced, although it was known from ancient times as a textile plant. Su-sung, who wrote in the eleventh century, said that it was at that time grown in Fukien, Szechuan, Chekiang, and Kiangnan. Lu-chi, who lived in the third century, and wrote a book describing the plants and animals mentioned in the Book of Odes, said that the government then raised the plant in gardens. He also described the manner of preparation of the material. An iron or bamboo knife was used to strip off the bark. After the thick outer bark was removed, the soft, tough fibers of the inner bark were taken and boiled, after which they were twisted into thread and this manufactured into cloth. At present the fibers of the stalks are soaked in a solution of native soda, beaten and broken up with a rake-like tool, and heated in a dry boiler. This is then twisted and manufactured into cloth, which the Chinese call 夏布 (Hsia-pu), "summer cloth." In

Canton, silk is mixed with the fiber in various proportions, making different qualities of cloth. Three crops of the fiber are said to be gathered in a year.

Medicinally, the root and leaves are used. The former is reputed as quieting to the uterus. It is recommended in threatened miscarriage. It is also considered to be cooling, demulcent, diuretic, and resolvent. It is used in wounds from poisoned arrows, snake and insect bites, and in decoction for a local application in rectal diseases. The leaves are used in wounds and fluxes as an astringent.

BOMBAX MALABARICUM.—木棉樹 (Mu-mien-shu). The *Pentsao* with difficulty distinguishes between this tree and the cotton plant, for the reason that it produces its cotton in a sort of boll. But it is a large tree, with a red flower like that of the *Camellia*. The fruit has a white, silky down covering the seeds, which may be used to stuff cushions, and is said to be capable of being worked up into a rough cloth. This down is called 木棉花 (Mu-mien-hua), 870. The root, 871, and leaves are for sale in the Chinese shops, as is also the down. This latter is burnt, and the ashes given in menorrhagia, and used to staunch the blood of wounds. What the other parts are used for does not appear. The Customs Reports say that the substance known as 海桐皮 (Hai-t'ung-p'i), 357, and 桐皮 (T'ung-pi), 1402, as exported from Canton, are the bark of this tree; that exported from Ningpo being probably the bark of *Acanthopanax ricinifolium* (which see). The bark of the cotton tree is said to be emetic and astringent. It could probably be substituted for that of *Acanthopanax*.

BOSWELLIA.—According to Hanbury, the *olibanum* produced in India, which is probably the only sort that finds its way to China, is derived from *Boswellia glabra* and *Boswellia thurifera*. The Chinese name of the drug is 熏陸香 (Hsün-lu-hsiang) or 乳香 (Ju-hsiang), 563. The second of these names either refers to the nipple-shaped pieces which part of the product assumes, or else is a translation of the Hebrew term *lebonah*, signifying "milk." In Buddhist books the *olibanum* is called 天澤香 (T'ien-tsê-hsiang), 多伽羅香

(To-chia-lo-hsiang), 杜 嚙 香 (Tu-lu-hsiang), and 摩 勒 香 (Mo-lê-hsiang). The second of the above terms may be the Chinese equivalent of the Sanscrit *togara*, meaning "perfume," and the third an adaptation of the Sanscrit *kundurū*, which is the term by which olibanum was known in that language. Li Shih-chen says that it is sometimes adulterated with *storax*, but at the present time that is not probable, as olibanum is much more plentiful, and therefore cheaper than formerly. That it has sometimes been confounded with, and possibly adulterated with *sandarac*, is well known to Western pharmacists. The drug, as it appears in the Chinese market, is in the usual form of pale yellow, oval, partly opaque, brittle tears, having the bitter, aromatic taste, and balsamic smell characteristic of this substance. Very inferior kinds are also found in the shops. It is used in the manufacture of some sorts of incense. Carminative, sedative, tonic, stimulant, alterative, astringent, and diuretic properties are referred to this drug, which is used to some extent in making plasters and salves for dressing carbuncles and foul chronic sores. It is used internally in leprosy and struma. Indian practitioners have largely used it as a remedy for carbuncle, as an internal agent in the treatment of gonorrhœa, and as a fumigation in lung affections. Some of the older writers recommended it for spermatorrhœa, and for certain vesical and urinary disorders, for which it is worth a trial.

BOYMIA RUTÆCARPA or EVODIA RUTÆCARPA.—
 吳 茱 萸 (Wu-chu-yü), 223. This is a small tree or shrub, bearing small, purplish-red flowers and a fruit which at first is yellow, but when it is ripe, turns to a dark purple. The *Pentsao* says that formerly the tree was planted at the side of a well, so that the leaves might fall into the water. To drink of the water was considered to be prophylactic against contagious diseases. The fruits were also hung up in the house to ward off evil spirits. The fruits, leaves, branches, and root with the white rind, are all used in medicine. In the case of the fruits as found in the markets, the small black carpels are usually separated from their pedicles, are five in number, closely connected and mixed with the scabrous stalks of the umbellate inflorescence.

They have a warm, bitter, and aromatic flavor. The medical properties attributed to these are almost innumerable, among which may be mentioned their use as stimulant, carminative, stomachic, deobstruent, astringent, and anthelmintic remedies. They are even recommended for sterility and barrenness. A piece of a branch is used as a suppository in obstipation. The root and bark are used as astringent and anthelmintic remedies, and in the treatment of rheumatism.

BRASENIA PELTATA.—蕓 (Shun). Called 蕓菜 (Shun-ts'ai) in Kiangnan, where it is eaten as a vegetable. It is also called 水葵 (Shui-k'uei), "water mallow." The stem is purple and mucilaginous, and it and the leaves on the under surface are covered with a viscid jelly. It bears yellow flowers and a greenish purple fruit. The plant is good for feeding to pigs, and is therefore also called 猪蕓 (Chu-shun). Although it is not regarded as at all poisonous, its continued use is thought to be deleterious, injuring the stomach, destroying the teeth and hair, and producing caries in the bones. If eaten in the seventh month, when it is liable to be wormy, it is thought to produce cholera. As the Chinese eat it raw, or but slightly cooked, and as it grows in filthy ponds and streams, some of these evil effects, said to arise from its ingestion, can easily be accounted for. Its medical qualities are considered to be antithermic, anthelmintic and vulnerary. It is recommended as a local application in cancer, favus, and hemorrhoids.

BRASSICA.—Notwithstanding the fact that this genus contains some of the best known and commonest garden plants of China, the identifications and nomenclature are in a very uncertain state. This is probably due to the fact that cultivation has changed the species in many particulars, and also that many of the varieties found in China are distinct from those found in the west. *Brassica chinensis*, 白菜 (Pai-ts'ai), called 菘 (Sung) in the *Pentsao*, is a most common variety of *Brassica oleracea*. This vegetable is considered to be cooling and antivinous. Its prolonged and excessive use is thought to be slightly deleterious, causing an itching eruption and retarding recovery from disease. Ginger is antidotal to its deleterious

effects. Its medicinal use is recommended in fevers and to quench the craving for wine. It is also considered to be laxative and diuretic. The seeds are used to arouse a "dead drunk," and the oil expressed from them, when rubbed on the scalp, is thought to promote the growth of hair.

雲薹 (Yün-t'ai), otherwise called 油菜 (Yu-ts'ai), is undoubtedly *Brassica rapa*, which produces the 油菜子 (Yu-ts'ai-tzŭ, "rape seed"), from which the 菜油 (Ts'ai-yu, "rape-seed oil") is manufactured. It also is called *Brassica chinensis*, possibly on account of its economic prominence in this country. The plant is thought to have originally been brought from Mongolia, and for this reason is also called 胡菜 (Hu-ts'ai). The oil and its manufacture are of great commercial importance to those portions of China in which this plant is cultivated. Until the introduction of kerosene, this oil was the cheapest and best illuminant known to the Chinese. Its culinary use was very great, being considered inferior, however, to sesamum oil for this purpose. The vegetable, eaten in the spring, was regarded as acrid and cooling. Under certain conditions its use was said to be slightly deleterious. In some cases it produced stiffness of the knees, and those already afflicted with difficulties of the back or feet were made worse by its use. The Taoists count it as first among the five 葷 (Hun). The expressed juice of the stalk and leaves is the form in which it is used medicinally. In this way, and also sometimes as a decoction, it is applied to foul sores, caked breast, cancer, and such like. The expressed juice is also administered in dysentery and bloody stools.

燕菁 (Wu-ching), otherwise known as 蔓菁 (Man-ching), is *Brassica rapa-depressa*, the rape-turnip. In the classics this is called 葍 (Fêng). The root, leaves, and seed of this plant are all eaten. The Chinese have not improved this turnip much by cultivation, as both root and leaves remain bitter and pungent. The continued use of this vegetable is considered to be less deleterious than the *yün-t'ai*, and many of its medicinal uses are identical with those of the latter plant. Its properties are cooling and anti-vinous. The seeds are considered to be diuretic and constructive. Women are especially recommended to use them. The oil expressed from them is added to cosmetic

applications for the face, and applied to the hair restores its color and vitality. 蔓菁 (Man-ching) in North China is the kohlrabi, *Brassica oleracea caulorapa*. It is also suggested that 芥蔓菁 (Chieh-man-ching) or 大芥 (Ta-chieh) may be a Chinese variety of the rutabaga, *Brassica campestris rutabaga*.

The mustards, although of identical genus with the cabbages, will be considered under the alternative term *Sinapis* (which see).

BROUSSONETIA PAPYRIFERA.—楮 (Ch'u), 穀樹 (Ku-shu). This is the *paper-mulberry*, a very common tree in China and Japan. It is of quick growth, has a soft wood, which is used to make vessels of various sorts, and bears a globular red fruit, which is sometimes eaten by children. The achenes, which are small, round, seed-like bodies called 楮實子 (Ch'u-shih-tzŭ), 224, are of a bright red color, and as found in the shops, are much broken. They are mucilaginous to the taste, and are believed to be tonic and invigorating. They are also called 穀實 (Ku-shih) and 楮桃 (Ch'u-t'ao). The leaves are regarded as diuretic and astringent. They are recommended in fluxes and in gonorrhœa. A decoction of the twigs is used in eruptions, and the juice extracted from these is given in anuria. Decoctions of the bark are used in ascites and menorrhagia. The resinous sap found in the bark is used as a vulnerary, and in wounds and insect bites. Coarse cloth and paper are made from the liber of this tree.

BRUNELLA (PRUNELLA) VULGARIS.—夏枯草 (Hsia-ku-ts'ao). This is the common "*heal-all*" of Europe and America. It grows in swampy and wet places, has a nearly square stalk, grows about two feet high, and bears a small, pale-purple flower in spikes. The stalk and leaves are the parts used, and the drug is considered as cooling. It is therefore used in fevers, and also as an anti-rheumatic, alterative, and tonic remedy.

BUDDLEIA OFFICINALIS.—密蒙花 (Mi-mêng-hua), 843. This is a shrub of the natural order *Scrophularineæ*, which bears a most beautiful flower, called by the Buddhists

水錦花 (Shui-chin-hua), or "watered-satin-brocade-flower." It may be that this is identical with *Buddleia neemda* of India. It is said to grow in the river valleys of Szechuan, and the commercial product comes from Kansuh and Shensi. The flowers are prepared by being soaked in a mixture of wine and honey for three days, and then dried. They are used almost exclusively for the treatment of diseases of the eye, especially opacities of the cornea. Whether the beauty of the flower determines this use or not, it is hard to say. They are also thought to affect the liver.

BUDDLEIA CURVIFLORA.—醉魚草 (Tsui-yü-ts'ao), 1357. Also called 鬪魚花 (Nao-yü-hua). As its name implies, it is used for stupifying fish, and in this respect resembles *Daphne genkwa* (which see). The flowers and leaves are used in medicine in the treatment of catarrhal difficulties, fish poisoning, to dissolve fish bones in the throat, and for chronic malarial poisoning with enlarged spleen.

BUUPLEURUM FALCATUM and BUPLEURUM OCTORADIATUM.—茺胡 (Tz'ü-hu) or 柴胡 (Ch'ai-hu), 16. Both species have yellow flowers, go by the same Chinese names, and are not distinguished in the Chinese books. 茺 is said to be an ancient way of writing 柴. The plant is found principally in the northern provinces. Young white shoots, which spring up in the spring and autumn, may be eaten. The old plant is used for fire-wood. The root-stock is the part used in medicine. Its medicinal qualities are considered to be essentially febrifuge, deobstruent, and carminative. It is used in flatulence and indigestion, in colds and coughs, muscular pains and cramps, amenorrhœa, thoracic and abdominal inflammations, puerperal fevers, and in acute diarrhœa.

BUXUS SEMPERVIRENS.—黃楊木 (Huang-yang-mu). This is the ordinary *boxwood*, which is used for making combs, wooden bowls, and printing blocks. The tree is of very slow growth, is evergreen, and the wood is so fine grained that it may be considered as almost grainless. It is said not to grow during the intercalary moon of the Chinese year. A

softer kind of wood, called *mango-wood*, is used by Ningpo carvers for the fine image work which they do. It may be from this tree, or from a different species. The original habitat of the tree is not recorded, but it is now largely cultivated both for commercial purposes and for ornamental use. The leaf is the part used in medicine. As the plant is said to be free from the element of fire, the leaves are assumed to be cooling in their nature. They are prescribed in difficult labors, being supposed to induce expulsive efforts. The ordinary toilet combs of women, being made of this wood, are often turned to account as a ready domestic remedy; the incinerated wood being used in the same way as are the leaves. The powdered leaves are rubbed on prickly heat and summer boils.

C.

CÆSALPINIA MINAX. — 石蓮 (Shih-lien). This is the classification of Hance and Faber. The plant has not been found mentioned in the *Pèntsao* or any other Chinese work consulted. Its seeds appear in the Customs lists (1153) as an article of commerce; but what their medical uses may be, we have not been able to learn.

CÆSALPINIA PULCHERRIMA. — 鳳凰腸 (Fêng-huang-ch'ang), 304, 金鳳花 (Chin-fêng-hua). The first term is given in the Customs lists for a root that is produced in Kuangtung. The second term is a Japanese identification. The plant has not been found mentioned in the *Pèntsao*. Its medical uses have not been ascertained.

CÆSALPINIA SAPPAN. — 蘇枋木 (Su-fang-mu). This is the tree which furnishes the Sappan wood, *Sappan wood*, or Bukkum wood to commerce. It comes largely from the island of Sumbawa, which belongs to the East Indies lying east of Java. The island also produces the most valuable teak tree, as well as the tamarind. The Chinese name of the wood under consideration, as well as the word sappan, are doubtless derived from the name of this island. The wood also is imported from Siam, Malaysia, and India, and is said to have been grown in Kuangtung and Kuangsi. Its common name is 蘇木 (Su-mu). It contains much gallic and tannic acids, and is an excellent substitute for logwood, although much weaker. An extract may be made from it. The form in which the substance appears in the Customs list is that of a coarse powder or saw dust, called 蘇木糠 (Su-mu-k'ang), 1201. Since it dyes a red color, the Chinese consider that it has a special affinity for the blood. It is therefore prescribed in wounds, hemorrhages, and disturbances of the menstrual function. It is also recommended as a sedative and in fluxes.

CÆSALPINIA SEPIARIA. — 雲實 (Yün-shih). This is a climbing shrub, and the Chinese recognise its close

relationship to other Cæsalpinixæ by calling it 野 (or 水) 皂 角, "wild (or water) honey locust." Other names for the fruit are 天 豆 (T'ien-tou) and 馬 豆 (Ma-tou). The stem is hollow and spiny; it bears yellow flowers in racemes and a pod about three inches long, containing five or six dark colored seeds, which have an unpleasant odor. The seeds, flowers, and root are used in medicine. Although the *Péntsao* discusses this among the poisonous drugs, it is not considered to be poisonous. The seeds are said to have astringent, anthelmintic, antipyretic, and anti-malarial properties. They are said to be used for the most part in the treatment of ague. To the flowers are attributed certain occult properties. If one ingests a quantity of them and then sees a spirit, he is driven mad. If burned they will drive away evil spirits. In former times their use was supposed to produce somatic levitation, but this is now denied by Li Shih-chen. The expressed juice of the root is used to assist in the removal of a bone from the throat, and it is also thought to be anodyne in such cases.

CAJANUS INDICUS.—山 頭 根 (Shan-tou-kên). This genus seems to be confined to Eastern Asia. The common name adopted by Europeans is "pigeon pea." The East Indian names are *cajan* and *dahl*; the Malay name, *cächang*. In the *Péntsao* it is also called 解 毒 (Chieh-tu); and on another page an almost identical description is given under the heading of 解 毒 子 (Chieh-tu-tzū). This may therefore be regarded as identical with, or very closely related to, the *Shan-tou-kên*. In both cases the root is the part used in medicine (1104). This appears in the Chinese shops as a woody root, varying from the size of the little finger to mere rootlets; the whole being connected by a knotted root-stock. Rats and mice are said to be fond of this root. It is considered to be the counter-poison par excellence. Anthelmintic, sedative, expectorant, and vulnerary properties are also referred to it.

CALAMUS DRACO.—麒 麟 竭 (Ch'í-lin-chieh), also called 血 竭 (Hsüeh-chieh), 477. This tree, growing in Sumatra, Java, and other countries to the south of China, is said also to be met with in the southern provinces. The

names given for it in the *Pentsao* are 渴留 (K'ò-liu) and 渴稟 (K'ò-ping), which are probably transliterations of some foreign term. The tree is said to resemble the *Balsamodendron myrrha*. The above Chinese names refer to the gum-like substance derived from the tree, which is known in commerce as "dragon's blood." The tree is said to be chopped to yield the gum, but the most common form is that which covers the fruits, which is obtained by beating and shaking these in little bags or baskets, when the gum-tears drop off, and are allowed to conglomerate into masses in the sun, or are softened by hot water and formed into sticks. Dr. Williams describes the drug as "in drops of a bright crimson color when powdered, and semi-transparent." That commonly found in the Chinese shops is in large dark-red, friable masses, which have evidently been packed in matting. It makes a deep blood-red, gritty, almost tasteless powder, soluble in spirits of wine. Since the drug produces such a brilliant red color, it may be readily surmised that the Chinese would use it in the treatment of wounds and hemorrhages. And this indeed seems to be the principal purpose for which it is used. It is also thought to have some sedative and tonic properties.

Dr. Williams erroneously identifies 龍涎香 (Lung-hsien-hsiang) with this substance, but this is Ambergis.

CALENDULA OFFICINALIS.—金盞花 (Chin-chan-hua). This is the common *marigold*. It is only prescribed in obstinate bleeding piles.

CALYSTEGIA SEPIUM.—旋花 (Hsüan-hua). This is a Convolvulaceous plant, for which a large number of synonymous names are given in the *Pentsao*. Among these is 纏枝牡丹 (Ch'an-chih-mu-tan), which is *Convolvulus japonicus*. The root, which from the shape it sometimes assumes, is also called 豬腸草 (Tun-ch'ang-ts'ao), "sucking-pig's entrail," is edible, and is said to have a pleasant sweet taste. Tonic, nutrient, demulcent, and diuretic properties are attributed to it, and it is also said to have the power of cementing bones and tendons, if diligently applied as a poultice. On account of this last named reputation, the root is also called 續筋根 (Hsü-chin-kên), "healing tendon root."

CAMELIA JAPONICA.—茶花 (Ch'a-hua), 12; also written 楂花 (Cha-hua), 10, which seems to be a palpable mistake in penmanship. This is the dried petals of this species, and also of an undetermined species of *Camelia* which flowers in the spring. The Chinese have, from very early times, classed the Camelias with the tea plant, doing so under the generic name of 茶 (Ch'a). Since the dried petals and leaves of the *Japonica* are sometimes brewed as tea by the natives, one can see how they stumbled upon this classification. The tender, young, needle-shaped petals of the spring blooming variety are most esteemed, while the older ones of the same variety and those of the *Japonica* are held in less repute. The twigs of the latter are also used under the name of 茶金條 (Ch'a-chin-t'iao); the leaves also furnishing the 刺茶 (Tz'ǔ-ch'a), so called on account of the spiny leaf of this variety.

Therapeutically, a decoction is used in hæmoptysis, hæmatemesis, and intestinal hemorrhage; or the petals are powdered and mixed with ginger juice, child's urine, and wine for the same purpose. The petals, powdered and mixed with linseed oil, make an application considered excellent for scalds and burns.

Two other probably identical species, *Camelia sasanqua* (茶梅花, Ch'a-mei-hua) and *Camelia oleifera* (山茶, Shan-ch'a), furnish the "tea-seed-cakes" (茶子餅, Ch'a-tzū-ping) and much of the so-called "tea-oil" (茶油, Ch'a-yu) of commerce. Large quantities of these products come from the hilly districts of Kiangsi and Hunan. Of the two, a decoction of the former is sometimes used as a demulcent and expectorant, and it is said to take the place of soap in washing oily clothes. The latter is used as a food and in lamps, and as it is a bland, non-irritating oil, it might be used as a substitute for olive oil in dispensary practice. Shen Tsu-hsi, in his appendix to the *Pên-tsao*, says that the 茶油 (Ch'a-yu) of Fukien and Kuangtung is not *Camelia* oil at all, but a product of *Corylus* nuts, and it therefore ought to be called "filbert-oil."

CAMELIA THEA or *Camelia theifera*.—茗 (Ming). By many botanists, the tea plant is considered to belong to a genus distinct from the camelias, to which they give the designation

Thea. These generic terms will be used indiscriminately in this article. It was formerly supposed that black and green tea were derived from distinct species of the tea plant, which were then known as *Thea bohea* and *Thea viridis* respectively. But it is now known that both kinds are made from the same plant; the difference being in the process of manufacture. The essential difference in this respect is that black tea is allowed to ferment before firing, while the green is rapidly dried and fired. It is probable that there were originally only two distinct species of the tea plant; these being *Thea sinensis* and *Thea assamica*, or the Chinese and the Indian species, and that the other varieties are due either to hybridation of these, or to changes produced by adaptation to environment, and to cultivation. The Indian species, however, makes the better quality of black tea, while the Chinese produces a better green tea. The Chinese do not speak of black tea, but on account of the color of the infusion which this kind produces, call it "red tea" (紅茶, Hung ch'a).

Among the Chinese terms for tea 茶 (Ch'a) is the generic one; but in the colloquial this always refers to the infusion, while the article itself is spoken of as 茶葉 (Ch'a-yeh). The character 茶 (Ch'a) does not date beyond the Han dynasty. Before that time the character used for tea was 荼 (T'u); but a prince of that dynasty ordered that this character should be no longer pronounced t'u, but ch'a. Afterwards the stroke in the middle part of the character was left out, thus distinguishing it from the old term. We have a relic of this old word in the Amoy pronunciation of 茶, "té," from which we have our present English word, which originally was pronounced "tay." The term 茶 (T'u) is now used for the sow-thistle (*Sonchus oleraceus*). In proper parlance, the early pickings of the tea leaf are called 茶 (Ch'a), while the late should be designated 茗 (Ming). This latter is the term for tea used in the *Pentsao*, as well as for the most part in the classics, and it may frequently be found on tea boxes. The character 蔎 (Ch'uan) is used for the old leaves of the tea plant, which are made into an inferior quality of tea. The name 苦蔎 K'u-t'u), or 苦茶 (K'u-ch'a) properly denotes the chicory-leaf, although there is some confusion upon this point.

Other plants, like the 欖 (Chia) and the 葭 (Shê) cannot be confounded with tea. For while infusions of the leaves of some of these are sometimes used as a beverage, they are not regarded by the natives as a substitute for tea. The same may be said of the willow (楊柳 Yang-liu), except that the leaves of this tree and those of the white poplar are sometimes used to adulterate tea.

Wild tea, 野茶 (Yeh-ch'a), is regarded by the Chinese as the best, especially that growing among the disintegrated stone of the hill sides ; that growing on clayey soil being not regarded so highly. Whether the tea plant is indigenous to China, or whether these are "volunteers" from some forgotten tea plantation, is uncertain. Suffice it to say that these shrubs are found growing plentifully upon the hill and mountain waste lands of the tea producing districts.

The action of tea upon the system is never considered by the Chinese to be anything but beneficial. In the words of the *Pèntsao*, "it clears the voice, gives brilliancy to the eye, invigorates the constitution, improves the mental faculties, opens up the avenues of the body, promotes digestion, removes flatulence, and regulates the body temperature." Clear water is but little drunk in China, the common beverage being tea. Yet, although the Chinese are thus drinking tea continuously and in large quantities, it does not seem to have the deleterious effect sometimes observed, especially in America. This may be due to the fact that the Chinese do not steep their tea, but only infuse it, preferably in a covered cup, but often in an earthenware pot. Or, what is more probable, tea in China is purer, containing no salts of copper and other such deleterious substances as are frequently found in teas imported into America.

The various names and brands of tea have reference to the place from which it comes, to the time of picking, to the character of the leaf, and some are merely arbitrary trade marks. In the order here given are Ningchow, from I-ningchow in Kiangsi ; Hyson, from 雨前 (Yü-ch'ien) "before the rains"; Pekoe, from 白毫 (Pai-hao), "white down", referring to the white down on the young leaves of which this brand is made ; and Oolong, from 烏龍 (Wu-lung), "black

dragon". The Chinese pay but little attention to these "chops" and brands. Tea stores that profess to sell the best quality of tea, always put 雨前 (Yü-ch'ien) on their sign boards; but its use in this case does not indicate any special brand, but only that the best qualities are offered for sale; that is, what the people like best, the early or first picking before the summer rains have set in. These teas are all green, as comparatively little black tea is used by the Chinese themselves. Among the few who distinguish between brands, that known as 龍井 (Lung-ching) is considered to be the finest among plain teas. Scented teas are made by mixing the petals of certain flowers, notably the 珠蘭 (Chu-lan) or *Chloranthus*, and the 茉莉 (Mo-li), or white jasmine (*Jasminum sambac*), of which the former is the one preferred, with the tea leaves until these have acquired the aroma of the flowers, then sifting out the petals and quickly packing the tea in air tight boxes to preserve the flavor. These teas are not so popular with the Chinese as has been commonly supposed.

Brick tea is made in China, at present principally by the Russian tea packers, for the trade of Central Asia. It is usually the older leaves, stems, and broken tea that are ground, steamed and compressed by machinery into bricks of various sizes. These are wrapped in paper, packed in boxes, and shipped to the northern ports, thence to be sent by camel or mule train across the mountains and plains to their destination in the heart of the continent. By the tribes inhabiting this large tract of country, including much of Siberia, it is consumed leaf and all, being by some dressed with milk, salt, and butter, and eaten as a vegetable. Inasmuch as tea contains a large amount of soluble nitrogen, it would seem that the use of the leaf as a food would be a rational procedure. Whether caffeine and theine are physiologically identical, is still undecided. To say the least, the much feared deleterious effects of theine are not very apparent, either upon the Chinese tea drinker or the Central Asian tea eater.

While but little attention is paid by the Chinese to the brand of tea used for ordinary consumption, it is quite otherwise when it comes to the domain of native therapeutics. Here, the place of origin, the time of picking, the mode

of preparation, or the condition of the substance is important in determining its efficacy in the treatment of disease. Without doubt, in some instances the difference in the species of the plant from which the leaf is obtained, will explain the apparent difference in physiological action, but often the distinction made by the native doctor is merely empirical or imaginary. Some of the more important of these "medicinal teas" are here given.

普洱茶 (P'u-êrh-ch'a), 1052, comes from P'uerhfu in Yunnan. The genuine article is in the form of a ball, about the size of a man's head, containing approximately five catties. On account of its shape and size, it is also known as "man head tea" (人頭茶). The commonest kind of so called P'u-êrh tea, however, is in the form of a cake about the size of a breakfast plate, and comes from Southern Szechuan near the borders of Yunnan. There is little difference in the quality of these, although that in the ball form is the more highly esteemed by the Chinese. This tea is regarded as an excellent digestive, assisting in dissolving fats, neutralizing poisons in the digestive tract, besides being deobstruent and promoting secretion. Marvelous stories are told in regard to the solvent action of this article; it being said to dissolve even metals, like gold and iron. If to a pot in which a fowl or piece of meat is being cooked, is added a portion of this tea, flesh, bones, and stock are converted into a most nourishing broth. It is presumed that the pot must be of earthenware, else an undue proportion of iron would be added to the mixture.

龍脊茶 (Lung-chi-ch'a) comes from the province of Kwangsi, and is sometimes made into brick tea. It is reputed to be good for the treatment of malaria and all forms of toxæmia. It is also used in dysentery and diarrhœa.

安化茶 (An-hua-ch'a) is from Hunan. The leaves produce a tea rather dark in color, and of a sweetish bitter taste. Its use is that of ordinary tea, but as its tonic and strengthening properties are considered to exceed those of the common article, it is held in high esteem in sickness, fatigue, or bodily weakness. One brand of this tea, known as 湘潭茶 (Hsiang-tan-ch'a) is all sent to the imperial capital for the use of the emperor, princes, and high officials.

雪茶 (Hsüeh-ch'a) is the leaves from a rare plant growing on the mountains of Lingchiangfu in Yunnan province. It is said to be found within the snow limit; hence the name, "snow tea." It is very difficult to procure samples of it, and it commands a high price. The plant is said to resemble the tea plant in appearance, and if of the same genus, shows the great range of adaptability of this plant to wide differences of climate. The method of preparation is similar to that used in preparing ordinary tea. This tea is considered to be warming; it being said that if a cupful is drunk on a cold day the internal organs are pervaded by a sense of warmth, "as if a fire had been kindled therein." Therefore it is regarded as most excellent for colds. By those who spit blood, who sometimes do not relish ordinary tea, this is considered to be a grateful drink. It is also used for the cure of dysentery.

羅嶺茶 (Lo-chieh-ch'a) is named for a man of ancient times, who at Changhsingsien, on the west side of the Wutung mountain, at the rear of a wayside shrine, raised most excellent tea. The leaves of this variety are at their best at the time of the summer solstice, and as the plant grows only in mountainous districts, it is therefore held in high esteem. Medicinally, it is valued most highly in the treatment of pulmonary troubles and dropsy. That which comes from the province of Kiangsi is considered to be inferior in quality, and is only used as an aid to digestion.

普陀茶 (P'u-t'o-ch'a), so called because it comes from the small island of Pootoo in the Chusan archipelago, is quite scarce, for the reason that a very small amount is gathered. In the mountains of Tinghailsien on the large island adjoining Pootoo, quantities of it grow; but the natives do not gather it, possibly because the demand for it is small. It is said to be useful in hemorrhages, as in hæmoptysis or dysentery.

武夷茶 (Wu-i-ch'a) is from the Wu-i hills of Fukien, from the name of which is derived the foreign term *Bohea*. This tea, when brewed, is rather dark in color, and the taste is described in the Ch'a ching ("tea classic") as sour (酸). It is said to be peptic, carminative, and to counteract the effects of wine drinking. It is also used to check dysentery.

水沙連茶 (Shui-sha-lien-ch'a) is said to grow in the forests of Formosa, amidst the dense undergrowth, where its leaves never see the sun. It is considered to be cooling, and is administered in fevers. It is also given to bring out the eruption of small-pox.

Tea leaves that have been brewed, are sometimes put into an earthenware jar and allowed to stand until decomposed, and then used as a medicine. The older and more decomposed they are, the more highly are they esteemed in the treatment of all sorts of ulcers and swellings, dog bites, old burns, and bruises. They are applied as a poultice. The old leaves of the tea plant which have been frost-bitten are regarded as highly efficacious in the treatment of epilepsy. They are powdered and mixed in equal parts with crystal alum, and administered in doses of three mace. Infusion of the root of the tea plant is also sometimes used as a beverage, and in strong decoction in the treatment of sore mouth. Ordinary tea is constantly employed instead of water for washing wounds and sores of all descriptions, and as an eye wash in ophthalmia.

A few other things used by native doctors under the name of "ch'a," but which are derived from plants other than the tea plant, may be mentioned at this point. Some so designated, will also appear under other articles. 角刺茶 (Chio-tz'ü-ch'a) is the leaves of *Argemone mexicana*. The supply comes from Huichou in Anhui. It is carminative and stimulant, and it is said that by its use conception is prevented. 藥茶 (Luan-ch'a) is derived from the *Koëltreuteria paniculata*. Others say from a species of *Rhododendron*. It is used for headaches. 雲芝茶 (Yün-chih-ch'a) is made from a lichen which grows on the rocks in Shantung, principally in Mêng-yin-hsien. It is regarded as universally applicable in the treatment of all diseases. 紅花茶 (Hung-hua-ch'a) comes from Kiangsi, and consists of the tender sprouts of the *Hibiscus rosa-sinensis*. It is regarded as a fitting present for a friend. Medicinally it is used as a digestive and anti-miasmatic.

CAMPHORA OFFICINARUM. — *Laurus camphora*, Lin. *Cinnamomum camphora*, Nees. — 樟 (Chang). The

Chinese name is said to be derived from 豫章 (Yü-chang), an ancient name for Kiangsi, because the tree grows large and abundant there. But it may as well have come from Chang-chou-fu (漳州府) in Fukien, as large quantities of camphor are produced in that prefecture. The parts of the tree entering into commerce are the twigs (Chang-ch'ai, 樟柴), 22, the bark (Chang-mu-p'i, 樟木皮), 23, and the seeds (Chang-mu-tzū, 樟木子), 24.

The part most largely used in Chinese medicine, as elsewhere, is the steareopten, called 樟腦 (Chang-nao) when crude and in flakes, or 樟腦片 (Chang-nao-p'ien) when refined and in cakes. Other names for this substance are 潮腦 (Ch'ao-nao) and 韶腦 (Shao-nao); these two terms being used in the north, because the product came from Chaochoufu and Shaochoufu in Kuangtung. It is produced by chipping the trunk, root, and branches of the tree and boiling the chips in a covered vessel lined with straw. The sublimed camphor condenses on the straw, and is gathered in these impure flakes. Most of what is found on the market in China is of this impure kind. The Japanese camphor is purer than the Chinese, and is usually packed in tubs for the foreign market, while the Chinese article is packed in lead-lined chests. This latter is met with on the market in granular lumps or grains of the color of dirty snow, and having a strong terebinthinate odor, and a warm, bitter, aromatic taste, with a somewhat cooling after taste. It is not so strong as the foreign-prepared drug, but is more volatile. It is employed by the Chinese as a diaphoretic, carminative, sedative, anthelmintic, and anti-rheumatic remedy. It is used on decayed and aching teeth, and is put into the shoes to cure perspiring feet. Mixed with a species of *Zanthoxylum* called 花椒 (Hua-chiao), and made into an ointment with sesamum oil, it is used in the treatment of favus in children. It is also used in the manufacture of fire-works, and to preserve clothing from the attacks of insects. However, for this last named purpose it is not altogether in favor, as the Chinese think that it injures the texture of fabrics, rendering them more liable to tear. For Borneo or Baroos camphor, see *Dryobalanops camphora*; for "Ngai" camphor, see *Blumea balsamifera*.

CANARIUM.—橄欖 (Kau-lan), 578, 青果 (Ch'ing-kuo), 烏欖 (Wu-lan). This is the so-called "Chinese olive," which has, however, no affinity with the true olive, belonging to the natural order *Burseraceæ*, instead of to that of the *Oleaceæ*, as does the latter. The first two Chinese names given above apply to *Canarium album* (*Pimela alba*), while the last is *Canarium pimela* (*Pimela nigra*). The first is also distinguished in the *Pèntsao* as 綠欖 (Lu-lan), "green pimela." These fruits grow upon a small tree or shrub in the south-eastern provinces of China and in CochinChina. The tree is said to be something above ten feet in height, and to yield good timber. The fruits are oblong and pointed, either green or shriveled, being often preserved in salt, or added to wine to medicate it, or to counteract its effects. They vary from one inch and a quarter to an inch and a half in length. When the pulp of the drupe is removed, there remains the large, dark, pointed, polygonal, or triangular stones, having three apertures at the upper end, where they often show a tendency to split into three portions, disclosing the three celled interior. These hard stones are frequently beautifully carved into beads and other ornaments. The fruits are said to be stomachic, sialagogue, antiphlogistic, alexipharmic, anti-vinous, and astringent. The pits, incinerated and reduced to powder, are thought to have the power of dissolving fish bones accidentally swallowed, and are used in a similar way in the treatment of fluxes and the eruptive diseases of children. The bruised kernels are used as a poultice in herpes labialis. This latter appears in commerce (592), as do also the leaves of *Canarium pimela* (1462). The appendix of the *Pèntsao* also speaks of the kernels of this species, assigning to them stimulant, tonic, and corrective properties. Two other kinds of Chinese olive are mentioned in the *Pèntsao* under the names of 波斯橄欖 (P'o-ssŭ-kan-lan), "Persian pimela," and 方欖 (Fang-lan), "square pimela." What these are is uncertain. The former may indeed be the Syrian olive. It is not native of China, but is said to now be grown in Kuangsi.

A soft, sticky, dark, resinous mass, compared to cow-glué, and having a strong aromatic odor, is prepared from the *Canarium pimela*. It is mentioned in the *Pèntsao*, but no

uses are given for it. It resembles, and is probably identical with Manila *Elemi*, which is thought to be the product of *Canarium commune*. The Chinese product is called 欖香 (Lan-hsiang). It may be used as a substitute for black dammar. When heated with the leaves and bark of the tree, it produces a tarry mass, called 欖糖 (Lan-t'ang), which is used in caulking boats.

CANAVALLIA ENSIFORMIS.—刀豆 (Tao-tou), 1256. This legume is said to be native of the province of Kuangtung, but is now extensively cultivated throughout the empire. It is generally known among foreigners as the "broad bean;" the pod being one and a half to two inches broad and nearly a foot long. They are much relished as an article of diet by the Chinese; the pods, while still tender, being fried and eaten with soy or honey, and the beans, when riper, being cooked with pork or chicken. They are thought to benefit digestion, to strengthen the kidneys, and to be constructive and tonic. They are especially recommended in cases of weak digestion during convalescence from acute disease.

CANNABIS SATIVA.—大麻 (Ta-ma). Also called 火麻 (Huo-ma), 541; 黃麻 (Huang-ma); 漢麻 (Han-ma), "Chinese hemp," to distinguish it from 胡麻 (Hu-ma), "Scythian hemp;" the staminate plant, 枲麻 (I-ma), and the pistillate 苧麻 (Chü-ma). The flowers at the time of pollenization are called 麻勃 (Ma-p'o), and 麻蕒 (Ma-fên) is used for both the flowers and the seeds, although it probably should be restricted to the latter.

Hemp has been known from most ancient times in China; there being a tradition that the Emperor Shen-nung (28th century B. C.) taught the people to cultivate it, as he did also the mulberry tree for raising silk worms. On the other hand, flax was unknown to the ancient Chinese, and even at the present day the plant is only cultivated for its oil. At Peking the hemp plant is called 小麻 (Hsiao-ma), while 大麻 is incorrectly applied to the castor oil plant.

Every part of the hemp plant is used in medicine; the dried flowers (勃), the achenea (蕒), the seeds (麻仁), the oil

(麻油), the leaves, the stalk, the root, and the juice. The flowers are recommended in the 120 different forms of 風 (Fêng) disease, in menstrual disorders, and in wounds. The achenia, which are considered to be poisonous, stimulate the nervous system, and if used in excess, will produce hallucinations and staggering gait. They are prescribed in nervous disorders, especially those marked by local anæsthesias. The seeds, by which is meant the white kernels of the achenia, are used for a great variety of affections, and are considered to be tonic, demulcent, alterative, laxative, emmenagogue, diuretic, anthelmintic, and corrective. They are made into a congee by boiling with water, mixed with wine by a particular process, made into pills, and beaten into a paste. A very common mode of exhibition, however, is by simply eating the kernels. It is said that their continued use renders the flesh firm and prevents old age. They are prescribed internally in fluxes, post-partum difficulties, aconite poisoning, vermilion poisoning, constipation, and obstinate vomiting. Externally they are used for eruptions, ulcers, favus, wounds, and falling of the hair. The oil is used for falling hair, sulphur poisoning, and dryness of the throat. The leaves are considered to be poisonous, and the freshly expressed juice is used as an anthelmintic, in scorpion stings, to stop the hair from falling out and to prevent it from turning grey. They are especially thought to have antiperiodic properties. The stalk, or its bark, is considered to be diuretic, and is used with other drugs in gravel. The juice of the root is used for similar purposes, and is also thought to have a beneficial action in retained placenta and post-partum hemorrhage. An infusion of hemp (for the preparation of which no directions are given) is used as a demulcent drink for quenching thirst and relieving fluxes.

Another Tiliaceous plant, the *Corchorus capsularis*, is identified by the Japanese as 黃麻 (Huang-ma), which is one of the terms at the head of this article. It is cultivated for its fibre (*jute*) in South China and other parts of tropical Asia. It is not known to be used in medicine. It may be that in the *Péntsao* and other Chinese medical works it is regarded as identical with 大麻.

CAPSELLA BURSA PASTORIS.—薺菜 (Chi-ts'ai). A common name is 地米菜 (Ti-mi-ts'ai). Its fruit is called 薺實 (Ts'o-shih). This is the common "shepherd's purse," which is eaten as food by many of the poor people of China. It is both wild and cultivated. The explanation of the first character in the Chinese name is given as 護生草 (Hu-shêng-ts'ao), "protecting life plant," because it is said to drive away mosquitos and other nocturnal insects. The root and leaves are used in medicine, and the plant is thought to have a specially beneficial influence upon the liver and stomach. Incinerated, they are prescribed in fluxes, and pulverized, are used in the treatment of sore eyes! The fruits are used for similar purposes, and if used for a long time are thought to clear the vision. The flowers are said to destroy certain kinds of parasitic worms, and to be useful in dysentery.

CAPSICUM ANNUUM.—辣椒 (La-chiao), 685. Several species of this Solanaceous plant are met with in China. In addition to the one above named, *Capsicum frutescens*, *Capsicum baccatum*, *Capsicum fastigiatum*, and *Capsicum sinense* are mentioned. They are largely cultivated in all of the central provinces of China, and are eaten green, ripe, and after having been dried. They are used as a condiment or relish with other food, and at the season when they are ripe and in market are seldom absent from the table. The less acrid kinds are used as a vegetable, and if deprived of their seeds they do not purge. The smaller and more acrid varieties are sometimes dried and pulverized, making a sort of cayenne pepper. They are not mentioned in the *P'entsao*, but the Chinese rightly consider them to be stimulant to the digestion and derivative. They are sometimes used to produce diaphoresis.

CARDUUS CRISPUS.—飛廉 (Fei-lien). This composite plant (Cynaroid division) is found growing plentifully in Manchuria and the provinces of North China, including Szechuan. It has incised leaves with winged petioles. The root is straight, with dark colored skin, and white flesh marked with black veins. The root and flowers are used in medicine.

The root is first prepared by decortication, and then soaking in wine over night. After this, it is dried and pulverized for use. It is said by some to be slightly poisonous, and by others to not be so. The effectiveness of the twelve hours' soaking in wine would probably explain the difference in these observations. It is considered to be alterative and anodyne. It is used in the treatment of rheumatism, both articular and muscular, and is thought to have special curative properties in the *kan* disease of children. Epithelioma and rodent ulcer are among the things for which it is recommended.

CAREX MACROCEPHALA. — 薺草 (Shih-ts'ao). Called also 自然穀 (Tz'ü-jan-ku), "spontaneous grain," and 禹餘糧 (Yü-yü-liang.) It is not to be confounded with the so-called *eagle stone*, which bears the latter name. It is an edible grain-fruit, growing in the eastern islands, but not found in China. It ripens in the seventh month, and is gathered by the people until winter. It is considered to be very nutritious, and is recommended as a constructive food in malnutrition. It is said to prevent nausea, and is recommended in anorexia. Its prolonged use produces great bodily strength.

CARICA PAPAYA.—This, the *papaw* or tree melon, which is native of tropical America, has been introduced and is now cultivated in South China and other tropical parts of the Far East. The name by which it has been called at Canton is 木瓜 (Mu-kua), which is a translation of "tree melon." But this is the name which is used in the *Péntsao* and classics for the quince (*Cydonia sinensis*). Loureiro found that the papaw was also called 萬壽果 (Wan-shou-kuo), "longevity fruit." Another name by which it is sometimes known in the south is 番瓜 (Fan-kua), "foreign melon". Still another name is 樹瓜 (Shu-kua), which is an alternative way of saying "tree melon." Certainly 木瓜 cannot be used for it in the north, where the quince, which has no other designation, is so extensively grown. Although so recently introduced into China, the Chinese, where the papaw is grown, have learned to appreciate its property of rendering meat tender, as well as its alimentary and medicinal qualities.

CARPESIIUM ABROTANOIDES.—天名精 (T'ien-ming-ching). The seeds are called 鶴虱 (Ho-shih), "crane's louse," 375. Other names are 豕首 (Shih-shou) and 豨鬚 (Chi-lu), both meaning "pig's head," 蟾蜍蘭 (Chan-chulan), and the people in the south call it 地菘 (Ti-sung), "ground cabbage," and 天蔓菁 (T'ien-man-ch'ing), "heavenly rape," for the leaves resemble cabbage or rape leaves, and are of a sweet pungent taste. The seed has a bitter, pungent taste, is slightly poisonous, and is reputed to destroy insects. The plant is added to the water in which silk cocoons are boiled, presumably to kill the pupa. The plant bears small yellow flowers, and is quite common in South and Mid-China. The achenia which bear the seeds are awned, causing them to adhere to the clothing of persons and the fur of animals in a manner similar to the beggar tick. The leaves, root, and seed are the parts used in medicine. The two former are regarded as non-poisonous and as being identical in medical properties and uses. They are employed as astringent, alterative, anti-scorbutic, diuretic, expectorant, anthelmintic, vulnerary, and discutient remedies, in conjunction with the young shoots. They are specially recommended in bronchorrhœa, hæmoptysis, and ague. The seeds, which are regarded as being slightly poisonous, are principally used as an anthelmintic. They are also highly recommended in ague.

CARTHAMUS TINCTORIUS.—紅藍花 (Hung-lan-hua). Other names, 紅花 (Hung-hua) and 黃藍 (Huang-lan), although this latter is possibly a confounding this with *Crocus sativus*. The commercial designations are 紅花 (Hung-hua), 530, and 藥花 (Yao-hua), 1510; the former being the best quality used for dyeing, and the latter an inferior kind used as a drug. The natural habitat of this plant, which is *safflower*, was regarded by the Chinese as Tibet. It is now extensively cultivated throughout China. The famous traveler and general, Chang Chien, brought the seeds from Turkestan. The flowers are extensively used for dyeing purposes and in the making of rouge. Medicinally, they are regarded as having stimulant, sedative, alterative, emmenagogue, and discutient properties. On account of their red color, they are thought to have an

especial value in affections connected with the blood. They are also used to cause abortion and to expel a retained placenta. The shoots of the young plant are eaten in times of scarcity. The seeds are given as a lenitive or purgative in apoplexy and dropsy. An oil obtained from the seeds is used as a lubricant. It is also used in candle-making.

CARYOPHYLLUS AROMATICUS.—丁香 (Ting-hsiang), 丁子香 (Ting-tzū-hsiang). The Chinese say that the clove tree is dioecious, and that the pistillate plant is called 鷄舌香 (Chi-shê-hsiang), the "chicken tongue" referring to the shape of the dried immature flowers of this variety. As this tree is not indigenous to, nor is it much grown in China, the distinction here given was probably a shrewd guess based upon different qualities of the drug appearing in the market. These "chicken tongue spice" cannot be the so-called "mother cloves," since the Chinese know of these also, and call them 母丁香 (Muting-hsiang), which is an exact translation of the common English and German terms. The properties of this variety are considered to be similar to those of the ordinary cloves, but are especially recommended in combination with ginger juice as an application to prevent the hair from turning gray.

The place of origin of this drug, as given by the *Pentsao*, is the islands and countries of the East Indian Archipelago, Cochin China, and Polo Condor. The cloves found on the Chinese market do not differ in any material respect from those found in the shops of the West. They are regarded as having warm, stimulating, carminative, corrective, stomachic, tonic, anthelmintic, and derivative properties. They are prescribed in cases of offensive breath, diarrhoea, cholera, intestinal disorders of infants, uterine fluxes, sterility, and many other diseases. They are held to be especially efficacious in nausea and vomiting. The drug is also used in various ways in the treatment of nasal polypus, ulcers, cracked nipple, carious teeth, scorpion stings, and to prevent or render pleasant offensive perspiration. The bark, somewhat thicker than cassia bark, is used in toothache and as a substitute for the cloves. The twigs and root, although regarded as inferior, are also used for similar purposes. In the Appendix to the *Pentsao*,

the clove oil is mentioned as a foreign product, and traders of Macao are credited with having introduced it into China. It is now manufactured in the south, and has become an article of export. Its use as a substitute for the crude drug, and especially its application to aching teeth, is well known and appreciated by the Chinese at the present time.

CASSIA FISTULA.—Du Halde, who never was in China, but who wrote his work on things Chinese, drawing all of his information from letters of the Jesuit missionaries, says that this tree was found in the province of Yunnan, and was called 長果子樹 (Ch'ang-kuo-tzŭ-shu). It is said that the pods are collected in Kuangsi and exported. Dr. Williams gives 槐花青 (Huai-hua-ch'ing) as the name of the fruit. He describes the pulp as "reddish and sweet, and not so drastic as the American sort; if gathered before the seeds are ripe, its taste is somewhat sharp." No other authorities are found for this plant occurring in China, and it is not mentioned in the *Pèntsao*. The Customs Lists do not mention it; so, if exported as Williams claims, it must be by land routes. The subject is worthy of investigation. Waring, in the Pharmacopœia of India, quotes Dr. Irvine as stating that the root of this tree acts as a very strong purgative.

CASSIA MIMOSOIDES.—山 蘿 豆 (Shan-pien-tou; *Cassia occidentalis*, 望 江 南 (Wang-chiang-nan) and 石 莢 明 (Shih-chüeh-ming); *Cassia sophora* and *Cassia tora*, 莢 明 (Chüeh-ming) and 葦 莢 明 (Ts'ao-chüeh-ming), 1341. With slight exceptions, the Chinese make no distinction between these species. The *Pèntsao* uses *Ts'ao-chüeh-ming* for *Celosia argentea*. At Peking, *Wang-chiang-nan* is a common name for *Cassia sophora*. Another name for the *Cassia mimosoides* is 葦 莢 明 (Chiang-mang-chüeh-ming.) The proper way of writing the character *Chüeh* is as above, although it is most frequently written 决. Kanghsi's Dictionary also uses 莢 光 (Chüeh-kuang), a synonym of 莢 明. 石 决 明 is also used for the shell of *Haliotis funebris*, 1144.

Hupeh and Kuangtung are given by the Customs Lists as the sources of the drug. Shensi, Kansuh, and Hunan are also

said to yield it. The long, reddish pods contain very many dark brown, shining seeds called 莢明子 (Chüeh-ming-tzū), 1341, of an irregularly compressed, cylindrical shape, about three lines in length, and marked with two light stripes on opposite sides. They are pointed at one end, and truncated or rounded at the other, and have a bitterish, mucilaginous taste. It is said that if eaten on an empty stomach during the day, on the succeeding night articles will appear as if illuminated. The drug is therefore considered to be of especial use in diseases of the eye, being used both internally and locally in their treatment. It is also recommended in herpes and furunculoid sores. The *Pentsao* says that the leaves can be eaten as a vegetable. This must refer to the *Chiang-mang*, which may be *Cassia auriculata*, an edible species of India. The leaves of *Cassia tora* are said to be used by Indian physicians as a substitute for *senna*. Another name for the *Chüeh-ming* is 馬蹄莢明 (Ma-ti-chüeh-ming), so called from the shape of the seeds. The *Pentsao* also speaks of another plant, apparently of this genus, which it calls 合明草 (Ho-ming-ts'ao). It is as yet unidentified. In addition to its other virtues, it is considered to be diuretic. In China, as in India, a spirituous liquor and a leaven are made of the *Cassia tora*, by the addition of some starchy or saccharine ingredient.

CASTANEA VULGARIS. — 栗 (Li). This is the common *chestnut*, of which several varieties grow in China. They are cultivated throughout the empire, and are used as an article of diet, being most frequently cooked with chicken. However, they are thought to be somewhat difficult to digest, and are therefore not recommended to the sick as food, or to those suffering from deranged digestion. They are among the fruits considered suitable to be presented to the Son of Heaven, and by the ancient Chinese were used as a present of introduction by women. Owing to the similarity of the leaves and fruits of some varieties to those of certain kinds of *Quercus*, there is a certain amount of confusion among the Chinese in regard to these plants. Of the different kinds of chestnuts, the *Pentsao* mentions a large, smooth, flat variety,

which grows plentifully in the central provinces, and is called 板栗 (Pan-li); a small, round variety known as 山栗 (Shan-li), of which there is a pointed kind which is called 錐栗 (Chui-li); a small one shaped like an acorn called 荇栗 (Hsin-li); a still smaller one, like a hazelnut, called 茅栗 (Mao-li), which in the *Erhya* is called 栭 (Erh). The Sanscrit name of 篤迦 (Tu-chia) is also given.

The tree of some varieties is quite large, and some have very large leaves. The smallest varieties are very delicate little shrubs. They grow in all of the provinces except the two south-eastern ones; there being no chestnuts (栗) there except the 石栗 (Shih-li), *Aleurites triloba*. The best chestnuts come from Kiangnan and the north. Several parts of the chestnut tree and fruit are used medicinally. The fruits themselves are considered to be saltish and cooling in their nature. Children should not eat them much, either raw or cooked. Their use is thought to hinder the development of the teeth. They are considered to have a beneficial action upon the "breath," stomach, and kidneys, assisting in enduring hunger. Masticated into pulp and applied as a poultice, they are recommended in muscular rheumatism and extravasated blood. The crushed fruits are also used as poultices in bites of animals and virulent sores of various kinds. The septa of the involucre, called 栗楔 (Li-hsieh), is considered to be especially efficacious in muscular rheumatism and to promote the circulation of the blood. The tegmen of the seed, which is known as 栗蕻 (Li-fu), is pulverized and added to honey as a cosmetic application; it is thought with the effect of improving the complexion. Incinerated and powdered, it is used for removing a fish bone from the throat. A decoction of the hulls is recommended in nausea, thirst, and bloody stools. A decoction of the spiny involucre is said to be useful as a wash for inflamed ulcers. The flowers are used in scrofula, a decoction of the bark of the tree as a wash in poisoned wounds, and the root in hernia and hydrocele, between which difficulties the Chinese do not clearly distinguish.

CATALPA BUNGEI.—楸 (Ch'iu). Classical name, 梓 (Tzū). *Catalpa kœmpferi*, the same Chinese name or 角楸

(Chio-ch'iu). The names are confounded by both Chinese and Japanese botanists. Li Shih-chen says there are three varieties, and then proceeds to name four! That with a white veined wood is the *tsū*, that with a red wood is *ch'iu*, that with a beautifully veined wood is 椅 (I), while a smaller variety is called 復 (Chia). This last character is also written 欖, but this seems also to be used in the *Erhya* for the tea plant. The characters 欖 and 復 refer to the fact that the leaves of this tree fall at the end of summer or the beginning of autumn, and during the Tang dynasty the leaves were worn ceremonially at the time of the autumnal equinox.

The catalpa is a large tree with very excellent wood, which is used for buildings of the better sort, for making chess-men, chess tables, weighing-scale frames, and printing blocks; in this last replacing the more expensive boxwood. The white inner bark and the leaves are the parts used in medicine. This tree is said to have been formerly in much repute as a remedy for surgical diseases. The bark is considered to be stomachic, anthelmintic, and very useful as an ingredient in lotions for stimulating wounds, ulcers, cancer, fistulæ, and other indolent or obstinate sores. An extract is prepared from the bark, and the leaves are reputed to be very efficacious in the treatment of carbuncles, swellings, abscesses, struma, porrigo, specks on the cornea, and the like, and are given in bronchitis and emphysema. The leaves are used in treating eruptions on hogs, and these and the leaves of *Aleurites cordata* are fed to pigs to fatten them.

CECRODENDRON FORTUNATUM.—In the Customs Lists (637) this is given as the identification of 苦燈茶 (K'u-têng-ch'a, by which is evidently meant 苦蔞 (K'u-têng) and 苦丁茶 (K'u-ting-ch'a), the second character of which should be written 苧. It is described in the *Pentsao* under the heading of 臯蔞 (Kao-lu), and is also called 瓜蔞 (Kua-lu). It is said that the people of the Kuang provinces call it *K'u-têng*. The leaf of the shrub is said to be very much like the tea leaf in shape, but considerably larger. Its action is considered to be very much the same as that of tea, quenching thirst, brightening the eye, quieting the nerves, and acting as

a diuretic. If taken in excess, sleep will be prevented. No authority is given for the above identification; the plant is not mentioned in the *Index Floræ Sinensis*, nor has it been found in any other work consulted.

CEDRELA SINENSIS.—椿 (Ch'un). In the classics the character is written 樅. The *Péntsao* includes this with *Ailanthus glandulosa* under the common heading of 椿樛 (Ch'un-ch'u). External resemblances led the Chinese to confound these trees of perfectly distinct orders. The leaves of the *Cedrela* are edible, and on account of their fragrance the tree is sometimes called 香椿 (Hsiang-ch'un), while the *Ailanthus* receives the name of 臭椿 (Ch'ou-ch'un) because of the bad odor of its leaves, which for the same reason are not eaten. The wood of the *Cedrela* resembles mahogany, and is used in cabinet work. The parts of the plant entering commerce are the twigs (香椿枝, Hsiang-ch'un-chih), 409, and the root (香椿根, Hsiang-ch'un-kên), 409.

It is evident that the Chinese regard the medical properties of *Ailanthus* and *Cedrela* as similar, if not identical. Therefore it is a little difficult to determine if either is put to any peculiar use. Reference to the article on *Ailanthus glandulosa* is made for the general uses of these drugs. The tender leaves of the *Cedrela* are in the spring boiled and eaten as a vegetable, and are regarded as carminative and corrective. They are also fed to silkworms. In combination with the leaves of *Catalpa*, they are decocted and used as a remedy for scald head and baldness. The inner bark of the trunk and that of the root are used in the treatment of the 疳 (Kan) disease of children, intestinal fluxes, menorrhagia, and post-partum hemorrhage. It is also used in gonorrhœa in both male and female. The fruits (莢, Chia) are regarded as astringent, and are used also in affections of the eye.

CELOSIA ARGENTEA.—青葙 (Ch'ing-hsiang). This is also called 野雞冠 (Yeh-chi-kuan), "wild cock's-comb," and 崑崙草 (K'un-lun-ts'ao), "plant from Kunlun." The seeds are called 草莢明 (Ts'ao-chüeh-ming), and are therefore both theoretically and practically confounded with those of

Cassia tora, the former being frequently found mixed with the latter in the shops. The plant is found throughout the country, but the drug supply comes principally from Fukien and Kuangtung. It is a troublesome weed among the farmer's crops, but the common people gather it and consume it as a vegetable. The stalk and leaves, bruised and applied as a poultice, are used in infected sores, wounds, and skin eruptions, and the juice, taken internally, is considered to have special virtues in pestilential difficulties. To the seeds are attributed cooling, anti-scorbutic, anthelmintic, vulnerary, and tonic properties; and they enjoy an equal reputation with *Cassia tora* in the treatment of affections of the eye. Three-tenths of a pint of the juice of the seed forced into the nostril is considered to be a sure cure for epistaxis.

CELOSIA CRISTATA.—雞冠 (Chi-kuan). This *cock's-comb*, which by some is regarded as a variety of the last, is a common weed in China, although it is also extensively cultivated as a garden flower. The prevailing colors of the flowers are red, yellow, and white, and the seeds are flat, black, and glossy. The red flowered variety is the one preferred in medicine, and consequently is fancifully supposed to benefit all diseases of the blood, such as hemorrhages, fluxes, piles, menorrhagia, and deficiency of the lochia. The young shoots, the flowers (50), and the seeds (51), are the parts used.

CELTIS.—According to Henry, *Celtis sinensis* is 朴 or 櫟 (P'ò). In Japan 櫟 is *Celtis muku* (*Homoioceltis aspera*), and 朴 is *Celtis sinensis*. These do not seem to be mentioned in the *Pêntsao*. In Japan 松楊 (Sung-yang) is also *Celtis muku* or *Ehretia serrata*, which is a synonym. But *Sung-yang* in China has been indentified by Henry as *Cornus machrophylla* (which see). This shrub bears an edible fruit, and it has been suggested that it may be a *Prunus*. As for the 朴 (P'ò), it is possible that this refers to the 厚朴 (Hou-p'ò) of the *Pêntsao*, which is extensively used in medicine, and is *Magnolia hypoleuca* (which see).

CERCIS CHINENSIS.—紫荊 (Tzŭ-ching), 1408. This is the *Judas tree* or *Red bud*, of the order of *Leguminosæ*.

The character 荊, however, is usually applied to different species of the *Vitex* of the natural order of *Verbenaceæ*. Similarity of foliage and general appearance has again led the Chinese to confound plants of two distinct orders. On account of its beautiful purple flowers, this tree is much cultivated in gardens. The whole tree, including the wood, is beautiful, and adds much to the ornamentation of any place it occupies. The wood and bark are used as medicine. "The kind that is as bitter as gall is the best." They are employed in the treatment of bladder disease, and a decoction is used both internally and as a wash in mad dog bite, intestinal parasites of all kinds, vicious post-partum discharges, bleeding piles, and similar difficulties.

CHAMÆROPS EXCELSA.—櫻櫚 (Tsong-lü), 拼櫚 (Ping-lü). It is probable that *Chamærops fortunei* is either very closely allied to or identical with this. It is also by some referred to the genus *Trachycarpus* and that of *Caryota*. This is one of the coir palms, producing that useful fibre which is made into cordage, clothing, trunks, brushes, and the like. It is found in the south of China, and formerly extended as far north as the Yangtze. The tree grows to a height of more than thirty feet. The fibrous integument is annually gathered and steeped in water, to separate the fibres for use in manufactures. Excellent matting is made from the bark, combined with more or less of the fibre. The large leaves of this palm are made into fans. The young flower buds, which are likened to fish roe and therefore called 櫻魚 (Tsong-yü), also called 櫻筍 (Tsong-sun), are eaten, although by some considered to be more or less deleterious. Steeped in honey and soaked in vinegar, they are used as votive offerings by the Buddhists. The buds, flowers, and seeds (1350) are recommended in fluxes and hemorrhages. The bark is prescribed in similar cases, but as only the ash or charred remains, after incineration, is used, it is probable that its only action would be to check fermentation.

CHAVICA BETEL.—蒟醬 (Chü-chiang), 土萼茛 (T'u-pi-po), and the vine is called 扶惡土萼藤 (Fu-ya-t'u-lü-

t'eng), which is probably a reproduction of the Malaysian name for this plant (*vettila*). The *Pentsao* gives several other names of somewhat similar sound, which it says have not been explained, and which are probably local variations of the same name. The leaves (called 蕒葉, Lü-yeh) of this vine are spread with chunam and wrapped about a slice of *Areca* nut, and the product is chewed by the Malays. It produces a species of intoxication, which is probably the result of a substance developed in the combination, as none of the component parts taken alone has any such effect. It is now said to grow in South China, as far north as Szechuan. The leaves are used in Yunnan as a condiment. The root, leaves (695, 696), and fruits are employed in medicine, being considered to have carminative, stimulant, corrective, and prophylactic properties, and they have some reputation in the prevention and treatment of malaria. In the appendix to the *Pentsao* an oil, called 蕒油 (Lü-yu), is mentioned, and is said to be made from the leaves of this plant. It is highly recommended as a counter-irritant in swellings, bruises, and painful sores, as well as to reduce enlarged glands.

CHAVICA ROXBURGHII.—萼茨 (Pi-po), 1008. This is the *long pepper*, the *Piper longum* of Linnæus. A number of combinations of characters, having approximately the same sound, are given in the *Pentsao* for this plant. This shows that the name is of foreign origin, and inasmuch as it approximates the sound of the name for this article found in other languages, it is probably of identical origin. The Sanscrit name was *pippala*, which is approximated by 華撥梨 (Pi-poli), given in the *Pentsao* as the name in the language of the country of 摩伽陀 (Mo-chia-t'o), or Magadha, which became the Pali of the Buddhists. In the country of Fulin the drug was known by the name of 阿梨訶陀 (A-li-ho-t'o). Many countries of Southern Asia, from Persia eastward, are given as the places of origin of the drug, but the principal supply is shipped from India. Points of similarity to other peppers, especially to *Chavica betel* and *Piper nigrum*, are noted by Chinese authors. The spiked fruits, sold under this name on the Chinese market, average more than an inch long, are

cylindrical, generally pedicellated and slightly tapering at the point. They are darkish-grey in color and studded with spirally arranged eminences. The taste is hot, pungent, and slightly aromatic. Stimulant, stomachic, carminative, corrective, and astringent properties are attributed to the peppers, which are given in various combinations for coryza, pyrosis, dysentery, cholera, violent fluxes, enlargement of the spleen, menstrual disorders, and toothache. They are used in India in the treatment of beri-beri.

A derivative of this plant, called 萆勃沒 (Pi-p'o-mu), which is probably in imitation of the Hindustani name of the root, *peepla-mool*, is spoken of in the *Pentsao* under the heading of this same article. Its qualities are much weaker than those of the fruit, but it is reputed to have the same stimulant, tonic, and peptic properties. It is a much vaunted remedy in the treatment of "cold" viscera and diseases resulting from this condition. Barren women, whose wombs are supposed to be cold, those suffering from "cold indigestion," and certain kidney and urinary difficulties which are regarded as "cold," are all to be benefited by administering this drug. Dr. Waring reports its use in Travancore for expediting the expulsion of the placenta.

CHENOPODIUM ALBUM.—灰藿 (Hui-t'iao), 灰莧 (Hui-hsien). There is the same uncertainty in the identification of the Chinese names for the *Chenopodiaceæ* that there is of those for the *Amarantaceæ*, and for the same reason, viz: the names are not uniformly applied to the same plant in different parts of China. 藿 is a general term for *Chenopodium*, and throughout the north of China *Hui-t'iao* is undoubtedly *Chenopodium album*, which is a very common weed there. The 藜 (Li) of the classics, and also the 萊 (Lai), are thought to be the same. It was evidently the plant which Fohien saw when he returned from his journey to the Buddhist countries. In the account of his journey, it is said that when he landed in Shantung and saw the 藜藿菜 again, he knew that this was the land of Han (China). The plant (stalk and leaves) is thought to have insecticidal properties, and is used in cases of insect stings and bites, and the expressed

juice in freckles and sunburn. The seeds are eaten as an anthelmintic remedy.

In Japan, *Chenopodium ambrosoides* is called 土荆芥 (T'u-ching-chieh); whether this includes the variety *anthelminticum* or not is not stated, nor has it been possible to discover whether or not *wormseed* is met with in China or Japan.

CHIMONANTHUS FRAGRANS. — 蠟梅 (La-mei), 黃梅花 (Huang-mei-hua). This plant has several common names in Chinese. It blooms in the Chinese twelfth moon, and its flowers are strung on fine wire and made into hair ornaments, which are much worn by the women. They have a very pleasant odor, and their color and texture are also pleasing. The bark is also fragrant, but not so much so as some other shrubs of the same order, the bark of which is sometimes used as a substitute for cinnamon. The Chinese soak the wood of this tree in water, and then polish it by rubbing to a brilliant, black surface. The flowers are used in medicine as a cooling and sialagogue remedy.

CHLORANTHUS INCONSPICUUS. — 珠蘭 (Chu-lan), 鷄爪蘭花 (Chi-chao-lan-hua). In Japan this is called 金粟蘭 (Chin-su-lan). The flowers of this plant, which is of a tropical genus, are used to scent tea, which is consequently called 珠蘭茶 (Chu-lan-ch'a). Directions are given that, after having imparted their fragrance to the tea, the petals should be carefully sifted out, as their use is considered to be deleterious. Among scented teas, this is in most favor, although that scented with the petals of *Jasminum sambac* is preferred by some. The bruised root is recommended as a poultice in boils and carbuncles. Its action is sudorific and stimulant, and its use is suggested in malarious fevers, since according to Blume, the root of a very similar species is extensively used in Java in the intermittent fevers of that island.

CHLORANTHUS SERRATUS. — 及己 (Chi-chi). This is the same as *Chloranthus japonicus* and *Tricercandra quadrifolia*. Its leaves are said to be of the shape of a deer's ear and its root like that of *Asarum*. For these reasons it is called 獐耳細辛 (Chang-êrh-hsi-hsin). It grows in shady

mountain valleys, shooting up in a single stem, at the top of which come out four leaves, and bearing white flowers which appear between the leaves. The root is dark in color, bitter, and poisonous. It is used, chiefly in decoction, externally in the treatment of parasitic skin diseases, and in infected ulcers and sores. It has also some reputation as an anthelmintic.

CHRYSANTHEMUM CORONARIUM.—茼蒿 (T'ung-hao), 蓬蒿 (P'êng-hao). The *Pentsao* makes these two identical, although the character 蓬 also refers to *Erigeron* and *Conyza*. Because the plant is said to bear some resemblance to *Artemisia stelleriana*, it is classed by the Chinese among the *Artemisiæ* (蒿). While it is not considered at all poisonous, its excessive use is said to result in a species of intoxication. Its action is considered to be sedative, and its use is thought to benefit the digestive and vital functions. It is not employed in any particular class of diseases.

CHRYSANTHEMUM SINENSE.—菊花 (Chü-hua), 227. The character 菊 is a general name for several kinds of Composite plants, but is applied particularly to this one species, which is indigenous to China, growing in a wild state in several parts of the empire, especially the north. It has also been cultivated from very ancient times as a favorite winter flower, very many varieties being found in the Chinese gardens. The wild plant is small, seldom exceeding one foot in height, and late in the autumn bears small flower heads, the florets of the disk being yellow, while those of the ray are rose colored. A yellow flowered variety is also very common, is called at Peking 小野菊花 (Hsiao-yeh-chü-hua), and may be *Chrysanthemum indicum*. The *Pentsao* gives a large number of alternative names, but the one at the head of this article is the one by which the plant is universally known. The varieties entering commerce are the 杭菊花 (Hang-chü-hua), or variety from Hangchou; the 黃菊花 (Huang-chü-hua), which by some is considered to be *Anthemis*; the 甘菊花 (Kan-chü-hua), or "sweet chrysanthemum;" and the 白菊花 (Pai-chü-hua), or "white chrysanthemum."

Some difference is made by the Chinese in the medical uses of different varieties, although their therapeutical action

is regarded as practically identical. The use of the ordinary cultivated varieties is thought to benefit the blood and circulation, and to preserve the vitality. The flowers are prescribed in colds, headaches, and inflamed eyes. Pillows are recommended to be made of the flowers or leaves for the treatment of these difficulties. The white variety is considered to be especially useful in preserving the hair from falling out or turning grey. The flowers are soaked in wine, producing a "chrysanthemum wine," the use of which is considered beneficial in a great variety of digestive, circulatory, and nervous difficulties. The use of the dew gathered from the flowers is also held in much repute in preserving and restoring the vital functions. Of the wild variety, the whole plant is recommended to be used. It is thought to be slightly poisonous. It is employed in decoction in the treatment of retained menses, and as a wash in infected and cancerous sores, and as a fomentation in enlarged glands. Anti-vinous properties are also ascribed to this plant. Any of these varieties, and especially the *Kan-chü*, will make a good substitute for *chamomile*.

CICHORIUM.—It is uncertain whether this genus is found in China, although Loureiro mentions it. The plants are generally referred to the related genera of *Sonchus* and *Lactuca* (which see).

CINCHONA.—金雞勒 (Chin-chi-lo). In the appendix to the *Péntsao* it is said that the foreigners at Macao introduced this drug in the fifth year of the reign of the Emperor Kiaching (1801). Its specific action in the cure of malarial fevers was soon recognized, and the bark was long used before the introduction of quinine. Dr. Hobson did not seem to be aware of this fact when he coined his term for *Cinchona*. Its use was also highly recommended as an anti-vinous remedy.

CINNAMOMUM CASSIA.—桂 (Kuei), 牡桂 (Mou-kuei), 雷桂 (Ch'ün-kuei). The cinnamon tree is a native of Kuang-si; the best quality being still produced in the prefecture of Hsinchou, where it was found by Martini in 1645-1655. It is

now grown in other parts of Southern China, as well as in Cochin-China, often giving a name to the political division in which it is produced; as, for example, Kuiyang, Kuilin, and Kuichou. The *mou-kuei* ("male cinnamon"), which is also called 木桂 (Mu-kuei, "wood cinnamon") and 肉桂 (Jou-kuei, "fleshy cinnamon"), is the unscraped bark of the larger cinnamon tree. The scraped bark is called 桂皮 (Kuei-p'i). The difference between the *mu-kuei* and the *jou-kuei* is that the former is taken from the larger and older branches, and is therefore more woody and less pungent, while the latter comes from the smaller and younger branches. This latter is also called 桂枝 (Kuei-chih), and after being scraped, is called 桂心 (Kuei-hsin). A very inferior kind of cinnamon, which has but little aroma, but which is also found on the market, is called 板桂 (Pan-kuei, "board cinnamon"), because it is in unrolled, flat pieces. This is probably the thick inner bark of old trees. The most delicate young shoots of the cinnamon twigs are called 柳桂 (Liu-kuei, "willow cinnamon"). The *ch'ün-kuei* is a smaller tree bearing a thinner bark more like that from Ceylon. As it quills more readily than the other, it is called 筒桂 (T'ung-kuei, "tube cinnamon"). Another name is 小桂 (Hsiao-kuei, "small cinnamon"), evidently referring to the size of the tree. The finest qualities of the bark of this tree are the 安邊桂 (An-pien-kuei), a highly valued kind brought from Annam, and 交趾桂 (Chiao-chih-kuei), probably the same as or similar to the last, but on account of its great repute these characters are often found on the sign boards of Chinese medicine shops.

In the *Pentsao*, at the close of the article on *Ch'ün-kuei*, it is said that there is a tree much cultivated in China, and bears the names of 巖桂 (Yen-kuei) and 木樨 (Mu-hsi). There are three varieties named according to the color of the flowers they bear; the white being called 銀桂 (Yin-kuei), the yellow 金桂 (Chin-kuei), and the red 丹桂 (Tan-kuei). The flowers appear in the axils of the leaves, are very fragrant, and are used for scenting tea. The common name used by the flower gardeners, who cultivate it extensively for sale, is 桂花 (Kuei-hua, "cassia flowers"). It is the *Olca* (*Osmanthus*) *fragrans*, and has none of the properties of true cinnamon. 丹桂 (Tan-

kuei), however, is also used for a red kind of true cinnamon bark, which comes from a variety of tree found most largely in the province of Kuichou. A similar kind is known as 貉桂 (Yao-kuei), and comes from the country of the Yao tribes.

Another kind mentioned in the *Pentsao* is 天竺桂 (T'ien-chu-kuei). Porter Smith, on the supposition that the first two characters meant India, identified this with *Cinnamomum tamala*. But Li Shih-chen says that it is so named from a place called T'ien-chu, in the prefecture of Taichou, Chekiang, where it grows plentifully. It is a large tree, bearing abundant flowers and a fruit the size of a lotus nut. The Buddhists regard it as identical with the 月桂 (Yüeh-kuei). In Japan it is called *Cinnamomum japonicum*, which is the *Cinnamomum pedunculatum* of Nees. Its fruits are called 桂子 (Kuei-tzū), as are also those of the *Yüeh-kuei* (see *Litsea glauca*), and the immature flowers of the *Cinnamomum cassia*; although the proper name for these last is 桂丁 (Kuei-ting), according to the appendix to the *Pentsao*.

The parts of the cinnamon tree now found in Chinese commerce are the bark (557, 659, 667, 668, and 672); the twigs (658, 660); the buds (673); the peduncles (671); and the oil (558, 669). The leaves are not found as an article of commerce, but the Chinese use the bruised fresh leaves in water for cleansing the hair. The oil is manufactured in Canton and exported, but much of that now found in China comes from abroad, as it is of superior quality to the Chinese article and sells as cheaply. It is used as a perfume and flavoring ingredient, and also as a substitute for the bark in medicine and cookery. Dr. Williams says that the 桂枝 (Kuei-chih) are the "extreme and tender ends of the branches" of the cassia tree, such as are used in distilling oil at Canton. The leaves are sometimes used in combination with these twigs for distilling purposes.

Kuei-p'i is met with on the Chinese market in half quills of a foot in length, half an inch in diameter, and one-twelfth of an inch in thickness. It is darker, closer in the grain, thinner, and much less pungent than the *Jou-kuei*. This latter, which is the "cinnamon" of Dr. Williams, is met with in close, perfect quills, of the same length as the *Kuei-p'i*, but

much stouter and thicker. The texture is more open, of a lighter color, and the inner surface is more distinctly striated. The external surface, like that of the *Kuei-p'i*, is variegated with lichenous patches. The taste is exceedingly pungent and spicy.

Cassia is more often used by the Chinese as a condiment than as a medicine, being employed as a flavor for pork and other meats. Stomachic, stimulant, carminative, astringent, sedative, and tonic qualities are attributed to this drug. It is especially recommended in colic and excessive sweating. Post-partum difficulties and retained foetus are among the troubles for which it is prescribed, as also are snake bite and rhus poisoning. The prolonged use of the better qualities of cassia is thought to improve the complexion, giving one a more youthful, rubicund appearance. Pao P'u-tzū said that if cassia was taken with toad's brains for seven years, one could walk on the surface of the water and never grow old or die; and Chao, the hunch-back, took the drug continuously for twenty years, with the result that hair grew on the bottom of his feet; he was able to walk five hundred *li* (200 miles) in a day, and lift a weight of one thousand *chin* (1,333 pounds).

CITRULLUS VULGARIS. — 西瓜 (Hsi-kua), 寒瓜 (Han-kua), 楊溪瓜 (Yang-ch'i-kua). This is the ordinary watermelon, which is very extensively grown in China, and is eaten as a cooling fruit in very hot weather. It was introduced from Mongolia in the tenth century, having been brought there at an earlier period by the Kitans from the country of the Uigurs farther west. This is the reason that it is called "western melon", and not as some have supposed, because it was introduced from what is now "the west". The Chinese melon is not so large as the ordinary American variety, and not so sweet or so fine flavored; but it is very juicy. Several varieties are grown; some having white pulp, some yellow, and some red. The seeds of these varieties are of different colors—white, red, brown, and black. The black seeded variety with red pulp is usually the finest flavored. Melon seeds (瓜子, Kua-tzū) are extensively eaten in tea shops, and in fact are in evidence wherever tea is formally or socially served. They

are prepared for this purpose by salting and parching. In eating, the shells are cracked with the teeth and the kernels extracted. To crack the seed, extract the kernel, and spit out the shells without using the hands, is an accomplishment that is considered to evidence the good breeding of the gentleman. The melon grown to produce these seeds is of a special variety, evidently the result of a long period of selective development. It is not so large as the other varieties, contains but little pulp, and is a mass of seeds. The pulp has little or no taste. The kernels are said to be demulcent, pectoral, and peptic. Much of their good effects, however, may be attributed to their saltiness and the masticatory effort made in eating them. The Chinese consider that sometimes the eating of melons produces fluxes, and even Asiatic cholera. But as liquid night soil is so largely used in their cultivation, and as they are usually left lying cut open in the markets, it is probable that the infection comes from the outside of the melon. It is well to wash the melon thoroughly before cutting. The rind of the melon is dried and incinerated, and after being finely powdered, is used in the treatment of aphthous sore mouth.

CITRUS.—橘 (Chü). This term is practically generic, as well as being used with qualifiers as a common term for the fruit as it appears in the market. There are several species, with many varieties, all apparently indigenous to China and the East Indies. Indeed, it is probable that this is the natural habitat of the orange, from whence it has spread to other parts of the world. After discussing the general subject of these fruits under the term above given, the *P'antsao* describes five species, viz: (1) 柑 (Kan) or *Citrus nobilis*, the *tangerine* and *mandarin orange*, also called 硃砂橘 (Chu-sha-chü); (2) 橙 (Ch'eng) or *Citrus aurantium*, the *coolie orange*, also called 廣橘 (Kuang-chü, "Canton orange") and 金球 (Chin-ch'iu, "golden ball"); (3) 柚 (Yu) or *Citrus decumana*, the *pumelo* or *shaddock*; (4) 枸櫞 (Kou-yüan) or *Citrus medica*, the *citron*, of which there are some peculiar varieties (see below); (5) 金橘 (Chin-chü) or *Citrus japonica*, the *cumquat* or *golden orange*, also called 金豆 (Chin-tou, "golden bean") and 盧橘 (Lu-chü), after the Cantonese sound of these char-

acters "loquat", although this term is more often applied to the pipa (*Eriobotrya japonica*).

The fruits of all of the different species and varieties are considered by the Chinese to be cooling. If eaten in excess, they are thought to increase the "phlegm", and this is probably not advantageous to the health. The sweet varieties increase bronchial secretion, and the sour promote expectoration. They all quench thirst, and are stomachic and carminative.

The peel of the ripe fruit is found under various names, of which the *Péntsao* gives 黃橘皮 (Huang-chü-p'i), 紅皮 (Hung-p'i), and 陳皮 (Ch'en-p'i). The Customs lists also give 裸友 (Kuo-p'i) as an equivalent for the last (39), and says that at Canton it is the peel taken from the mandarin orange. 橘紅 (Chü-hung) or 桔紅 (Chieh-hung) is another term for the peel coming from Fukien and Chekiang, while 橘皮 (Chü-p'i) or 桔皮 (Chieh-p'i) comes from southern Fukien and Kuangtung. Although citrus fruits of many varieties are exceedingly plentiful in China, very little of the peel of these fruits is thrown away; servants, children, rag-pickers, and others gathering it all up, drying it and selling to the druggists, who use enormous quantities of it in the preparation of medicines. The coolie orange peel is especially esteemed, and sells at a higher price than the others. The peel is regarded by the Chinese doctor as a panacea for all sorts of ills. Among the many qualities attributed to it are stomachic, stimulant, antispasmodic, antiphlogistic, and tussic. The difficulties for which it is recommended also include marasmus in children, dyspnoea in the aged, fish and lobster poisoning, pin worms, and cancer of the breast. It is administered both in pill and decoction, together with ginger and other carminatives.

The peel of the unripe fruit is called 青橘皮 (Ch'ing-chü-p'i), or simply 青皮 (39). At the present time the immature or unripe fruit is often dried whole or in slices. Other names found, therefore, are 小青皮 (Hsiao-ch'ing-p'i), 青皮子 (Ch'ing-p'i-tzū), and 青皮核 (Ch'ing-p'i-ho). When fresh, it is very fragrant, but seems to soon lose its aroma and become of little value. Its virtues are regarded to be for the most part carminative. The virtues ascribed to several decoc-

tions for external application must be purely imaginary. A sort of a spirit of orange, made with hot wine of the membrane covering the pulp, is regarded as a sure remedy for nausea.

Orange seeds, (225, 235), deprived of their husks and rubbed up in a mortar, and then decocted with wine, are prescribed for urinary difficulties, "wine nose", varicocele, and buboes. The expressed juice from orange leaves is also used as a carminative, to promote menstruation, and as a dressing to ulcers and cancerous sores. The dried leaves (236) are also used in decoction for the same purposes. The chalaza, 橘絡 (Chü-lo), 橘白 (Chü-pai), is employed in the treatment of menstrual disorders.

Citrus nobilis is considered to be stimulant to digestion, corrective, and diuretic. The peel is used as a carminative and in alcoholism. A hot, strong decoction is used in feverish colds. The peel of the wild variety is considered efficacious in sore throat. The seeds are used in the preparation of cosmetic applications, and a decoction of the leaf buds in the treatment of otorrhœa.

Citrus aurantium is considered to be similar to the shaddock. Its special properties are thought to be corrective and deobstruant. The sour juice is rejected, and the remainder of the pulp is mixed with honey for the treatment of indigestion and flatulence. It is also used as an antidote to fish and shrimp poisoning. The seeds are bruised and applied to the face at night for pimples and freckles. Excellent marmalade (橙膏, Ch'êng-kaò) may be made from this orange.

Citrus decumana, the shaddock, pumelo, or pompelmoose, is a large, thick skinned, yellow fruit. It has been known since the days of the Great Yü, who mentions it in his Tribute Roll. Other names given in the *Péntsao* are 條 (T'iao), 壺柑 (Hu-kan, "jug orange", from its occasional shape), 臭橙 (Ch'ou-ch'êng, "stinking-orange", from its strong odor), and 朱欖 (Chu-luan). An ancient way of writing the character commonly used for the pumelo is 欖 (Yu). This fruit flourishes throughout south China, and is especially found in the Amoy region, which is famous for its pumelos. The flowers of the tree are very fragrant, and the fruit, when stripped of its thick, spongy rind, is of exquisite taste. It is frequently grafted upon

other species of Citrus, and considerable improvement in flavor has resulted therefrom. The fruit is considered to be digestive, corrective, antivenous, and is specially recommended for the use of pregnant women. The peel is bitter, but very aromatic. If enough is used, it makes an excellent stomachic. The Chinese use it in coughs and dyspepsia. The leaves are bruised together with onions, and applied to the temples for headache. The flowers are used in cosmetic preparations.

Citrus medica in China, as in southern Europe, is represented by many varieties. The most common one is that of *Citrus chirocarpus*, 佛手柑 (Fo-shou-kan), 323. The fruit is formed by the natural separation of its constituent carpels into a form somewhat resembling a hand with the fingers laid closely together longitudinally. Why it should have been called Buddha's hand is not clear. The Jews carried the citron (*ethrog*) in the left hand at the Feast of Tabernacles as a sacrifice of a sweet smell, and possibly the Chinese name of this denotes some similar practice connected with the worship of Buddha; or it may have been thought to resemble the hand of Buddha's image. The tree grows near the water in all of the southern provinces. The leaves are long and pointed and the branches prickled. The yellow fruit attains a very large size in some cases, and is much prized in Central and Northern China, where it is carried in the hand, or placed on tables, to give out its strong and delicious perfume. In the south, where the fruit is plentiful, it is also placed in clothes-presses with the same object in view; and it is made into a preserve, or the juice is used to wash fine linen. The product is found in commerce principally in the form of the dried peel, 佛手片 (Fo-shou-p'ien), 325. This occurs in fine dried slices, thin and shrivelled, the greenish-yellow cuticle fringing the white, inert, cellular tissue which forms the greater part of the drug. The smell is citron-like, but faint, and the taste aromatic and bitter. Some of the drug met with in the drugshops is very dark. Stomachic, stimulant, tussic, expectorant, and tonic properties are attributed to this drug. 佛手乾 (Fo-shou-kan) is simply the whole fruit dried, and does not differ in use from the peel. The root and the leaves are used for the same purposes as the peel, and the flowers appear in commerce, but

are not mentioned in the *Pèntsao*. It is probable that their uses are the same as those of other species of *Citrus*. In Barbadoes, *citronella* is prepared from the rind of the citron, and it is shipped from there to France and used to flavor brandies. This term, however, is given to several products, such as: a perfume prepared from *Melissa officinalis*, an oil produced from *Andropogon schænanthus*, and in France the term is applied to *Artemisia abrotanum*.

Citrus japonica has, in addition to the names already mentioned, several others by which it is known. The *Pèntsao* gives 金柑 (Chin-kan), 夏橘 (Hsia-chü, "summer orange"), 山橘 (Shan-chü, "hill or wild orange"), 給客橙 (Chi-k'ô-ch'êng, "give-guest orange"). When dried, it has some resemblance to a nutmeg, and is therefore called "nutmeg orange." It is used as a dessert, or garniture, at weddings, and is made into a conserve. It is regarded medicinally as a stimulant, carminative, antiphlogistic, antivinous, and deodorizing remedy. This "golden orange," in dwarf variety, is grown in pots, and when the plant is covered with green oranges, or after they have begun to turn yellow, is used as a present to friends or guests.

Another form of drug, described by Porter Smith as *Citrus aurantium*, var. *scabra*, is found at Hankow, and is called 化橘紅 (Hua-chü-hung). It is probably a different form of Chü-hung (228), which the Customs lists give as coming from Chekiang and Fukien. Braun, in the Hankow list (1909 revision), gives its origin as Szechuan. In regard to the former, Porter Smith says: "The dried peel of this immature orange, a variety of the sweet orange, is brought from Huachou in Kaochoufu (Kuangtung) and sold at a very high price in Central China. It is externally of a dark brown, or blackish color, and covered with a yellowish bloom, which is seen, by means of a glass, to consist of short hairs. The inner surface is of a dirty white color. As usually sold in the shops it is put up in the form of a six-rayed star, made by dividing into six parts the fruit or rind, from nearly the apex to the bottom, and doubling the segments of the peel upon themselves into a flat star. The whole fruits have their rind thus treated, the pulp being taken away, and the two star-like

pieces bound together in the centre with red silk thread. These sell for about a tael a pair." (Braun says that they sell for five cents a pair in Canton.) "The pieces vary from two inches and a half to three inches and three-quarters in diameter; the smallest pieces fetching the highest price. It is made into a tincture, and is much esteemed in the central and northern provinces as a sedative, carminative, stomachic, and expectorant remedy." The appendix to the *Pèntsao* describes this Hua-chou-chü-hung (化州橘紅) in very much the same way as does Porter Smith. It makes it out to be a hairy orange, taken in the immature state and split into a stellate form of seven rays, and after being dried is tied in pairs with red cord. The same orange is sometimes candied whole, or compressed into a cake and then candied.

Citrus fusca, or *Citrus trifoliata*, 枳 (Chih). This seems to be the best identification attainable. Loureiro, Franchet, and the Japanese all so regard it. Siebold and Hemsley call it *Ægle sepiaria*. Other names which the Japanese apply to the same plant are 枸橘 (Kou-chü) and 臭橘 (Ch'ou-chü), but the *Pèntsao* discusses these two latter under a heading separate from the Chih. Bretschneider says that one of the plants thus confounded may be *Triphasia trifoliata*, a thorny bush indigenous to China as well as to Japan and cultivated at Kew. There is no doubt that the products appearing in Chinese medicine are from a Citrus. The most common form is called 枳殼 (Chih-k'o), and consists of the fruits cut in half and dried. It is in circular discs of one or two inches in diameter, nearly flat on the cut side and rounded on the other. The peel is firm and very thick, forming about half the thickness of the specimen. Externally it is rough, of a reddish or blackish-brown color, and internally it is buff. The taste is bitter and agreeably aromatic. Whether the form known as 枳實 (Chih-shih) is the same fruit gathered in a more immature state and dried, or whether it is the product of a different plant, is not clear. The *Pèntsao* says that both are gathered in the ninth and tenth moons, and while the language is not clear, the place of collection would seem to be somewhat different. The principal sources of supply for both drugs is Szechuan and Kuangtung. The properties ascribed

to both are stomachic, cooling, deobstruant, and carminative. They are both prescribed for a very large number of exceedingly dissimilar maladies, and seem to be in very great favor with the Chinese in all sorts of prescriptions. The rind of the fruit, the bark of the root, and the young leaves are all used; the latter being recommended in place of tea in colds. A wine decoction of the root bark is recommended in toothache.

Of the 枸橘 (Kou-chü), which indeed may be *Ægle sepiaria*, the leaves, thorns, seeds, and bark of the tree are all used in indigestion, fluxes, and dysentery. The flowers and fruit of this, while resembling those of the orange, are not fragrant. Porter Smith calls this *Citrus bigaradia*.

The 香櫞 (Hsiang-yüan), which is very common in some parts of China, is a variety of citron, not so large as some others. Its pulp is very sour and somewhat bitter, resembling in taste the *lime*, although the fruit is larger than that of *Citrus acida*. It may be regarded simply as a variety of *Citrus medica*. The *lemon* has been called by the same name by foreigners in China, as well as by the names 檸檬 (Ning-mêng) and 黎檬 (Li-mêng). But it is pretty certain that the lemon does not grow in China proper, or at least has been but lately introduced, and therefore it is not named. The *Kuang-chün-fang-pu* refers to a small species of *Citrus* under the last name given above, as having very acid fruit, but no medicinal properties are referred to it. Mr. Eitel gives 擔步羅 (Tan-pu-lo) or 苦婆羅 (Chan-p'o-lo) as the Chino-Buddhist name of the *Citrus acida*.

CLAUSENA WAMPI.—黃皮子 (Huang-p'i-tzū), 519. This is a Rutaceous plant, yielding the delicious yellow-skinned fruit called 黃皮果 (Huang-p'i-kuo) by the Chinese, and by foreigners *wampee*. It is common in southern China and the Indian archipelago. The *Pentsao* gives its origin as Huang-chou in Kuangsi, but says that it is also found in Kuangtung. The fruit is sour, with a yellow, furry skin, and whitish pulp surrounding several greenish-black seeds. If one has eaten too many *lichis*, the *wampee* will counteract the bad effects. *Lichis* should be eaten when one is hungry, and *wampees* only on a full stomach. Their medical properties are stomachic, cooling,

and anthelmintic. The root of the plant also appears in commerce (520), but the *Pêntsao* does not mention it.

CLEMATIS GRAVEOLENS.—黃藥子 (Huang-yao-tzŭ), 524. Other names are 木藥子 (Mu-yao-tzŭ), 大苦 (Ta-k'u), 赤藥 (Ch'ih-yao), and 紅藥子 (Hung-yao-tzŭ). The *Pêntsao* says that the plant bears some resemblance to both *Glycyrrhiza glabra* and *Mentha piperita*, but that it is neither. It grows to the height of two or three feet, with a jointed stalk, large leaves, white or pinkish flowers, and has a long root, yellow in color. The root is the part used in medicine. Its taste is exceedingly bitter and somewhat cooling. Its action is regarded as antiseptic and cooling. It is prescribed as a gargle in ulcerated throat, as an application in dog and serpent bites, and to be taken in cases of hemorrhage from the stomach or throat. *Clematis florida* (鐵線蓮, Tieh-hsien-lien) is not mentioned in any of the Chinese medical works consulted, and neither is *Clematis patens* (轉子蓮 Chuan-tzŭ-lien). Loureiro calls 木通 (Mu-t'ung) *Clematis sinensis*, but the drug selling under this name has been identified as *Akebia quinata* (see p. 22). The plant producing the drug, however, still needs identification.

CLEMATIS MINOR.—威靈仙 (Wei-ling-hsien), 1443. This plant grows in the northern provinces, especially in Shensi. It bears jade-like white flowers in a panicle, and has a long blackish root, which turns quite black when dry. Roots of a lighter color are not regarded as genuine. The taste is a sweetish-bitter. Its action is considered to be antimalarial, diuretic, and antirheumatic, and is prescribed in all sorts of muscular rheumatism, constipation, and difficulties due to catching cold.

CLEMATIS PANICULATA.—仙人草 (Hsien-jên-ts'ao). A decoction of this plant is used to wash scrofulous sores in children. It is reputed to be an antidote in vermilion poisoning, and the expressed juice is used in the treatment of corneal opacities.

CNICUS JAPONICUS.—小薊 (Hsiao-chi), 433. This is the identification of Maximowicz and the Japanese. Siebold

calls it *Carduus acaulis*. Henry claimed that in Hupeh *Cnicus japonicus* is 大薊 (Ta-chi). There is very little difference between the two. Another name for this is 貓薊 (Mao-chi, "cat thistle"). The root, which has a sweetish pleasant taste, is the part used in medicine. Very remarkable virtues are ascribed to it, such as building up the animal spirits and restoring the blood. It is therefore prescribed in hemorrhages, wounds, and bites of poisonous reptiles and insects. It is also said to have tonic and febrifuge properties. The shoots of the plant are also used medicinally, but will be referred to under *Cnicus spicatus*.

CNICUS NIPPONICUS.—苦蕒 (K'u-yao). This was also called by Maximowicz *Cnicus sinensis*. Other names for it are 枸蕒 (Kou-yao) and 苦板 (K'u-pan). This is the ordinary thistle found throughout the central provinces. The shoot is the only part used, and edible. It has a bitter, saltish taste, and is thought to promote respiration and to cool the blood. A decoction is highly recommended for washing bleeding piles, and the ash is used as an application to wounds.

CNICUS SPICATUS.—大薊 (Ta-chi), 1216. Other names are 虎薊 (Hu-chi, "tiger-thistle"), 馬薊 (Ma-chi, "horse-thistle"), 刺薊 (Tz'ü-chi, "thorny thistle"), 山牛蒡 (Shan-niu-p'ang), 雞項草 (Chi-hsiang-ts'ao, "chicken neck grass", from the character of its stalk), 野紅花 (Yeh-hung-hua, "wild *Carthamus*), and 千針草 (Ch'ien-chên-ts'ao); the last being the name by which it is called in the north. The root, which is the part used in medicine, is tuberous, and in the south is called 土人參 (T'u-jên-shên, "native ginseng"). The plant grows from four to five feet high, and has wrinkled leaves. In the Peking mountains the people apply the name Ta-chi to *Cnicus pendulus*, which grows from five to six feet high, is very spiny, and has enormous purple flower heads. The use of the drug is thought to promote plumpness of the body. It is prescribed in menstrual difficulties, irritable uterus, and in hemorrhages. The leaves are also used for similar purposes, and as a diuretic. Bruised, they are applied in scaly skin diseases. In many cases, little distinction is

made between this plant and the *Cnicus japonicus*, as the Chinese regard the latter as simply a small variety of the other. Generally speaking, the *Hsiao-chi* is used internally, and the *Ta-chi* is the more frequently recommended for external application.

CNIDIUM MONNIERI.—蛇牀 (Shê-ch'uang), 1114. This is the *Selinum monnieri* of Linnæus. The classical name is 盱 (Hsü). Other names are 虺牀 (Hui-ch'uang), 馬牀 (Ma-ch'uang), 蛇米 (Shê-mi), 思益 (Ssü-i), 繩毒 (Shêng-tu), 棗棘 (Tsao-chi), and 牆藤 (Ch'iang-mi). It is a fragrant umbelliferous plant, the seeds of which are used in medicine. It is found in nearly every part of China, but the product coming from the region of Yangchow is considered to be the best. The drug has very little odor, but a warm taste. It is said to act on the kidneys, and to be aphrodisiac, antirheumatic, sedative, astringent, vulnerary, and discutient. Washes and ointments are made from the crushed or powdered seeds for bathing prolapsus recti, piles, anal fistula, and leprous or scabious sores. Li Shih-chen makes the very appropriate remark, that although we are familiarly acquainted with our own indigenous plants, we are apt to neglect them in search of far-fetched drugs of no better quality.

COCCULUS.—防己 (Fang-chi), 291. This identification is somewhat doubtful, but is from Hoffmann and Schultes, who follow Siebold. They give 漢防己 (Han-fang-chi) as *Cocculus japonicus*, and 木防己 (Mu-fang-chi) as *Cocculus Thunbergii*. Faber gives *Fang-chi* as *Menispermum dauricum*, and a Japanese identification is *Stephania hernandifolia*. The Chinese books describe only the root, so it cannot be decided from these what plant is meant. Henry says that *Cocculus Thunbergii* is known by other Chinese names in Hupeh, but he does not say what these are. Other names given by the *Pentsao* are 解離 (Chieh-li) and 石解 (Shih-chieh). The drug is a brown, bulky, amylaceous, tuberous root, split longitudinally into two or four pieces, and showing on its cross section something of the same radiated disposition of the vascular tissue as is met with in *Adenophora* and other

of the *Campanulacea*. The smell is agreeable, and the taste bitterish and mucilaginous. It is used in fevers, dropsies, rheumatism, and pulmonary diseases, and is also said to be diuretic. The diseases for which it is to be prescribed are all of a grave character, and include cholera and pulmonary hemorrhage. When the innocuous character of the drug is considered, one wonders how it secured such a reputation, even in China. The fruit is used in prolapsus recti.

COCOS NUCIFERA.—椰子 (Yeh-tzŭ). Also called 越王頭 (Yüeh-wang-t'ou, "hornbill head") and 胥餘 (Hsü-yü). In regard to the first of these two names, the *Pentsao* says that the king of I was angry with the king of Yueh, invited him to be his guest, made him drunk, and took off his head and hung it in a tree, when it turned to a cocoa-nut. So it seems that the slang phrase "my cocoa-nut," referring to the head, has its origin in ancient Chinese legend. This tree is met with in the island of Hainan and on the adjacent mainland of the Kuangtung province, as far north as latitude 21°. The albumen of the drupe is eaten by the Chinese, and is considered by them to be very beneficial, promoting a healthy plumpness of figure and face. The juice or milk, called 椰子漿 (Yeh-tzŭ-chiang), is considered by some to be cooling and by others heating. This discrepancy is probably due to the fact that one is speaking of the fresh juice, and the other of that which has been fermented. The intoxicating properties of the latter are recognised, and it is said to increase thirst instead of relieving it, as the unfermented juice does. This juice is said to be nutrient and serviceable in hematemesis and dropsy. It has lately been recommended in India as a remedy in phthisis, debility, and cachexia. The bark of the root of the tree is recommended as an astringent and styptic remedy in hemorrhages and fluxes. The shell of the nut, which is sometimes carved and polished to make drinking vessels and ornaments, is incinerated and mixed with wine, to be used in the treatment of secondary and tertiary syphilitic manifestations. The collection of the sweet juice of the flowering branch of this and of the *Palmyra palm*, is alluded to as having been known in China since the Han dynasty.

The Palmyra palm, *Borassus flabelliformis*, is called the 棋樹 (Pei-shu), and it yields arrack and a kind of white sugar called *jaggery* in India. The tree is said to grow in the southern provinces. Dr. Waring speaks of a toddy poultice, made by adding the freshly drawn juice of the cocoa or Palmyra palm to rice flour till it has the consistence of a soft poultice, and subjecting this to heat over a gentle fire until fermentation commences. This poultice, applied after the manner of the old fashioned yeast poultice to gangrenous sores, carbuncles, and indolent ulcers, is said to be very useful. The fibers of the rind of the cocoa-nut, and the brown cotton-like substance from the outside of the base of the fronds of the Palmyra palm, may be used to staunch wounds.

COIX LACHRYMA. — 薏苡仁 (I-i-jên), 547. Other names, 解蠶 (Chieh-li), 芑實 (Chi-shih), 薏米 (Kan-mi), 回回米 (Hui-hui-mi), and 薏珠子 (I-chu-tzǔ). This gramineous plant grows in marshes, as well as on the plains and fields, to the height of several feet. It is said that the famous general Ma Yuen (A.D. 49) introduced the plant into China from Cochin China. It does not flourish so well here as it does in the Philippines, where the Chinese settlers make a kind of meal of the seeds, which is very nourishing for the sick. The seeds are hard and beadlike, and are somewhat like pearl barley, for which they are sometimes mistaken in the Customs lists, and for which they make an excellent substitute. However, they are larger and coarser than pearl barley. The unhulled corns are often strung by children as beads, and priests are sometimes seen using the largest ones in their rosaries. The seeds are considered by the Chinese to be nutritious, demulcent, cooling, pectoral, and anthelmintic. Given either in the form of soup or congee, it is highly recommended by native doctors. It is considered to be especially useful in urinary affections, probably of the bladder. A wine is made by fermenting the grain, and is given in rheumatism. The root of the plant is said to be an excellent anthelmintic. The leaves also, gathered in the summer month and made into a decoction, are said to benefit the breath and blood. A new born infant, washed in this decoction, will be preserved from disease.

COLOCASIA.—芋 (Yü), 土 芝 (T'u-chih). This is the same as the *taro* of the South Sea Islands, which is cultivated for its edible roots, known as 芋 頭 (Yü-t'ou). But the name *tara* or *kopch* is also applied in New Zealand to the root of *Pteris esculenta*, an edible fern. Several species of *Colocasia* are cultivated in China. It has been known since before the Han period. The seeds are used in medicine, as are also the leaves and stalk. The former are considered to be somewhat poisonous, and are recommended in indigestion, flatulence, and in disorders of parturient women. A decoction is prescribed as a wash in pediculosis. The leaves and stalk are recommended in similar cases and as an application in insect bites and other poisons.

COMMELYNA POLYGAMA.—鴨 跖 草 (Ya-chih-ts'ao), 竹 葉 菜 (Chu-yeh-ts'ai). This is an identification of Tatarinov adopted by Porter Smith, who says in regard to it: "This 'duck's-foot-grass,' with its flat narrow leaves and herbaceous calyx, is considered to be related to the bamboo. The flower of this Spider-wort is compared by the Chinese to a moth. The plant is much cultivated as a pot herb, which is eaten in the spring, and the juice of the flower is used as a bluish pigment in painting upon transparencies. Demulcent, diuretic, and lenitive qualities evidently reside in the herbage of this plant, which is taken internally in cyanache, fevers, dysentery, abdominal obstructions, and dysuria, and is applied topically to piles, abscesses, and bites. Dr. Hasskarl, of Java, has published a valuable monograph on the Commelynaceæ of India and the Indian Archipelago. In some countries the rhizomes of *Commelynas* become very starchy, and are eaten. *Commelyna rumphii* is used in India as an emmenagogue."

CONIOSELINUM UNIVITTATUM.—苧 薺 (Hsiung-ch'iung), 469. This is a Japanese identification. It is an umbelliferous plant, resembling *Angelica*. The common name by which it appears in commerce is 川 苧 (Ch'uan-hsiung), 247. Other names are 胡 薺 (Hu-ch'iung) and 香 果 (Hsiang-kuo). The leaves are called 藤 蕪 (Mi-wu), which is given a special article in the *Pentsao*. Faber calls this

Scelinum. Li Shih-chen says that the drug was called 馬銜芎藭 (Ma-hsien-lsiung-ch'üung), from the resemblance of the root with its joints to a horse's bit. It was also called 雀腦芎 (Chiao-nao-hsiung), when coming from Knanchung, on account of the compact masses resembling the brain of a bird. This latter is also called 京芎 (Ching-hsiung) and 西芎 (Hsi-hsiung). The Chekiang variety is called 台芎 (T'ai-hsiung), and that from Kiangnan is called 撫芎 (Fu-hsiung). The drug is cultivated in some parts of China, and the cultivated varieties are regarded more highly than the wild ones; these latter often being small in size, and having a bitter pungent taste. The parts used in medicine are the root and leaves. The former is recommended for a large variety of difficulties: such as colds, headache, anæmia, menorrhagia, retained placenta, sterility, pains and aches of all kinds including toothache, hemoptysis, phthisis, strumous difficulties, rheumatism, and fluxes. The leaves are said to be anthelmintic, and are also used in the treatment of diarrhoea and dysentery. The flowers of the plant are used in the preparation of facial cosmetics.

CONOCEPHALUS CONICA.—地錢草 (Ti-ch'ien-ts'ao). This is Faber's identification. But this name is given in the *Pèntsao* under the article on 積雪草 (Chi-hsiieh-ts'ao), which is *Nepeta glechoma*, under which title this will find reference.

CONOPHALLUS KONJAK.—蒟蒻 (Chu-jo). This is an Aroid plant, so identified by the Japanese. Other names given in the *Pèntsao* are 蒟頭 (Jo-t'ou), 鬼芋 (Kuei-yü), and 鬼頭 (Kuei-t'ou). It is said to grow in moist and shady places, principally in the mountainous regions of Szechuan and Fukien. The root is the part used, and it is considered to be very poisonous, being said to produce hematemesis when ingested in sufficient dose. Its medical uses are not clearly stated. Being a virulent poison, it is recommended in such difficulties as cancer, rodent ulcer, lupus, and the like. The only medical property mentioned is that of relieving thirst, possibly due to a sialagogue effect.

CONVOLVULUS.—The common representative of the Convolvulaceæ in China is the 旋花 (Hsüan-hua), and this is *Calystegia sepium* (which see). Another is 牽牛子 (Ch'ien-niu-tzū), which is *Ipomœa*, and will be referred to under that title. At Peking *Convolvulus arvensis* is found under the name of 打碗花 (Ta-wan-hua) and 燕蓄 (Yen-fu). Another, identified by Faber as *Convolvulus japonicus* is 纏枝牡丹 (Ch'en-chih-mou-tan). None of these latter, however, is specially mentioned in the *Pentsao*, and they are not considered as differing materially from the principal members of this family.

COPTIS TEETA.—黃連 (Huang-lien), 516. The different names given for this drug in the Customs lists refer to different qualities and places of origin. The *Pentsao* gives as additional names 王連 (Wang-lien) and 支連 (Chih-lien). The plant grows extensively throughout China, but the best comes from Szechuan, where it is cultivated. It is a Ranunculaceous plant, and the root has sometimes the appearance of a bird's claw. Two kinds of roots are described in the Chinese books: one being hairy (fine radicle fibers) and the other coarse and knotted, forming a series of united tubers. Large quantities of this drug are shipped from China to India. Siebold identifies it as *Coptis anæmonæfolia*, and the Japanese describe a three-leaved and a five-leaved variety. Porter Smith wrongly identifies *Huang-lien* as *Justicia*. The drug, as it appears in the market, is in short branching pieces, one or two inches long, of a yellowish-brown color, and often bristled with radicles. The interior is hard, the cortical part being dark, and the central portion being pierced by a pith of deeper shade. The color of the main portion is a deep, rich yellow. The taste is intensely bitter, but aromatic. The more brittle the root is, the more highly its reputed virtues. It is regarded by Chinese doctors as a sort of a panacea for a great many ills. It is supposed to clear inflamed eyes, to benefit the chest, to combat fever, and to act as an alterative or alexipharmic drug. Its use in all forms of dysentery is specially recommended, and in diabetes to relieve thirst and reduce the quantity of urine. Various poisons, especially that

of the Croton bean, are said to be antagonized by it. Most midwives insist upon every infant swallowing a dose of this drug, mixed with borax, soon after birth. This is said to prevent apthæ and to eliminate or counteract all syphilitic poison. The drug closely resembles the *Creyal*, or *Kariat* of India in its action, which is the same in general character as that of *Chiretta*. The leaves and stalk are not used. The 疳 (Kan) and other infantile disorders are treated both topically and internally by this drug. A tincture may be made to be taken as a "bitter," by digesting three ounces of the sliced root and two ounces of coolie-orange peel for a week in a pint of brandy. This is of some use in indigestion in cases where bitters are sometimes prescribed.

CORCHORUS PYRIFORMIS.—棠棣 (T'ang-ti). Dr. Morrison gives this as the name of the Chino-Japanese species of *Corchorus* which with *Triumfetta*, another Tiliaceous plant, yields the hemp-fiber called *Po-lo-ma*. The *Shuowên* makes the above characters to be only a various writing of 唐棣 (T'ang-ti). Chinese writers describe this tree very differently; some making it out to be a sort of plum or cherry, while others think it to be an aspen or poplar. Li Shih-chen says that it is the same as the 常棣 (Ch'ang-ti), which is identical with the 郁李 (Yü-li), *Prunus japonica*. 棣棠 (Ti-t'ang) is *Kerria japonica*.

Corchorus capsularis is also identified by the Japanese as 黃麻 (Huang-ma). It is cultivated for its fibre (*jute*) in south China and other parts of tropical Asia. It is not known to be used in medicine. It may be that in the *Pêntsao* and other Chinese medical works it is regarded as identical with 大麻.

CORDYCEPS SINENSIS.—夏草冬蟲 (Hsia-ts'ao-tung-ch'ung), 287. This fungus, described by the Chinese as a plant in summer and an insect in winter, grows upon the pupa of a kind of caterpillar as a parasite. It is said to be common in southern Thibet, but the *Pêntsao* says that it comes from Szechuan, and this is the source of origin given in the Customs lists. It is not so rare nor so much thought of as

in the days of Duhalde, who praises it immoderately. It belongs to the class of drugs called 冷淡貨 (Leng-tan-huo), or things uncommon, but not in great demand. It is sold in bundles weighing two mace (116 grains Troy) each, or thereabouts. The bundles are three-quarters of an inch in diameter and from three to three-and-a-half inches in length. Each of the many pieces forming the bundles consists of two distinct portions: one, which is the larger and belonging to the insect, being more than an inch long and of a yellowish-brown color, and showing the rings, joints, and more or less of the characteristic structure of the grub; and the upper fungus portion, consisting of a spurred filament of a greyish-brown color, flexible, more or less twisted, and internally of a lighter shade. It is said by Duhalde to be found in the province of Hukuang, answering to Hupeh and Hunan of the present time, and it is entirely probable that it can be found in other parts of China. The *Pentsao* compares its action to that of *ginseng*, and it is said to be worth four times its weight of silver. It is considered to be restorative and tonic, and is used in jaundice, phthisis, and in cases of injury of any serious nature. Taken with duck, its virtues are very much increased. If a drake is taken, prepared for cooking, the head split open and the cavities filled with this drug, while cooking the aura of the medicine will spread to the whole bird permeating every part, and thus increasing the potency of the medicament. It is said that one duck thus prepared will be quite the equivalent of an ounce of the best *ginseng*.

CORIANDRUM SATIVUM.—胡 荽 (Hu-sui), 香 荽 (Hsiang-sui) 原 荽 (Yüan-sui), and 芫 荽 (Yüan-sui), 1565. The root and leaves are used in medicine, as well as the fruits. The former, although sometimes used with green vegetables, is considered to be slightly deleterious. Carminative, corrective, and quieting properties are ascribed to the plant, and it is recommended in ptomaine poisoning as well as in the treatment of the 蠱 (Ku) poison. The fruits, deprived of their husks, can be eaten, and have carminative and corrective properties. They are specially recommended to be used freely in fluxes.

CORNUS MACHROPHYLLA. — 松 楊 (Sung-yang). Henry so identifies this. But in Japan *Sung-yang* is *Celtis muku* or *Ehretia serrata*. Another name given by the *Pentsao* is 椋子木 (Liang-tzŭ-mu). According to the *Erhya*, 椋 (Liang) is the same as 棗 (Lai). This is a tree of some proportions, growing in Kiangsi, bearing a small edible fruit called 冬青果 (Tung-ch'ing-kuo), and having a reddish colored sap. The wood is thought to be efficacious as a constructive remedy, probably on account of the color of the sap. It is said to destroy bad blood and to build up good blood, quieting the uterus, relieving pain, and nourishing the body. The bark is prescribed in all forms of dysentery, probably being astringent in character.

CORNUS OFFICINALIS. — 山 茱 萸 (Shan-chu-yü), 1094. Other names, 蜀酸棗 (Shu-suan-tsao) and 肉棗 (Jou-tsao). This is a large thorny shrub or tree, growing in the mountainous districts of China. It bears white flowers, resembling those of the apricot. The drupe is red, enclosing a stone which is retained in the prepared drug. It has a sub-acid taste, and contains considerable of oil. It is the only part recommended in Chinese medicine, although the bark of all of these *dogwoods* has excellent tonic and astringent properties, as well as some anti-malarial virtues. Various medical qualities are ascribed to this drug, among which are diuretic, astringent, tonic, anthelmintic, and antilithic. It is recommended for menorrhagia, impotence, and the urinary difficulties of the aged.

CORYDALIS AMBIGUA. — 延 胡 索 (Yen-hu-so), 1529, 玄 胡 索 (Hsüan-hu-so). The tubers of this Fumariaceous plant are met with as small, firm, brownish-yellow, flattened pellets, with a depression on one of the surfaces, giving them some sort of resemblance to the tubers of *Pinellia tuberifera*. They are from four to six lines in diameter, and are marked externally with wrinkles or reticulations. When broken, they present a horny, semi-translucent, yellow or greenish appearance. The flavor is bitterish and bean-like. The *Pentsao* says that it comes from the country of the Northeastern Barbarians,

and this is confirmed by Hanbury, who says that it is indigenous to Siberia, Kamtchatka, and the Amur region. The *Corydalis goviana* of India, and doubtless this species also, contains, according to Sir W. B. O'Shaughnessy, the crystalline principle *corydalia*, discovered in *Corydalis tuberosa* by Wackenröder. This active principle is suggested in the Pharmacopœia of India as an antiperiodic. Whether it has proven of any value or not, or whether such use was only suggested by the intense bitterness of this product, it has not been possible to learn. To the drug itself, as appearing in China, is ascribed tonic, diuretic, emmenagogue, deobstruant, astringent, alterative, and sedative properties. It is much used in prescriptions for post-partum difficulties, hematuria, and other bloody fluxes.

CORYDALIS INCISA.—紫堇 (Tzŭ-chin), 赤芹 (Ch'ih-ch'in), 蜀芹 (Shu-ch'in), 苔菜 (T'ai-ts'ai). This marsh plant grows in Central China, where the shoots are used in the spring as food, although they are considered to be slightly deleterious. The flowers, dried and pulverized, are used in prolapse of the rectum.

CORYLUS.—榛 (Chên). Two species abound in the mountains of Northern China; the *Corylus heterophylla* and the *Corylus mandshurica*. The nuts of both are edible and are to be found in the markets. The first named has a spreading involucre, resulting in a flattened nut, while that of the latter is contracted and prolonged beyond the apex of the nut, producing a pointed shape. The *hazel* has been known from very early time in China, and is mentioned in the classics. The eating of the nuts is considered to be in every way beneficial, benefitting the breath, relieving hunger, and giving strength for locomotion. They are not prescribed for any particular diseases, but are thought to improve the appetite and aid in digestion. They appear in commerce as 榛仁 (Chên-jên) and 榛子 (Chên-tzŭ), 38.

CRATÆGUS.—檣 (Cha). This character serves as a generic name for *hawthorne*, which in China, as elsewhere, is represented by several species. The 山檣 (Shan-cha) is

Cratægus pinnatifida, and *Cratægus cuneata* is 山裡果 (Shan-li-kuo). The fruit of these commonest kinds is scarlet, or dark-red, and almost as large as the fruit of *Pyrus spectabilis*. The fruit, when ripe, is sour and of a pleasant flavor, and upon the addition of sugar is most readily converted into a most delicious jelly or jam. The jam is a common article of sale in the shops under the name of 山楂糕 (Shan-cha-kaō), 1084, or 山楂餅 (Shan-cha-ping). The flesh of the fruit, after the skin and core have been removed, is also sold under the name of 山楂肉 (Shan-cha-jou), 1082. The fruit, sliced and dried, is called 山楂乾 (Shan-cha-kan), 1085. The whole fruit is preserved in sugar and candied, and then strung upon straws or slips of bamboo, and peddled upon the streets by sweetmeat sellers, under the name of 糖葫蘆 (T'ang-liu-lu), 糖毬 (T'ang-ch'iu), and 山楂毬 (Shan-cha-ch'iu).

Another species, which is named 赤瓜子 (Ch'ih-chaotzũ), is probably *Cratægus macracantha*. It grows in Shan-tung to the height of five or six feet, and has a five pointed leaf and thorny axils. Early in the spring it bears a small white flower, which is followed by the pome; this attaining to the size of a small date. Another kind is known as 茅楂 (Mao-cha), "reed haw", or 猴楂 (Hou-cha), "monkey haw". This tree grows to the height of several feet, and there are two varieties; one bearing a red fruit and the other a yellow. The 鼠楂 (Shu-cha), "rat haw", and the "monkey haw" are so named because the wild animals on the hills like to eat them. The rat haw is also known, especially in the north, as 山裏紅 (Shan-li-hung), "red-on-the-hill". Another kind, having a very large, pear-shaped fruit, is known as 棠棣子 (T'ang-ch'iu-tzũ), and is probably *Cratægus flava*. The use of the character 棠 may have been suggested by the resemblance of this fruit in appearance to *Pyrus* fruits, as this character is almost a generic term for *Pyrus*. This latter species is not used in medicine, but is employed in making the confection. From another kind, called 羊棣子 (Yang-ch'iu-tzũ), which is possibly *Cratægus parvifolia*, is obtained a greenish or yellowish fruit, which is not fit to eat until after it has been exposed to frost. It is not used in medicine. The character 棣 in this name is also written 攸 in the *Pêntsao*, but this

latter character is more properly applied to the *Myrica rubra*, or a *Prunus*.

Antiscorbutic, laxative, stomachic, deobstruant, and alterative properties are ascribed to these fruits. The juice is used in lumbago, diarrhœa, to stop the itching of ulcers, and to bring out the rash in the exanthemata of children. It is considered to be peptic and stimulant, and is employed in scrotal hernia and prolonged lochial discharge. The confection is eaten to assist digestion and to promote the circulation of the blood. As the fruit is constantly used as food, its physiological effect upon the system cannot be very powerful. The seeds are recommended for hernia, difficult labor, and swelling of the genitals. The wood of the 赤爪 (Ch'ih-chao) is used in decoction for pruritus. The root of the different species of haw is recommended for nausea and vomiting. A decoction of the twigs and leaves is employed in varnish poisoning.

CRINUM SINENSIS.—文珠蘭 (Wên-chu-lan). This beautiful amarillidaceous plant is confounded by the Chinese with orchids, and is not specially mentioned in the *Péntsao*. It is cultivated in China, India, and Japan, and is met with in Cochinchina, the Moluccas, and in Ceylon. Four or five species are said by Burnett to be found in China. In India the bulbous root, which has a terminal, stoloniferous, fusiform portion issuing from the crown of the bulb, as described by Dr. Waring, has an unpleasant narcotic odor. It is there used in fresh slices as an emetic and diaphoretic, or the root is carefully dried and reduced to powder as a substitute for squills or ipecacuanha. It is said to contain a principle analogous to *scillitin*, the active chemical ingredient of *Scilla maritima*, which so far as at present known is not met with in the Far East. Dr. Waring bears testimony to the efficiency of this drug. The classification is given on the authority of Dr. Morrison.

CROCUS SATIVUS.—番紅花 (Fan-hung-hua). According to the *Péntsao*, this was brought from Arabia by Chang Chien, at the same time that he brought the safflower

and other Western drugs and plants. Another name given is 撒法昂 (Sa-fa-ang), which is evidently a transliteration of the Arabic name *Zafarān*. The last character is sometimes written 昂 and 卽, but this does not have the proper sound, and is probably wrongly written. Still another name is 泊夫藍 (Po-fu-lan), which is also probably a transliteration of some foreign term. *Saffron* is said to be stimulant, carminative, and antispasmodic. It is thought to have a beneficial action upon the blood, and to be quieting in cases of fright. At the time of the Yuan (Mongol) dynasty these flowers were used in cooking. 藏紅花 (Tsang-hung-hua), "Thibetan safflower", is given by some foreign writers as another name for saffron, but this has not been found mentioned by any Chinese writer. However, it may be found in Tibet, although this has not yet been confirmed.

CROTON TIGLIUM.—巴豆 (Pa-tou), 933. The first character of this name refers to a country which was included within the boundaries of the present eastern Szechuan. The second character was used because of the resemblance to the soy-bean. This is one of the five principal poisons mentioned by Shen Nung, so the plant is probably indigenous to China. The Arabic name is *batoo*, which was probably derived from the Chinese name. One of the Persian names means "*Ricinus* from China," so that it is quite possible that the original habitat of this plant was here. The *Patou* is properly a fruit. It is oblong, obscurely triangular, about three-quarters of an inch in length, three-celled, and of a yellowish-brown color. Each cell contains an oval, flattened, or imperfectly quadrangular seed, resembling a coffee bean. The dark brown testa encloses the yellowish albumen, within which is the large dicotyledonous embryo, often much shrunken. The taste is very acrid. The fresh fruits, the oil, the testa, and the root of the tree are all used in medicine. The drug is recommended for a very large number of difficulties, but, generally speaking, the Chinese doctors are afraid to employ it on account of the exaggerated notions of its poisonous properties, which were handed down from very ancient times. It is recommended as a revulsive in colds and fevers, for obstinate diarrhoea and

dysentery, in delayed menstruation, and similar troubles. It is also administered in ranula, apoplexy, paralysis, toothache, and affections of the throat. Externally it is applied in combination with rape-seed oil in various skin affections. The seeds in coarse powder are also recommended in various kinds of drug poisoning. The oil is used in much the same classes of cases, as well as being used for very much the same purposes, as it is employed in the west. The testa is only recommended for fluxes. The bruised root is applied in carbuncle and cancerous sores.

CRYPTOTÆNIA CANADENSIS.—當歸 (Tang-kuei), 1250. Faber identifies this umbelliferous plant as the ordinary *honeywort* of North America. Hanbury identifies it erroneously with *Aralia edulis*, and Tatarinov as *Levisticum*. The Japanese make it to be *Ligusticum* or *Angelica*. The root of this plant represents the drug, which is held in very high repute among the Chinese. It ranks next to licorice in frequency of use in prescriptions. It comes principally from the three western provinces, but is also prepared in Shansi, Shantung, and Chihli. It is met with in the form of brown, fleshy root-stocks, branching and dividing into a mass of large, close, pliant rootlets, something like gentian root. The interior is soft, sometimes mealy, and of a whitish or yellow color, or sometimes much darker. The odor is very strong, resembling that of celery, and the taste is sweetish, warm, and aromatic. Names by which it is also called are 山蕪 (Shan-ch'in) and 白蕪 (Pai-ch'in), which mean "mountain" or "white celery," and it is compared to *Apium graveolens*, and, indeed, is said by Siebold to be eaten like celery in Japan, though we do not find that it is so used in China. The drug is much used by medical men in China in the treatment of the menstrual, chlorotic, and puerperal diseases of women. It is used in hemorrhages of all kinds, colds, fluxes, dyspeptic complaints, ague, and a large number of other difficulties. Its name is said to be derived from its asserted power to make the female "revert" to her husband, and much of its employment is probably to be referred to the wish of Chinese women to stimulate their generative organs, in order to increase their opportunities of

bearing children, at present their only function in Chinese society. According to Henry, *Angelica polymorpha* is the source of the drug *Tang-kuei* exported from Ichang and Hankow.

CRYPTOMERIA.—杉 (Shan). This name is nowadays applied to this and perhaps to other coniferous trees. Henry claims that in Hupeh some of the many “*Shan*” trees are undoubtedly *Cryptomeria japonica*, and in Japan this character is used for *Cryptomeria*. But the *Shan* tree of the ancient Chinese authors, and the one which is particularly discussed in medical works, is *Cunninghamia sinensis*, and will be referred to under that title.

CUCUMIS MELO.—甘瓜 (Kan-kua), 甜瓜 (T'ien-kua), 越瓜 (Yüeh-kua), 稍瓜 (Shao-kua), and 香瓜 (Hsiang-kua). 瓜 (Kua) is a general term for the fruits of cucurbitaceous plants. The Chinese divide these into two classes; one called 果瓜 (Kuo-kua), including musk melons and water melons, and the other called 菜瓜 (Ts'ai-kua), comprising cucumbers, squashes, pumpkins, gourds, and the like. This plant is probably indigenous to China, and the first name above given is the old name, which has been superseded by the second, which at present is more colloquial. The third name indicates the probable original habitat of the plant, the present province of Chekiang. Several varieties are found in different parts of the empire; some being almost mealy when ripe, while others are firm and more like a cucumber in texture. None are so juicy as the western kinds, but all have more or less of an aromatic flavor and fragrance. Some are quite small and egg-shaped, while others are longer and more cucumber-like. The skin varies from a bright yellow, through greenish yellows, to a pure green, being sometimes striped in darker shades. In accordance with the Chinese classification, and on account of the variation of these melons in texture, the *Péntsao* discusses these under two separate headings: the 越瓜 (Yüeh-kua), under the classification of vegetables, and the 甜瓜 (T'ien-kua), under that of fruits. The eating of these melons is regarded by the Chinese as somewhat deleterious. As they usually eat

them before they are ripe, and as the melons are opened amidst the dust and filth of a summer street, it is quite probable that they do not entirely deserve the reputation they have secured. Notwithstanding their slight fear of these melons, large quantities are ingested every season by all sorts and conditions of people. The *Yüeh-kua* is not much used medicinally, but is considered to be cooling, diuretic, antivenous, and peptic. The incinerated ash is used in sore mouth.

The pulp of the *T'ien-kua* is regarded with more favor than that of the *Yüeh-kua*. But if eaten to excess, it is thought to cause pimples, to bring on ague, and to produce general weakness of the body. Its action is said to be cooling, diuretic, and resolvent. If eaten during the month of great heat, sunstroke will be prevented, as it is regarded as decidedly cooling. The kernels of the seeds, 瓜子仁 (*Kua-tzŭ-jên*), are highly regarded as a stomachic, peptic, and constructive remedy. They are prescribed in cancer of the stomach and purulent difficulties of the digestive tract generally. They are also used in menorrhagia, after the oil has been extracted. The peduncles, 甜瓜蒂 (*T'ien-kua-ti*), 1293, also called 苦丁香 (*K'u-ting-hsiang*), are vaunted as a remedy out of all proportion to their importance. General anasarca, the worst forms of intestinal parasites, and acute indigestion from the ingestion of too much fruit, will all yield to this remedy. It is also used in the treatment of nasal polypus, jaundice, acute coryza, and colds of every kind, and mixed with musk and *Asarum sieboldi* will restore a lost sense of smell. The vine (蔓, *Wan*) of the melon is prescribed, together with *Quisqualis indica* and *Glycyrrhiza glabra*, in suppressed menstruation. The flowers are used in refractory coughs. The expressed juice of the leaves is thought to promote the growth of whiskers in those who have none, and when made into a tincture with wine, will disperse the blood from bruised flesh.

CUCUMIS SATIVUS.—胡瓜 (*Hu-kua*), 黃瓜 (*Huang-kua*). Chang Chien, the noted legate of the Han dynasty, seems to have brought this plant from Central Asia to China, as he did many other useful plants. It is largely cultivated,

and the fruit is eaten in the raw state and as a pickle. Its use is considered to be slightly deleterious. Its reputed virtues are cooling and diuretic. A sort of cucumber salve is recommended for skin diseases, and for scalds and burns. The expressed juice of the leaves is used as an emetic in acute indigestion of children. The bruised root is applied in case of swelling from the wound of a hedgehog quill. There is the same danger of severe diarrhœa resulting from the ingestion of the Chinese varieties of this vegetable as in the case of those from the west.

CUCURBITA MAXIMA.—The Chinese do not distinguish clearly between the mammoth winter squash and the larger forms of gourd. The former undoubtedly is grown in China, but it is known by the names of 胡蘆 (Hu-lu), 壺蘆 (Hu-lu), and 匏 (P'ao). These all refer to the gourd (see *Langenaria vulgare*), and medical properties will be discussed under the latter title.

CUCURBITA MOSCHATA, *Cucurbita pepo*.—南瓜 (Nan-kua). Several varieties of this are found in China. *Cucurbita maxima* may also in some cases be included with this product. In any case its medical properties would be similar. A crook-necked variety is called 倭瓜 (Wo-kua, "Japanese gourd"). Another variety is the 飯瓜 (Fan-kua). Li Shih-chên says that the natural habitat of this genus is the south; hence the name. The Chinese compare the flesh of this, when cooked, to the sweet potato. It is especially esteemed when cooked with pork. When prepared with mutton, it is considered to be deleterious. Squashes are presented with great ceremony, on the evening of the mid-autumn festival, to married, childless women, being considered propitious for the speedy production of offspring. A similar custom prevails in India where, to insure prosperity, the tallow gourd is presented to the newly married pair at their wedding feast. The seeds are sometimes used salted along with melon seeds. The medicinal use of this plant and its fruit is not great. It is not recommended in any particular class of diseases, but its action is considered to be beneficial to the viscera and breath.

CUDRANIA TRILOBA.—柘 (Chê). This tree is of the order *Artocarpeæ*, and is sometimes mistaken for *Morus* or *Broussonetia*. It is said to grow commonly in the mountains, and to have a finely grained wood suitable for manufacturing utensils. Its leaves are used for feeding silkworms, producing a quality of silk that is especially esteemed for making lute-strings. It bears a fruit somewhat resembling the mulberry, of which the birds are very fond. The wood is used in preparing a yellow dye, which is employed in dyeing the imperial garments. The wood, the white inner bark of the tree, and that of the eastward-extending root are used in medicine. The taste is sweetish and cooling, and it is prescribed for menorrhagia, malarial fever, debility, and wasting. An infusion of the wood is used in weak and sore eyes. An epiphyte growing upon the tree, called 柘黃 (Chê-huang) and 柘耳 (Chê-êrh), is used in consumption. Of a thorny variety of the tree, called 奴柘 (Nu-chê), the thorns are used, in combination with other drugs, in decoction for the treatment of constipation and obstruction of the bowels.

CUNNINGHAMIA SINENSIS.—杉 (Shan), 沙木 (Shamu). This tree grows in the southern, central, and western provinces of China and in Japan. It is the common pine of China, and is found in many varieties, one of which is said to have been introduced from Japan. The color of the wood in the different kinds varies from red to white; the former being tough and resinous, while the latter is of a looser structure, and when dry becomes beautifully veined. Its short, stiff, pointed leaves, and its avoidance of the sea-coast, have been remarked by Mr. Sampson as distinguishing features of this tree. The timber is much valued for making coffins, flooring, furniture, and house-frames, as it is less liable to the attacks of insects than the *Pinus sinensis* (松, Sung), but is not so suitable for piles as the latter, as it rots easily if exposed to continual dampness. Charcoal for making gunpowder has been usually procured from this wood by the Chinese. A decoction of the wood is said to be a sure remedy for varnish poisoning at every stage. It is also used for bathing fetid feet, and is taken internally for

flatulence and choleraic symptoms. Also, in combination with other things, it is used in purulent expectoration and as a wash to chronic ulcers. The ash of the old bark is a common application to wounds, scalds, and burns. The leaves, decocted in wine together with *Conioselinum* and *Asarum*, are used in the treatment of worms and toothache. The seeds are employed, one to be ingested for each year of age, for the treatment of hernia. The epiphyte, called 杉菌 (Shan-chün), is considered to be antispasmodic and carminative.

CUPRESSUS.—柏 (Po). This is Faber's identification, and Henry says that at Ichang the *Po* is *Cupressus funebris*. Dr. Williams sets the 匾柏 (Pien-po) down as *Cupressus thyoides*. But undoubtedly in the north, as also in Japan, *Po* refers to *Thuja* (*Biota*) *orientalis*. Discussion of this plant will therefore be reserved for this latter title.

CURCUMA LONGA.—鬱金 (Yü-chin), 1545, 1546. The first character of this name refers to a fragrant plant which, in the classical period, was mixed with the sacrificial wine called 鬯 (Ch'ang), prepared from black millet. The whole name refers to the yellow tubers of the plant, described by Hanbury as being "oblong or ovate, tapering at either end, from three-fourths to one and a-fourth inch in length, covered externally with a thin, adherent, brownish-grey cuticle, usually (but not invariably) smooth. When broken, they exhibit a shining fracture, and are seen to consist of a hard, semi-transparent, horny, orange-yellow substance, easily separable into two portions, an inner and an outer. The tubers have an aromatic odor, and a slight taste resembling turmeric, and contain an abundance of starch." In Japan this plant is considered to be a variety (*macrophylla*) of *Curcuma longa*. According to the *Pentsao* it is indigenous to the country of 大秦 (Ta Ch'in), which comprised parts of what is now Kansu and Shensi provinces, or possibly was Syria. It is also found in Szechuen and Thibet. The root, which is one of the many forms of *turmeric* found in commerce, is used for dyeing women's clothes. It is employed medicinally in all sorts of hemorrhages, such as hematuria, hematemesis, hemoptysis, post-partum hemorrhage,

and wounds. It is also recommended in primary syphilis, mania, and "worm poison." Excessive sweating, arsenic poisoning, and the distress attending hemorrhages are said to be relieved by it. It is also used in veterinary practice.

Another variety (possibly species) of *Curcuma* is known by the name of 薑黃 (Chiang-huang), 75. Chinese authors are not clear about this product; some saying that there are three forms of the root—yellow, black, and white—while others claim that these are three distinct varieties. Ch'en Ts'ang-ch'i (8th Century) says that the root of the 薑黃 is bitter, cooling, and red in color; the *Chiang-huang* is acrid and warming, and the color yellow; while a third kind, called 迷藥 (Shu-yao),—see *Kæmpferia pundurata*—is bitter and black in color. Other varieties are said to be brought from Persia and other western countries. The dried root stocks, which are the *Chinese turmeric* of commerce, are met with in hard, irregular, tuberculated pieces of a light yellow color externally, and internally varying in color from orange to saffron-yellow. The smell is aromatic, and the taste agreeable, with a bitterish after-taste. In the south a sliced form of a larger tuber, known as 薑黃片 (Chiang-huang-p'ien), 76, is found. This may be the so-called *Cochin turmeric* of commerce. These products are, for the most part, exported to India, as the Chinese do not use them much as condiments. They employ them to some extent as a dye and prescribe them in colic, congestions, hemorrhages, and as an external application to some intractable diseases of the skin. They are especially recommended in cancerous discharges. Dr. Waring advises inhalations of the fumes of burning turmeric in coryza, and approves of a decoction of turmeric as a wash for eyes suffering from catarrhal and purulent ophthalmia.

The plant spoken of at the head of this article is evidently mentioned in the *Pentsao* under the title of 鬱金香 (Yü-chin-hsiang). Other names are 紫迷香 (Tzū-shu-hsiang), 草麝香 (Ts'ao-shê-hsiang, "vegetable musk"), and 茶矩摩 (Ch'a-chü-mo); this last being a Buddhist name. It was formerly sent as tribute by the 鬱 (Yü) tribes, and from this the present 鬱林 (Yü-lin) in Kuangsi derives its name. Ch'en Ts'ang-ch'i says that it comes from the country of 秦 (Ch'in), and bears a flower like the safflower. Li Shih-chen says that besides being

found in various districts in western Kuangsi, it comes from the countries of 罽賓 (Ch'i-pin) and 伽毘 (Ch'ieh-p'i, Kapilavastu). It has leaves like the *Ophiopogon spicatus* and flowers like those of the *Hibiscus mutabilis*. The flowers are very fragrant, and can be smelled for a long distance. An empress of the Chiu (晉) dynasty wrote a poem in praise of this plant, in which she extols its sweetness. Medicinally, it is used to correct foul odors and bad breath. It is also used as a perfume. The plant is not yet identified, but is probably not *Curcuma*.

CUSCUTA.—Faber identifies 菟絲 (T'u-ssü) as *Cuscuta chinensis* and 女蘿 (Nü-lo) as *Cuscuta japonica*. According to the *Pêntsao* the latter is the same as 松蘿 (Sung-lo), which is *Viscum*. It is possible that those species growing upon herbaceous plants are also sometimes indifferently called *Nü-lo*. Under the heading of *T'u-ssü* the *Pêntsao* gives a number of alternative names: 菟縷 (T'u-lü), 菟蘂 (T'u-lei), 菟蘆 (T'u-lu), 菟邱 (T'u-chiu), 赤網 (Ch'ih-wang), 玉女 (Yü-nü), 唐蒙 (T'ang-mêng), 火燄草 (Huo-yên-ts'ao), 野狐絲 (Yeh-hu-ssü), and 金線草 (Chin-hsien-ts'ao). It will be probably found that some of these names refer to different varieties, if not to different species, of the *dodder*. The seeds 菟絲子 (T'u-ssü-tzü), 1382, are the parts used in medicine, and these are also found in commerce in the form of cakes, known as 菟絲餅 (T'u-ssü-ping), 1383. They are met with as roundish bodies of the size of black mustard-seed, and of a brown color, with little or no taste or smell. Diaphoretic, demulcent, tonic, and aphrodisiac properties are ascribed to these seeds, and they are administered in gonorrhœa, incontinence of urine, leucorrhœa, and as a nostrum in cases of cross birth. If taken for a long time, they are thought to brighten the eye, enliven the body, and prolong life. The young shoots of the plant are used externally in cosmetic washes, for favus, and for sore eyes. Hanbury says that the plant was formerly officinal in Europe as a purgative, under the name of *Herba cuscutæ majoris*.

CYCAS REVOLUTA.—無漏子 (Wu-lou-tzü). This is Faber's identification. In the *Pêntsao* the following names are given for this product: 千年棗 (Ch'ien-nien-tsao), 萬歲

棗 (Wan-sui-tsao), 海棗 (Hai-tsao), 波斯棗 (P'o-ssü-tsao), 番棗 (Fan-tsao), 金果 (Chin-kuo), and 鳳尾蕉 (Fêng-wei-chiao, "phoenix-tail-plantain.") In Japan the tree is called 鳳尾松 (Fêng-wei-sung), in which the first character is probably improperly written. In the Customs Lists we find 鳳尾草 (Fêng-wei-ts'ao), 318, where again the first character is improperly written, and also probably the last, 棗 (Ts'ao), being intended instead of 草 (Ts'ao). The wood is known as 海櫻 (Hai-tsung). Although western works on botany ascribe the natural habitat of this tree to Japan, the *Pêntsao* refers it to Persia and the East Indies. It is not said to be found in China, but both the fruits and the wood are said to be brought to this country in ships. The fruits are the part used, and to them are ascribed expectorant, tonic, and nutritive properties. If used for a short time they are said to produce plumpness.

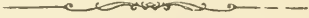
CYCLAMEN.—In Faber's lists this is given as 海芋 (Hai-yü). But he also gives the same Chinese name for *Alocasia macrorhiza*, and without doubt the name should be referred to this aroid plant, instead of to the primulaceous one. (See page 29.)

CYDONIA SINENSIS. (See *Pyrus cathayensis*.)

CYPERUS.—The *Pêntsao* describes two cyperaceous plants, under the names 莎草 (So-ts'ao), 香附子 (Hsiang-fu-tzū), and 荆三稜 (Ching-san-lêng). There seems to be the greatest confusion in regard to the identification of these. Faber makes the first to be *Cyperus iria* and the second and third *Cyperus rotundus*. The Japanese agree with the first identification, call *Hsiang-fu-tzū* *Cyperus rotundus*, *Ching-san-leng* they call *Scirpus maritimus*, and what is given in the *Pêntsao* as a synonym of the last, 草三稜 (Ts'ao-san-lêng), is assigned to *Cyperus serotinus*. Porter Smith calls *Hsiang-fu* *Cyperus esculentus*, and with some show of reason, as the description of the *Pêntsao* more nearly coincides with this identification than with any other. These sedges are all used for making hats, matting, and rain coats. They grow almost every place where there is moist or boggy ground. The tubers of the *Hsiang-fu-tzū*, 412, have a strong odor, and are very

much in request as a medicament. Stimulant, tonic, stomachic, sedative, astringent, and other properties are believed by the Chinese to reside in the drug, and it is prescribed for fluxes of all kinds, colds in every organ, post-partum difficulties, boils, abscesses, felons, and cancers. The shoots and flowers are also used, being regarded as tonic and sedative to the nervous system. The tubers of the *Ching-san-lêng*, 1062, as they appear in the market, are top-shaped, pointed at one end and hard, and have, apparently, been cut and trimmed with a knife to separate them from the running root which connects them together in the growing state. The internal texture is hard, yellowish, and woody. The taste and smell are, to some extent, aromatic. Emmenagogue, galactagogue, stomachic, tonic, deobstruant, and vulnerary qualities are ascribed to the drug. It is not in as much favor, however, as the *Hsiang-fu-tzŭ*.

CYTISUS SCOPARIUS.—金雀 (Chin-ch'iao). It is also called 黃雀花 (Huang-ch'iao-hua). The papilionaceous flower is aptly compared to a bird by the Chinese botanist. The leaves are said to be salted and made into a tea. The root, which is said to be covered with prickles, is used in medicine. In decoction, it is used as a fomentation for bruises, and it is also extracted with wine for this purpose. It is also prescribed internally in coughs and colds. A decoction of the flowers is said to bring out the eruption in small-pox.



D.

DALBERGIA HUPEANA.—檀 (T'an). The *Pentsao* describes this as a tree with finely veined, hard wood, and leaves resembling those of the *Sophora*. The flowers are yellow or white, and there is said to be a purple flowered variety. This plant is not to be confounded with 檀香 (T'an-hsiang), which is *Santalum album*. 青檀 (Ch'ing-t'an) is said by Henry to be a name for *Celtis sinensis*. The bark of both trunk and root is the part of *Dalbergia* used in medicine. It is considered to be slightly poisonous, but mixed with elm bark and pulverized, it may be used as food in time of famine. As an external application (presumably in the form of a poultice) it is used in scabies and parasitic skin diseases.

DAMNACANTHUS INDICUS.—伏牛花 (Fu-niu-hua), 虎刺 (Hu-tzū), 1425. This is a rubiaceous plant, found growing in the marshy river valleys of Szechuen, having a small deep green leaf, a thorny stalk, and pale yellow flowers in clusters like apricot flowers. Another kind of similar shrub, which goes by the second name given above, is said to be evergreen. Of the former, the flowers are used in medicine for rheumatism, headaches, and bleeding piles. Of the latter, the root and leaves are used in the treatment of dropsical swellings.

DAPHNE GENKWA.—芫花 (Yüan-hua), 1561, 悶頭花 (Mên-t'ou-hua). It is also called 毒魚 (T'u-yü, "fish poison"), since, when thrown into ponds or streams, it poisons the fish. Another name is 頭痛花 (T'ou-t'ung-hua, "headache flower"), as the odor is said to give one a headache. The name *Yüan-hua* is applied in the Peking region to a plant having small yellow flowers, which has been identified by Tatarinov as *Passerina chamædaphne*, Bunge (*Wickstræmia chamædaphne*, Meissn.). The *Daphne* grows upon a perennial root. Its leaves are at first green, but as they grow older, they grow thicker and darker in color. The flowers are purple, red, and white. Flowers, leaves, and root are all used in medicine. The flowers and root are employed in the form of tincture in the treatment of coughs, as a cordial, tonic, and antifebrile

medicine for the cure of malaria, especially in its chronic forms, and in mushroom poisoning. The leaves, as well as the flowers and root, are used bruised in the treatment of buboes, ulcers, favus, and other skin diseases. The leaves are said to have a special action on the uterus. They are mixed with salt and used to color preserved eggs a reddish-brown.

DAPHNE ODORA.—瑞香 (Shui [Jui]-lasiang). This very fragrant plant grows everywhere throughout the southern provinces. Several varieties are distinguished by the *Pêntsao*, some of which are cultivated, being dwarfed or deformed by gardeners for the purpose of producing ornamental shrubbery for lawns and conservatories. The root and leaves are both used in decoction in the treatment of sore throat, as a wash for small-pox pustules, and in caked breast.

DAPHNIDIUM CUBEBA.—畢澄茄 (Pi-ch'êng-ch'ieh), 1006. It is probable that the Chinese use this term for the true cubeb (*Piper cubeba*) as well as for this article. Loureiro first described the tree, under the name *Laurus cubeba*. Nees afterwards transferred it to the genus *Daphnidium*. The drug consists, according to Hanbury, of "one-seeded globular berries, attached to a pedicel sometimes half an inch long; at the base of each berry traces of the perianth are visible. The pericarp is thin, fleshy, and in the dried state, corrugated. The seed is globular, with its cartilaginous, shining brown testa surrounded longitudinally by a narrow ridge." The berries, therefore, have only a superficial resemblance to *cubeb*s. The plant is native of Cochin China, and is grown in South China. The product is shipped for the most part to India. The berries are agreeable in odor, and have a warm, aromatic, bitterish taste. Carminative, peptic, stomachic, tonic, and expectorant qualities are reported to reside in the fruit, which is given in cystic, bronchitic, dyspeptic, and choleraic affections. Hanbury quotes Loureiro to the effect that the fresh fruits are used for preserving fish, and that the bark of the tree has properties similar to those of the berries. Another name given in the *Pêntsao* is 毗陵茄子 (P'i-ling-ch'ieh-tzū), which is said to be of foreign origin, probably an East Indian term.

DAPHNIDIUM MYRRHA.—烏藥 (Wu-yao), 1478. Also called *Lindera strychnifolia*, which is probably identical. In Japan this last is distinguished as 天台烏藥 (T'ien-t'ai-wu-yao), which is also known as *Daphnidium strychnifolium*. Tatarinov called this tree *Daphnis myrrha*, but like many of Tatarinov's identifications, the term is open to doubt. The tree grows to the height of ten or more feet, and is found in the provinces south of the Yangtse, and especially in Kuangsi. The drug is usually sold in the form of thin slices of the dried root, which are of a whitish color, and have an aromatic odor. Tonic, astringent, carminative, stomachic, and many other properties are assigned to this root, and it is prescribed in indigestion, malaria, fluxes, hernia, urinary difficulties, menorrhagia, and gonorrhœa. Mixed with lign-aloes, ginseng, and licorice, it forms a famous prescription, which is used as a tonic and sedative. The leaf buds of the plant may be used instead of tea as a stimulant and diuretic. The seeds are used in cases in which the *yin* is in excess producing fever. They are bruised and decocted, and the decoction freely drunk, which will induce perspiration, when the *yang* will return in full force and the patient convalesce.

DATURA ALBA.—曼陀羅 (Man-t'o-lo). In India the Sanscrit equivalent of this Chinese name, *Mandara*, refers to *Erythrina indica*. Hoffman and Schultes have identified the plant so called in China as *Datura alba*, although Eitel (Handbook of Chinese Buddhism, p. 71) also refers the name to *Erythrina fulgens*, or *Erythrina indica*. The leaves of the plant contain the alkaloid *daturia*, which is similar in physiological action to atropia, but much stronger. In India the plant is called *Dhatura*, from which name the generic term is derived. The plant was said to have been rained down from heaven at the time when Buddha promulgated the law. The Sanscrit term means "variegated," evidently referring to the color of the flowers. Names given as equivalents in the *Pêntsao* are 風茄兒 (Fêng-ch'ieh-êrh) and 山茄兒 (Shan-ch'ieh-êrh). It is certain that the Chinese confound the different species of *Datura*, and that the first of the latter

terms refers to the *Datura stramonium*. Hoffman and Schultes have assumed 佛茄兒 (Fo-ch'ieh-êrh) as the name of this last, but such a name has not been found in Chinese books, does not seem to be known in Japan, and is probably a mistake for Fêng-ch'ieh-êrh. In the Customs List the first character of this last term is wrongly written 楓 (Fêng), 302, and the drug is considered to be identical with 鬧羊花 (Nao-yang-hua), 894, which is there identified as *Datura alba*. Without doubt this last term is sometimes referred to *Datura metel*, but it also refers to *Hyoscyamus niger* (which see), and it is discussed in the *Pêntsao* under the article 羊躑躅 (Yang-chih-chu), which certainly is *Rhododendron (Azalea) sinense* (which see). The ericaceous and solanaceous plants seem in some cases to be nearly related in the physiological action of their active principles, as well as being similar in external appearance. Hence the ease with which they have been confounded by the Chinese.

The flowers and seeds of the *Man-t'o-lo* are used in medicine as a wash for eruptions on the face, œdema of the feet, and prolapsus of the rectum. They are prescribed also for colds, chorea, and nervous disorders, and their use as an anæsthetic is also mentioned. Their delirient action is also spoken of, being said to produce laughter or dancing movements (舞). If equal quantities of this and of *Cannabis sativa* are gathered in the seventh and eighth moons, dried in the shade, pulverized, and digested in wine, the preparation, when ingested, will produce a narcotic anæsthesia that will enable small operations and cauterizations to be done without pain.

DATURA METEL.—鬧羊花 (Nao-yang-hua), 894. This species of *Datura* is included in Burnett's list of the Flora of China, and this name is assigned to it by Dr. Bridgeman in his Chinese Chrestomathy. Parker makes it identical with *Datura alba*. Tatarinov calls it *Hyoscyamus*. Hanbury says "flowers of *Rhododendron*?" As this Chinese term is included in the *Pêntsao* as a synonym of 羊躑躅 (Yang-chih-chu), discussion of its medicinal uses will be referred to that article (see *Rhododendron sinense*).

DATURA STRAMONIUM.—風 茄 兒 Fêng-ch'ieh-êrh), 302. The Chinese do not distinguish between this and *Datura alba* (see that article for medicinal uses). The term 佛 茄 兒 (Fo-ch'ieh-êrh), which was used by Hoffman and Schultes and is given in Giles's Dictionary, was not found in any Chinese or Japanese lists consulted. It is probably a mistake.

DAUCUS CAROTA.—胡 蘿 蔔 (Hu-lo-po). The *carrot* is well described in the *Péntsao*. The red and yellow varieties are there spoken of, and the names 紅 蘿 蔔 (Hung-lo-po) and 黃 蘿 蔔 (Huang-lo-po), which are in common use, refer to these. This vegetable is one of those which are said to have originally come from the country of the Western Tartars. The seeds of the plant probably appear in commerce under the name of 蘿 蔔 仁 (Lo-po-jên), 751. The root is considered to be in every way beneficial to the digestive tract, increasing the appetite and acting as a carminative. The seeds are used in chronic dysentery. There is a wild variety, known as 野 蘿 蔔 (Yeh-lo-po), the hispid fruit of which is used by the Chinese as the basis of the vermilion-pad for their seals and stamps.

DAVALLIA TENUIFOLIA.—烏 韭 (Wu-chiu). This is a fern, to which the following alternative names are given: 石 鬚 (Shih-hsü), 石 衣 (Shih-i), 石 苔 (Shih-t'ai), 石 花 (Shih-hua), 石 馬 鬣 (Shih-ma-tsung), and 鬼 麗 (Kwei-li). Some of these may refer to different species, or even to different genera. This plant is said to resemble *Lycopodium*. It grows among the stones in mountainous districts, and is considered to be non-poisonous. Cooling and demulcent properties are ascribed to it, and it is prescribed in feverish conditions, bladder difficulties, as an application in burns, and to promote the growth and preserve the black color of the hair.

DENDROBIUM NOBILE.—石 斛 (Shih-hu), 1148. China is very rich in orchidaceous plants, of which this is one genus. The above is the term given in the *Péntsao*, under

which doubtless several kinds of these plants, as well as *Triticum repens* are described. It grows upon stones, is sometimes called 黃草 (Huang-ts'ao), and is cultivated in Szechuen for use as medicine. It is found in nearly all of the central and southern provinces. An epiphytic variety, found growing upon the root and trunk of oak trees, is called 木斛 (Mu-hu), and, on account of its yellow color, 金斛 (Chin-hu). These plants are all remarkably tenacious of life, recovering after having been dried. Other names by which they appear in commerce are 乾木斛 (Kan-mu-hu), 580, 鮮斛斗 (Hsien-hu-tou) 452, and 金釵 (Chin-ch'ai), 145. These all have straight, jointed, solid, cylindrical stems of a yellow or golden color, and often deeply striated or furrowed. Parallel-veined leaves are attached to some of the stems, which commonly have traces of their roots. These stems are said to be quite green when freshly gathered. Under the name of 麥斛 (Mai-hu) there is also described a drug which is in all probability the tuber of *Triticum repens*. Hanbury (Science Papers, p. 262) mentions a drug under the name of 小環釵 (Hsiao-huan-ch'ai) which is also probably *Shih-hu*, although this term is not given in the *Pentsao*. 金斛斗 (Chin-hu-tou), 152, and 雅斗 (Ya-tou), 1486, are other names by which the drug is known, but why the 斗 is used in the first case does not appear. In the last case it may be a substitute for 斛, which is properly written 辭. The drug is of a sweetish taste, and is non-poisonous. It is said to have tonic, stomachic, pectoral, and antiphlogistic properties. Two peculiar difficulties for which it is prescribed are entropion and insects in the ear.

DEUTZIA SIEBLODIANA.—澁疏 (Sou-su). Identifications are doubtful; this term being applied in Japan to *Deutzia*, *Staphylea*, and *Philadelphus*. We here follow Faber. Li Shih-chen seems not to have recognized this tree, although he gives what was said about it by older authors. The tree is about ten feet high, and bears reddish berries, similar to the fruit of the *Lycium*. The bark is white, and is the part used in medicine. Its properties are said to be cooling and diuretic. It is prescribed for the thirty-six diseases of the lower abdominal region (下臑) in women.

DIANTHUS CHINENSIS.—石竹 (Shih-chu). This, the common Chinese pink, is not distinguished in the *Péntsao* from the next, and, in fact, the two are often confounded by observers.

DIANTHUS SUPERBUS.—瞿麥 (Ch'ü-mai), 237. This is the same as *Dianthus fischeri*. The seed resembles wheat, whence the name. The dried flowering plant is sold in the medicine shops, being found in large, yellow bundles. The flowering heads and leaves of these plants are used in medicine, and very remarkable and dissimilar virtues are ascribed to them. The former is said to be diuretic, vulnerary, abortifacient, to relieve opacities of the cornea, to check post-partum hemorrhage, alleviate fluxes, promote the growth of hair, and is used also in the treatment of gravel, amenorrhœa, and as a resolvent for incipient abscesses. The latter is used in hemorrhoids, bloody diarrhœa, lumbricoid worms, ophthalmia, as well as in buboes and venereal sores in women. Also such difficulties as bones in the throat, bamboo splints in the flesh, and wounds with knives or scissors are treated by the internal administration of a decoction of this plant.

DICTAMNUS ALBUS.—白鮮 (Pai-hsien), 947. This is a white root with a strong odor, which resembles that of the goat; hence the name, also written 白羶 (Pai-shan). It is a common plant in Mid-China. It has flowers resembling those of the *Althea*, and the root is like a small turnip. The fruit consists of several carpels like the *Zanthoxylon*, and is therefore called 金雀兒椒 (Chin-ch'iao-êrh-chiao), "golden-bird-pepper." The root is the part used in medicine, and to it is ascribed tonic, sedative, antipyretic, and tussic qualities. It is also recommended in post-partum difficulties and the nervous crying of children.

DIERVILLA VERSICOLOR.—楊櫨 (Yang-lu). This is the same as *Weigela japonica*. It is also by the Chinese confounded with *Deutzia sieboldiana*. It is a shrub, or small tree, used in making hedges, and its seeds are

borne in a pod. The leaves, which are said to be slightly poisonous, are recommended in decoction as a wash for virulent sores.

DIGITALIS.—Roots of an unidentified species of this plant are said to be brought from Honan under the name of 毛地黃 (Mao-ti-huang). As 地黃 (Ti-huang) is *Rehmannia glutinosa*, and as the leaves of this latter are also downy, identification by this means would be uncertain. It is said that the roots of the former are smaller and more fusiform than those of the latter. But this also would be an unreliable method of identifying so active a drug. It is doubtful if *Digitalis purpurea* is found in China, or if found it has not yet been identified; so it is unfortunate that 毛地黃 (Mao-ti-huang) has been adopted in pharmacy as a Chinese equivalent of the name of this drug.

DIGITARIA SANGUINALIS.—(蒼·Yu), 馬唐 (Ma-t'ang). This is Faber's identification. The Japanese call it *Caryopteris divaricata*. It is also called 羊麻 (Yang-ma), since both horses and sheep eat it. It is said to have a very vile and persistent odor, which is mentioned in the Tso-chuan as an illustration of the persistence of evil. It grows in marshes, has long leaves and a jointed stem. It much resembles *Potamogeton*, and has by some been so identified. The root is the part used in medicine, and is prescribed in infusion as an eye and ear wash, for fetid feet, in dry coughs, and to relieve thirst.

DIOSCOREA.—薯蕷 (Shu-yü), 山藥 (Shan-yao), 1108, 萹薺 (Pei-hsieh), 988. *Shan-yao* is nowadays the common name in north China for the cultivated yam, *Dioscorea japonica*. In Hupeh it is *Dioscorea quinqueloba*, and in other parts of China *Dioscorea batatas*. The Japanese lists distinguish *Dioscorea japonica* as 野山藥 (Yeh-shan-yao), *Dioscorea quinqueloba* as 山萹薺 (Shan-peh-hsieh), and *Dioscorea sativa* as 川萹薺 (Ch'uan-peh-hsieh). Faber makes the first two names at the head of this article to be identical, and assigns them to *Dioscorea quinqueloba*, while the third he assigns to *Dioscorea*

sativa. To *Dioscorea japonica* he assigns the names 黃獨 (Huang-tu) and 土芋 (T'u-yü). The *Pentsao* gives the last under a separate article and considers it to be related to *Colocasia*. It has leaves like those of the bean, and egg-shaped tubers, which are the part used in medicine. These have emetic properties, and are used for this purpose in cases of poisoning. The Hankow list mentions a 淮山藥 (Huai-shan-yao), 503, which is said to come from Huaining in Honan, and which it describes as follows: "It occurs in long tuberose roots about a half a foot in length and two inches in circumference, and when divested of its rind and the ends are trimmed, it has a perfectly white surface and interior. It is brittle, has no smell, and is tasteless." This does not answer to the description of the tuber of *Dioscorea sativa*, and may be *Dioscorea japonica* or some unnamed species. The *Pentsao* also gives an article on the capsules or berries of the yam, which it calls 零餘子 (Ling-yü-tsü), mentioning several varieties, and claiming for them stronger medicinal powers than is possessed by the yam itself. Tonic and restorative virtues are ascribed to them. To the tubers of the several kinds of yam mentioned in the *Pentsao* are ascribed cooling and tonic properties. They are said to benefit the spirits, promote flesh, and, when taken habitually, brighten the intellect and prolong life. Astringent properties in diarrhœa are also ascribed to them, as well as some virtue in polyuria. As a poultice they are applied in carbuncles, boils, and incipient abscesses.

DIOSPYROS EMBRYOPTERIS.—棗柿 (Pei-shih), 漆柿 (Ch'i-shih). The Chinese call this the "green persimmon," from the fact that the fruit, when fully ripe, is of a dark yellowish tint. The fruit is of the size of a large plum, or small apple, eight-seeded, and contains a glutinous, very astringent juice. It is said that it cannot be eaten in the unripe state, and that it cannot be dried as other species of persimmon often are. The medicinal properties ascribed to it by the Chinese are somewhat remarkable. It is said to be antifebrile, antivinous, and demulcent. Its astringent properties, which were noted by Dr. Waring, and on account

of which he recommends the employment of an extract of the fruit in diarrhœa and chronic dysentery, and as a basis of vaginal injections in gonorrhœa, have been lost sight of by Chinese physicians. A sort of extract, or oil, is prepared from this fruit by crushing and pressing. In this way a dark, resinous, thick juice is produced, which makes an excellent varnish, used in varnishing paper umbrellas and fans. It is cheaper than wood-oil.

DIOSPYROS HIRSUTA.—毛栲 (Mao-shih). It is not certain that this tree is found in China, but the probabilities are in its favor. The wood, called *Calamander Wood* (probably a corruption of Coramandel Wood), is met with, and is used as a substitute for *ebony*.

DIOSPYROS KAKI.—栲 (Shih), 軟棗 (Juan-tsao). The fruit of this tree, which is common in China and Japan, is the *persimmon*, a large, thin-skinned, juicy fruit, of an orange or yellowish color, and having a sweet taste when fully ripe. The taste of the unripe fruit is exceedingly astringent. Traces of the eight-celled character of the fruit, which presents a great variety of shapes, sizes, and tints, are sometimes met with. The Chinese ripen the fruits artificially by inserting one or more splints of bamboo into them by the side of the stem, which hastens the process of softening. These, however, lack the fine flavor of the naturally ripened fruit. The persimmon appears in several forms in Chinese medicine. There is an artificially ripened fruit, called 烘栲 (Hung-shih), which is produced by placing the unripe fruit in a vessel containing leaves and allowing a process of fermentation to go on until the fruit is ripe. It is said to become as sweet as honey under this process, and is used as an antifebrile, antivenous, and demulcent remedy. Another form is called 白栲 (Pai-shih) and 栲霜 (Shih-shuang). This is prepared by taking off the skin of the fruits, and then exposing them to the sunlight by day and the dew by night until they are dry, when a whitish powder will have gathered upon them. The persimmons dried in this way are called 栲餅 (Shih-ping), 1157. The medicinal properties of the persimmon are thought to be much enhanced

by the process employed in the preparation of this product. In addition to the properties already described, anthelmintic, restorative, expectorant, and anti-hemorrhagic virtues are ascribed, and it is recommended in virulent sores and ulcers. It is also said to be an antidote to wood-oil poison. Another form of the dried fruit is the 烏柿 (Wu-shih), which is prepared by drying in the heat and smoke of a fire. This is not to be confounded, as does Porter Smith, with 烏木 (Wu-mu), which is *Maba ebenos* (see that article). This form of the persimmon is prescribed as an anthelmintic, in wounds as an anodyne, to check fluxes, and to prevent nausea after taking other medicines. 醃柿 (Lin-shih) are preserved persimmons, and are of two kinds: those kept over by being simply covered with water, and those preserved in salt. The former are considered to be cooling, while the latter are said to be slightly poisonous. They are regarded as being beneficial to the spleen and stomach, and to dissolve stagnant blood. Persimmon confection, 柿饅 (Shih-kao), is made by beating together one peck of glutinous rice and fifty dried persimmons, and then steaming the mixture until it is cooked done. It is recommended to be eaten by children in cases of autumnal dysentery, as well as in other forms of flux. The fruit calyces, 柿蒂 (Shih-ti), 1159, are prescribed in decoction in obstinate cough and dyspnoea. The bark and wood are prescribed as astringents in fluxes and as styptics in wounds and ulcers. The root is recommended as a universal astringent. 鎮頭迦 (Chen-t'ou-chia) is said to be the Mongolian (Turkic) name for the persimmon.

DIOSPYROS LOTUS.—君遷子 (Chün-ch'ien-tzǐ), 酸棗 (Suan-tsao), 1205, 黑棗 (Hei-tsao), 368, 軟棗 (Juan-tsao), 羊矢棗 (Yang-shih-tsao). In the case of some of the foregoing names there is uncertainty as to whether *Diospyros* or *Ziziphus* is meant. The *Péntsao* gives a number of other names, which refer chiefly to the shape of the fruit. It also says that the fruit resembles the date, but that the tree is like the persimmon. The fruits are considered to be antifebrile, and are also used to promote secretion. They ward off evil influence, and when eaten for some time, give a pleasing appearance to the countenance, and strength and lightness to the body.

DIPHYLLEIA.—鬼臼 (Kuei-chiu), 獨脚蓮 (Tu-chio-lien), 八角蓮 (Pa-chio-lien). Faber identifies the first as *Arisæma heterophylla*, and in Hupeh the second also signifies *Arisæma*. Henry found the last to be *Podophyllum versipelle*, while Bretschneider found that plants raised from *Tu-chio-lien* seed procured at Peking proved to be *Typhonium giganteum*. It is not quite clear whether *Kuei-chiu* is *Diphylleia* or *Podophyllum*. A large number of names are given in the *Pên-tsao* as the equivalents of *Kuei-chiu*, but it is probable that several different plants are confounded in these names. The plant described grows in shady places in mountains. It seems to be akin to the North American "umbrella plant." The root is perennial, and each year sends up a stalk, which on dying at the end of the season leaves a depression, or "eye," which is likened to a mortar (臼). Anthelmintic and antiseptic properties are ascribed to the drug, which consists of the root of the plant, and it is used in the treatment of coughs, malaria, cancerous sores, snakebite and arrow poisoning, retained dead fœtus, and pernicious jaundice. That the root itself is regarded as poisonous may be inferred from the variety of virulent diseases for which it is prescribed.

DIPSACUS.—續斷 (Hsü-tuan), 474. At Peking this is *Dipsacus japonicus*, but at Hankow it is *Dipsacus asper*. In Japan it is *Lamium album*. It is also called 接骨 (Chieh-ku), as it is considered capable of joining together broken bones. The roots are met with in commerce in short pieces, very hard, brown, and wrinkled, and of a dirty white color in the interior. The taste is sweetish, mucilaginous, and with a bitterish after-taste. The root is the part used in medicine. It is considered to be tonic in exhausting diseases, wounds, tumors, fractures, and ruptured tendons (as its names indicate), suppression of the secretion of milk, dysmenorrhœa, hemorrhage, and is employed in hemorrhoids, cancer of the breast, ante- and post-partum difficulties of every kind, incontinence of urine, and threatened abortion. The best quality of the drug is called 川續斷 (Ch'uan-hsü-tuan).

DOLICHOS CULTRATUS.—鵲豆 (Ch'iao-tou). This is a Japanese identification of a bean similar to *Dolichos lablab*, but black in color, with a white line through the hilum, on

which account it receives its name of "magpie bean." Bretschneider says that it is the same as the 料豆 (Liao-tou) mentioned in the Customs Lists, 718. The *Pentsao* does not distinguish between this and *Dolichos lablab*, and does not assign to it any special medical properties.

DOLICHOS LABLAB.— 菹 豇 (Pien-tou), 1021. Common names are 沿籬豇 (Yên-li-tou), "fence-climbing bean," from its climbing habit, and 蛾眉豇 (Ê-mei-tou), from the appearance of the seed. The young pods of this bean are eaten as a vegetable, and the ripe seeds are also eaten boiled. The seed is, according to variety, black, white, red, and variegated. Only the white bean, 957, is discussed in the *Pentsao*, where it is said that those suffering from fevers should not eat it. It is tonic to the viscera, and if eaten habitually, will prevent the hair from turning gray. Taken with vinegar, it is used in cholera morbus. It relieves flatulence, is anti-vinous and antidotal to fish poison, as well as to every form of vegetable poison. It relieves diarrhœa, reduces fever heat from sunstroke, and quenches thirst. The flowers are prescribed in menorrhagia and leucorrhœa, besides being recommended in the same diseases as the bean. The leaves are also employed in similar cases, and applied as a poultice in snake bite. Even the vine is used as a medicament in cholera.

DOLICHOS SINENSIS, *Dolichos umbellatus*.— 豇 豇 (Chiang-tou). This is a cultivated bean, found in several varieties; the pods varying in color. The virtues ascribed are those of "controlling the viscera, benefiting the breath, restoring the kidneys, strengthening the stomach, harmonizing the abdominal organs, subduing the passions, preserving life, invigorating the marrow, quenching thirst, preventing nausea, checking diarrhœa and frequent urination."

DRABA NEMORALIS.— 葶 蔞 (Ting-li), 1307. The plant to which is applied this Chinese name is evidently a crucifer, with the probabilities in favor of the above identification. Tatarinov called it *Sisymbrium*; Loureiro, *Lepidium petraeum*; and in Japan the name is applied to *Nasturtium*

palustre and *Arabis perfoliata*. The classical name of the plant is 葶 (Tien). Other names are 狗薺 (Kou-chi), 大室 (Ta-shih), and 大適 (Ta-shih). The plant very much resembles mustard. The seeds are small, yellow, and very bitter. Li Shih-chen says there are two kinds of this product—the sweet and the bitter—and that the former is called 狗芥 (Kou-chieh), “dog mustard.” The seeds are the part used in medicine, and are boiled with glutinous rice for this purpose. They are said to act as a demulcent, laxative, and deobstruant drug, and are given in dropsy, dysuria, amenorrhœa, coughs, and fevers. Externally they are used for decayed teeth, tinea, and poisoning from horse sweat entering a wound (possibly anthrax).

DRYANDRA CORDATA.—罌子桐 (Ying-tzū-t'ung). This is the same as *Elæococca verrucosa*. 罌 (Ying) is an earthenware jar, carried by a string run through the ears. This character is here used in allusion to the shape of the fruit. The same character is used in the name for the poppy, in reference to the shape of the capsule. Another name for this tree is 虎子桐 (Hu-tzū-t'ung), “tiger seed t'ung,” in reference to the violently poisonous character of the seeds. Still another name is 荏桐 (Jên-t'ung), from the shape of the seeds being similar to a bean called by this distinguishing character. Then, finally and commonly, it is called 油桐 (Yu-t'ung), “oil t'ung,” from the fact that from it is produced the oil known as 桐子油 (T'ung-tzū-yu), “t'ung-seed-oil.” This tree is extensively cultivated in the Yangtse valley, and is also well known in Japan. The *Péntsao* says in regard to it and its product: “It grows in the hills, and the tree is like the *Sterculia platanifolia*. That of which the people in the south make oil is the 岡桐 (Kang-t'ung, “ridge-t'ung”). The seeds are larger than those of *Sterculia*. In the early spring a flower is produced, in color a pale red, and in shape like a drum. The flower changes into a tube, in which are found the seeds out of which the oil is made.” The above are quotations from ancient works. Li Shih-chen says: “Ridge-t'ung is a purple flowered *Paulownia*. The branches, trunk, leaves, and flowers of the Yu-t'ung are similar to the Ridge-t'ung, but smaller. The

tree grows more slowly, and the flowers are slightly redder. But its fruit is large and round, and in each fruit there are two or four seeds, as large as those of the 大楓子 (Ta-fêng-tzŭ, *Gynocardia odorata*, Lucrabau seeds). Internally they are white, the taste is sweetish, and the action is emetic. It is also called 'purple-flowered-t'ung,' and is extensively cultivated by men, who plant and collect the seeds for the business of oil-making. The oil is used by painters for oiling and caulking boats. It is often adulterated, but if a bamboo-splint ring will pick it up like the head of a drum, it is genuine. The oil is sweetish, slightly acid, cooling, and very poisonous." Its action is emetic, and, strange to say, alcohol is considered to be antidotal to its action. It is applied externally to parasitic skin diseases and wounds, as well as to scalds and burns. Its emetic action is taken advantage of in asthma and coughs. Wine-nose and broken chilblains are also treated with it. The oil also enters into the composition of nearly all of the ordinary Chinese plasters.

DRYMOGLOSSUM CARNOSUM.—螺髻草 (Lo-yên-ts'ao), 鏡面草 (Ching-mien-ts'ao). This "snail-shell grass," or "mirror-face grass," is a fern which grows in rocky places, and is of a reddish color. As a poultice, or in decoction, it is applied to swellings, fetid feet, and the like. It is also taken internally in hemorrhages, such as hematuria, hematemesis, and nose bleed. It is used principally, however, in felons and animal bites.

DRYOBALANOPS AROMATICA, *Dryobalanops camphora*. This tree is found in the islands of the Malaysian archipelago, and is also said to be found in Kuangtung and Fukien, although there seems to be no Chinese name for it recorded in the books. The steareopten derived from it, which is similar in composition to camphor, is known in commerce as Borneo, or Baroos, camphor. The name most commonly used for it in Chinese is 冰片 (Ping-p'ien), 1029, but there are several names for this product, such as, 龍腦香 (Lung-nao-hsiang), 梅花片 (Mei-hua-p'ien), 羯婆羅香 (Chieh-p'o-lo-hsiang), and 婆律香 (P'o-lu-hsiang). 米腦 (Mi-nao),

速腦 (Su-nao), and 金脚腦 (Chin-chiao-nao) are mentioned in the *Pentsao* as names of varieties of this drug, brought from the Indien archipelago. 清水片 (Ch'ing-ping-p'ien) and 坭水片 (Ni-ping-p'ien) are names given by Dr. Williams to indicate the two sorts, clean and dirty, brought to the Chinese market. 蒼龍腦 (Ts'ang-lung-nao) is the name of a very pure, greyish, crystalline variety, said to be much stronger than any of the other sorts. This steareopten is a natural product, found in the cellular space of the wood. The most common port of shipment of this valuable substance is Baroos, on the west coast of Sumatra; hence one of the English names. The tree is straight, with a tall stem sometimes twenty feet thick, overtopping with its huge crown other large trees to the extent of some scores of feet. The natives describe three kinds of this tree, named the *Mailangnan*, *Markin tungan*, and the *Markin targan*, all distinguished by the mere color of their bark. The dark-green, oval, pointed leaves are tough and camphoraceous. The acorn-like fruit, compared by the Chinese to that of the cardamom, is eaten as a relish, or as a sweetmeat by the natives. The trees are cut down in April or May, while fruiting, and the whole of the immense trunk is split up and sacrificed to find the grains or flat pieces of crystalized camphor, the largest of which rarely exceeds half an inch across. They are met with in crevices or cells in the body of the tree, and more frequently in the swellings of the branches as they issue from the trunk. One tree may yield as much as a half pound. It is met with in commerce in crystalized, reddish-white grains, which upon closer inspection are seen to be mixed with particles of a purer white color. Large colorless crystals are seldom met with in the north. Hanbury says that it "has the odor of common or laurel camphor, mixed with something that has been likened to patchouli. It is less volatile than laurel camphor, and has a greater specific gravity, so that it sinks in water." Its composition is $C_{10}H_{18}O$, that of ordinary camphor being $C_{10}H_{16}O$. It is isomeric with *Ngai camphor* (see *Blumea balsamifera*).

This drug is considered to be poisonous, and is little used as an internal remedy. It has been used by persons attempting suicide, but it is doubtful whether it will destroy the life of a

healthy person, and would not commend itself to many for this purpose on account of its high price, being worth its own weight of silver. It is said to have diaphoretic, sedative, stimulant, antispasmodic, arthritic, anthelmintic, and escharotic properties. It is applied as a powder to chancres, buboes, carbuncles, and eczematous sores. It enters into the composition of the better class of dusting powders, so agreeable in prickly-heat and other eruptions. It is also applied to opacities of the cornea, polypus of the nose, ranula, fistula, and to any disease affecting the five senses or any of the apertures of the body. Many of these recommendations are based upon merely theoretical grounds. The petty chiefs of Sumatra are said to embalm their dead with this costly substance.

There is also an oil which exudes from the wood when the tree is felled and split up, and in Sumatra this oil is very cheap. It is not identical with, and is superior in value to the ordinary *Oil of camphor*, which is an uncrystallizable residue exuding from the freshly sublimed laurel camphor to the amount of three or four per cent. It might be suggested that either of these oils, and preferably the former, would make a cheap and excellent embrocation.

E.

ECHINOPS SPHÆROCEPHALUS.—漏 盧 (Lou-lu), 756. Another name is 野 蘭 (Yeh-lan), wild *Eupatorium*. Also 莢 蒿 (Chia-hao), artemisia with pods, on account of its resemblance to *Artemisia*. Still another name given in the *Pêntsao* is 鬼 油 麻 (Kuei-yu-ma), but this is, in all probability, another plant, may be *Syphonostegia*. The identification used here is Faber's, but without doubt the Chinese confound several plants under the above names. The plant is said to have a general resemblance to *Artemisia*, *Incarvillea*, and *Sesamum*; so it is little wonder that the Chinese, with their lack of any definite system of classification, should have confounded these. The plant has a quill-like stem, and grows to the height of four or five feet. It bears yellow flowers, and fruits in a pod. When dry, the pods, as well as the whole plant, turn very dark, almost black in color. Various parts are used in medicine, but the *Pêntsao* mentions particularly the root and shoots. The root goes by the name of 鹿 麴 根 (Lu-li-kên). It is considered to be a very efficacious and beneficial remedy, and is prescribed for virulent ulcers and sores, failure of secretion of milk, to check exhausting discharges, as an anthelmintic, and it is recommended for use in the bath.

ECLIPTA ALBA.—鱧 腸 (Li-ch'ang), 旱 蓮 草 (Han-lien-ts'ao), 359. A number of other names are given in the *Pêntsao* for this plant. Its identification is tolerably certain, although Braun in the Hankow list called the product "dried lilies"! The plant when broken exudes a black, sticky juice, on which account it is called 墨 菜 (Mo-ts'ai), "ink-vegetable." It grows in damp soil to the height of one or two feet, has a white flower, and seeds like the *Inula*. A yellow flowered kind is spoken of, but this is confounded with *Forsythia*. The medicinal action of the plant is said to be astringent, checking hemorrhage and fluxes, and it is used to blacken the hair, tighten the teeth, and in all sorts of eye troubles.

ELÆAGNUS LONGIPES. — 胡 頹 子 (Hu-t'ui-tzŭ).

This is an evergreen tree or shrub, growing in northern China and Mongolia, bearing a drupe similar to that of *Cornus officinalis*. Besides several names which are possibly transliterations of Turkic or Mongol names, it is called 雀兒酥 (Ch'iao-êrh-su), "bird-cheese," because the birds are fond of the fruit. The parts used in medicine are the seeds, the root, and the leaves. The fruit should not be used in fever, and is prescribed only in watery diarrhœas. The root is used in decoction as a wash for foul sores and itch in man, and for sores on dogs and horses. It is also administered as an astringent in hemoptysis. The leaves are prescribed for coughs.

ELÆOCOCCA CORDATA. See *Dryandra cordata*.

ELATOSTEMMA UMBELLATUM. — 赤 車 使 者 (Ch'ih-ch'ê-shih-chê). This is a red leaved, red stemmed, purple rooted plant, growing in the central provinces, and belonging to the foliage plants. The root is the part used. It is acrid, bitter, and poisonous, and is prescribed for colds, worm poison, and flatulence. It is said to improve the flesh and the color of the skin, and is probably stomachic and tonic.

ELSHOLTZIA CRISTATA. — 香 薷 (Hsiang-ju), 413a. This plant occurs both in the wild and the cultivated states, and seems to have its natural habitat in the central provinces. It is grown in gardens, and is used as a pot-herb or condiment. It is carminative, astringent, and stomachic, is prescribed in fluxes, dropsy, and nausea, and if taken during the summer months is supposed to ward off fevers. Nosebleed and burning of the feet are treated with it. The plant has several other names given to it in the *Pentsao*.

EPHEDRA VULGARIS. — 麻 黃 (Ma-huang), 801. This is a common plant in north China and Mongolia. The principal supply of the drug seems to have come from Honan province. The plant, with its leafless branches, has a slight resemblance to *Equisetum*, and in Japan as well as in China has been confounded with this latter. It bears yellow flowers, and produces red, edible berries, which have been likened to

the raspberry. Pistillate and staminate flowers are borne on different plants. The drug consists of the yellow, jointed stems of the plant, tied up in bundles, or the stems from which the joints have been rejected, cut up into a chaff-like mass. The reason for rejecting the joints is because they are considered to have a medical action differing from, and in a measure counteracting that of the stems. The action is represented as decidedly diaphoretic and antipyretic. It is prescribed in fevers, especially malarial fever, in coughs, influenza, and post-partum difficulties. Its use should not be long continued, lest it weaken the body.

The root, which is also known as 狗骨 (Kou-ku), together with the joints, is considered to have an action directly opposed to that of the stem, and is therefore prescribed in profuse sweating, either critical or natural. It is used as a dusting powder, applied to the whole body. Although it probably has some astringent property, it is not recommended for any other difficulty, or to be used in any different way. The fruit is mucilaginous, with a slightly acrid or pungent flavor, and is eaten by the Chinese.

EPIGÆA ASIATICA.—山枇杷 (Shan-p'i-p'a). There is no description of this in the books, and Li Shih-chen only says that the charred twigs, pulverized and mixed with honey, are very efficacious in the treatment of scalds and burns. The identification is Faber's.

EPIMEDIUM SAGITTATUM. See *Aceranthus sagittatus*.

EPIPHYTES.—The Chinese do not distinguish between epiphytes and parasites. Nearly all proper epiphytes go by the name of 寄生 (Chi-shêng), to which is prefixed the name of the tree upon which they are found. The medical properties of the epiphyte in most cases are supposed to be somewhat similar to those of the plant upon which it grows. There is therefore no sort of classification of these plants. The only ones especially mentioned in the *Pên-tsao* are the *mulberry epiphyte*, the *peach epiphyte*, and the *willow epiphyte*, and

these are classed along with such things as *Amber* and *Pachyma cocos* under the general heading of 寓木 (Yü-mu), "dwellers on wood." These epiphytes have been identified as varieties of *Loranthus* and *Viscum*, and will be treated of under those titles. (See also *Dendrobium*, *Fungi*, *Mushrooms*, and *Pachyma*.)

EQUISETUM ARVENSE.—問荆 (Wên-ching). This is spoken of in the *Pên-tsao* under the next article, from which it does not seem to be clearly distinguished. It is said to grow in Ili by the side of streams, to have a shoot similar to that of *Equisetum hyemale*, and on account of its peculiar jointed appearance, it is sometimes called 接續草 (Chieh-hsü-ts'ao). It is prescribed in decoction as an anodyne and carminative.

EQUISETUM HYEMALE.—木賊 (Mu-tsei), 877. This is found in Kansu and Shensi growing in watery places. It is likened to, and perhaps sometimes confounded with, *Ephedra*. It grows to considerable length, and, on account of the large amount of silicious material which it incloses, is used to polish wood. The drug, as used by the Chinese, consists of the leafless, striated, fistular stems, deprived of their cuticular sheathes, and reduced to a coarse powder. It is used as an astringent remedy in a variety of difficulties, such as ophthalmia, fluxes, menorrhagia, leucorrhœa, epiphora, various hemorrhages, and prolapse of the rectum. It is also recommended in irritable uterus during pregnancy, and as an antidote in case of having swallowed copper cash.

ERANTHIS KEISKII.—菟葵 (T'u-k'uei). This is a Japanese identification. It is not certain that this may not be an *Anemone*, a *Hibiscus*, or a *Malva*. The figures and descriptions given in the Chinese books are not clear. It is also called 天葵 (T'ien-k'uei) and 雷丸草 (Lei-wan-ts'ao). It seems to be a small *Malva*-like plant, bearing a white flower, and with thick green leaves, slightly purplish on the under side. Its habitat is said to be Szechuan. The medical use of the shoot is as an antilithic, and it is said to be antidotal and anodyne in case of animal and reptile bites. The shoot seems to be the only part recommended for use in medicine.

ERGOT.—As rye does not grow in China, true ergot is not found. A decoction of the shoots of *Avena fatua* (雀麥, Ch'iao-mai) is given to parturient women to excite uterine contractions, and it may be surmised that there is an ergot-like growth on these shoots. The *Pên-tsao* describes a growth appearing on the heads of wheat and barley when the grain is nearly ripe, which it calls 麥奴 (Mai-nu). But this is probably a rust or smut, as no special action upon the uterus has been discovered under its use. (See *Avena fatua*, *Hordeum*, *Triticum*, and *Zea mays*.)

ERIANTHUS JAPONICUS.—芒 (Mang). This is a grass, also called 芭芒 (Pa-mang) or 芭茅 (Pa-mao), and used for making screens and fences. In Hupeh it is called 八王草 (Pa-wang-ts'ao). It is also used to make ropes, boxes, and shoes, and the awns are used for brooms. The stem is used in decoction, or the juice of the green plant is employed, as a dressing in animal bites and to promote the absorption of extravasated blood. It is claimed that worn out boxes made of this grass may be employed in the preparation of the decoction with wine, equally well as the plant itself, and it is therefore to be presumed that old shoes and ropes made of the substance would be found similarly useful for this purpose.

ERIGERON KAMTSCHATICUM.—蓬 (P'êng). This is the same as *Erigeron acre*. It is a very common weed of north China and Mongolia, but strange to say it is not described in any of the Chinese medical works consulted. In Japan the same character is used for *Conyza ambigua*. This being a "tumble weed," blown about by the winds, it is to be presumed that the Chinese would have thought it useful to quicken the circulation or give sprightliness to the muscles, or something of that sort.

ERIOBOTRYA JAPONICA.—批把 (P'i-p'a). This is the "loquat," or Japanese *meddlar*. Its Chinese name is said to be derived from the shape of the leaves, which are likened to that of the Chinese guitar, 琵琶 (P'i-p'a). The term loquat, however, is a transliteration of the Cantonese sound

of 盧橘 (Lu-chü), which is another name for the "cunquat," or golden orange. Just how this name came to be applied by foreigners to the fruit of the *Eriobotrya* is uncertain, as the Chinese books do not indicate any such use. However, it seems that this term has gained currency in California, where this fruit is now extensively grown. The fruit, leaves, flowers, and inner bark of the tree are used in medicine. The fruit, if too freely eaten, is thought to injure the spleen, and if taken with roast meat and hot bread will produce jaundice. Medicinally, it is employed to relieve thirst and nausea and to palliate cough. The most important medicinal virtues are ascribed to the leaves (1012). In decoction, they are used to relieve vomiting and cough, as well as in local application to ulcers, nose-bleed, wine nose, chapped face, and smallpox ulcers. The flowers are used in coryza. If the bark is chewed and the juice swallowed, it is said to relieve nausea and vomiting.

ERIOCAULON.—穀精草 (Ku-ching-ts'ao), 619. Several species of this genus go under the same Chinese name. That mentioned in the *Pên-tsao* is a troublesome weed in fields, springing up after the grain has been harvested, and supposed to be produced spontaneously from the aura of the grain; hence its name, "grain essence grass." It bears small leaves and tiny, star-shaped flowers, and in reference to this last fact it receives several names. The plant is fed to horses, with a view to preventing or curing intestinal worms. The flowers are used in medicine, especially in hemicrania and other headaches. They are also used as an astringent in nosebleed, opacity of the cornea, especially that following smallpox, and as an anodyne in cephalic diseases and sunstroke. The drug, as described in the Customs list, comes in bundles of the dried herbage.

ERITRICHIMUM PEDUNCULARE.—鷄腸草 (Chi-ch'ang-ts'ao). This is the same as *Trigonotis peduncularis*. It is a common plant in gardens and courtyards. Children express the juice of the plant and mix it with spider web to use for catching cicadas. When chewed, the plant produces a very viscous juice. It is used in medicine as a diuretic, and

as an emollient application in wounds. It is also recommended as a bland remedy in diarrhœa and the dysenteries of children.

EUCOMMIA ULMOIDES.—杜仲 (Tu-chung), 1362. This tree is found in Hupeh, Honan, Shensi, and Shansi, and has been so identified by Oliver and at Kew. In Japan it is *Euonymus japonicus*. Another name is 木棉 (Mu-mien), which is the same as that of the cotton tree, *Bombax malabaricum*. This name refers to the fact that on breaking the bark, and drawing the fractured edges asunder, a delicate, silvery, silky fibre is seen, which may be drawn out to the length of almost an inch without breaking. The leaves of the tree are eaten when young, and the wood was formerly used to make pattens. The bark is the part used in medicine, and is met with in quilled or shrivelled pieces of four to five inches in length. The brown, roughened cuticle is often removed in greatest part, exposing the dark brown liber. The flowers, fruit, and wood are astringent, and may be used in medicine. The action of the bark is considered to be tonic, arthritic, diuretic, and depurative, and is especially prescribed in difficulties of the liver, kidneys, puerperal diseases, and excessive perspirations. The use of the young leaves (called 櫛芽, Mien-ya) as food, is thought to promote the elimination of poisonous effluvia, and to prevent hemorrhoids.

EUGENIA CARYOPHYLLATA.—丁香 (Ting-hsiang), 875, 1305. See *Caryophyllus aromaticus*.

EUONYMUS THUNBERGIANUS.—衛茅 (Wei-mao). This is the same as *Euonymus alatus*. Other names for it are 鬼箭 (Kuei-chien), "devils' arrow," and 神箭 (Shen-chien), "angels' arrow." It grows in the mountains, and is a shrub with quadrangular, winged branches, and is known where it grows by the name of 四稜樹 (Ssü-lêng-shu), "four-angled tree," and also as 茶葉樹 (Ch'a-yeh-shu), "tea-leaf tree." An infusion of the flowers is used as a substitute for tea. The wood of the tree is called 狗骨 (Kou-ku), "dog's bone," and is used only for fuel. Apparently the branches are the part

used in medicine. Astringent, anodyne, anthelmintic, and corrective powers are ascribed to the drug, and it is especially prescribed in menstrual and post-partum hemorrhages, and in pernicious malaria.

EUPATORIUM.—澤 蘭 (Tsê-lan), 1355, 蘭 草 (Lan-ts'ao). Faber makes the latter of these to be *Eupatorium lindleyanum*. The species of the former is unidentified, and the term may refer to more than one species. In the *Pên-tsao*, which discusses the two under separate headings, a large number of synonymous names is given in each case; in some instances the same name being found under both headings. Li Shih-chen says, "The *Lan-ts'ao* and the *Tsê-lan* are two species of the same genus, and both grow on the borders of water courses or in swamps. They have perennial roots, purple, branched stems, with red joints, and opposite, slightly serrated leaves issuing from the joints. But the *Lan-ts'ao* has a round stem, long joints, and glabrous leaves, whilst the *Tsê-lan* has a nearly square stem, short joints, and leaves covered with hair. The flowers are in spikes, and are reddish-white." The parts used medicinally in each case are the leaves. Diuretic, anthelmintic, and restorative properties are ascribed to the leaves of the *Lan-ts'ao*, and they are used in colds and general debility. They are also considered to be antidotal to various poisons, and when made into a pomade will promote the growth of the hair. The leaves of the *Tsê-lan* have similar properties, and are used, as well, as an anodyne and nerve sedative in the disturbances of pregnancy and the puerperal condition. They are highly recommended for their constructive properties. The roots, which are called 地 筭 (Ti-sun), and are sometimes eaten for food, are considered beneficial to the circulation, and restorative to women after child-birth. The seeds are prescribed for the thirty-six diseases of women.

EUPHORBIA HELIOSCOPIA.—澤 漆 (Tsê-ch'i). This is the same as *Euphorbia lunulata*. The Chinese name means "marsh varnish," and refers to the white, viscid juice which the plant contains. It is a common wayside plant in mid-China. The floral leaves are round and yellow, resembling the

pupil of a cat's eye, and for this reason the plant is called 貓兒眼睛草 (Mao-êrh-yen-ching-ts'ao). On account of its green leaves and green flowers it is also called 綠葉綠花草 (Lü-yeh-lü-hua-ts'ao). The stalk and leaves are the parts used in medicine. They are prescribed in fevers, dropsies (especially anasarca), malaria, and as an anthelmintic. The young shoots of the plant are sometimes eaten as food.

EUPHORBIA HUMIFUSA.—地錦 (Ti-chin). This plant has a large number of common names, referring to such things as its nocturnal blooming habit, the form of its flower, the use to which it is put medicinally, and the like. It is a very common creeping plant, found in fields and gardens, has a reddish stalk, and bears a reddish-yellow flower. The whole plant is employed in medicine; its chief uses being that of an anthelmintic remedy, and in menorrhagia, dysentery, corroding ulcers, hematuria, and hemorrhages from the bowels. All sorts of discharging wounds and sores seem to be treated with it. It is also used topically in decoction for the treatment of impetigo, scabies, and other skin diseases.

EUPHORBIA LATHYRIS.—蔞薺 (Lü-ju). In Japan this is *Euphorbia sieboldiana*, and another species which is given in the *Péntsao* under this same title, and called 草蔞薺 (Ts'ao-lü-ju), is there *Euphorbia palustris*. In the Customs lists (115) is given a product called 千金草 (Ch'ien-chin-ts'ao) for which this identification is suggested. The plant is mentioned in the appendix to the *Péntsao*, where its resemblance to the spurge is pointed out. The flowers, seeds, and herbage are all prescribed in diarrhoeas. There is also another mentioned, called 飛陽草 (Fei-yang-ts'ao), 299, identified as *Euphorbia pilulifera*, but this has not been found in the books. The *Lü-ju* is a common mountain plant, growing from two to three feet high, and has a large long root like that of the radish, sometimes forked, with a yellowish-red skin, and white flesh containing a yellow sap. The stem and leaves resemble those of other spurges, and when broken they discharge a white sap. The flowers are purple, the fruit the size of a pea. The root is the part used in medicine, and is thought to have slightly

poisonous properties. It is considered to be antiseptic and anti-putrefactive, and is used in decoction as a wash for foul ulcers, gangrenous throat, and skin diseases. It is not much used internally.

EUPHORBIA PEKINENSIS.—大戟 (Ta-chi), 1215. In Japan this is *Euphorbia lasiocaula*. It is a common marsh plant, growing to the height of two or three feet, and having a hollow stem. The stem, when broken, discharges a white juice. The purple plant of Hangchow, 539, is considered to be the best for medicinal purposes. The root is the part used in medicine, is thought to be poisonous, and has a bitter acrid taste, causing a sensation of scratching in the throat. It is a favorite remedy with the Chinese for the *ku* (蠱) disease, dropsies, persistent nausea and vomiting, and for diarrhœas. It is thought to have specific action on the bowels and kidneys, and to quiet the uterus in pregnancy. A number of popular prescriptions contain this as the principal ingredient. The acrid juice secured from the stem of the plant is said to cure toothache.

EUPHORBIA SIEBOLDIANA.—甘遂 (Kan-sui), 584. This is a Japanese identification, which Faber follows. Henry called it *Wickstrœmia*, which again Faber adopts. Tatarinov considered it to be *Passerina*, in which he is followed by Porter Smith. This plant is also a common weed found growing in mid-China, especially in Shensi and Kiangsu. The stem and leaves contain the same kind of milky juice as is found in other spurges. The root has a reddish skin and white flesh. It is cylindrical, or elliptical, in shape, and smells somewhat like ginger. As sold on the market, the tubers are usually separated, and as a rule much worm-eaten. They are administered in anasarca, ascites, tympanitis, hernia, hydrocele, and dysuria. The drug is also applied to aching parts to relieve pain and numbness, and is thought to relieve deafness.

EURYALE FEROX.—茨實 (Ch'ien-shih), 125. This plant, of the order of water lilies, has, like the lotus, been cultivated throughout China from remote antiquity. Its farin-

aceous seeds are used as food. The popular name is 雞頭 (Chi-t'ou), from the resemblance of the flower to a cock's head. A number of similar names, having reference to the shape of the flower, are given in the *Pên-tsao*. The whole plant is covered with prickles, and has large leaves, with prominent, spiny veins. It is much cultivated for the sake of its stems, rhizomes, and seeds, all of which contain much starch and are used as food. A kind of dry biscuit is often prepared from the meal of the kernels. The large, pear-shaped, indehiscent fruits are many celled and filled with the oval seeds, which are compared by the Chinese to the eyes of fish. These seeds are of a reddish color, mottled and veined with a whitish marbling, and are pale at the hilum. The interior is white, hard, and starchy, and has a roughish taste. All parts of the plant are used in medicine, and are considered to be tonic, astringent, and deobstruent in their action. They are recommended in polyuria, spermatorrhœa, and gonorrhœa. The biscuit are fed to children suffering from the *kan* (疳) disease.

EVODIA RUTÆCARPA. See *Boymia rutæcarpa*.

EXIDIA AURICULA JUDÆ.—木耳 (Mu-êrh). This is the same as *Hirncola polytricha* and *Peziza auricula*, and is a common mushroom, or lichen, growing upon trees. The Chinese choose those which grow upon five kinds of trees—the mulberry, the Sophora, the paper mulberry, the elm, and the willow—of which that growing upon the mulberry is considered to be poisonous. The other four are used as food. Their action upon the system is considered to be very beneficial, giving lightness and strength to the body and strengthening the will. They are thought to aid in the cure of hemorrhoids and to prevent other hemorrhages. The mulberry epiphytes are considered to be especially useful for this purpose, and are prescribed in all sorts of hemorrhages. Those growing upon other trees are thought to have medical virtues somewhat similar to those of the tree upon which they are found, but these will be mentioned under the appropriate article in each case.

F.

FAGOPYRUM ESCULENTUM.—蕎麥 (Ch'iao-mai), 87. Other names are 蔴麥 (Ch'iao-mai), 烏麥 (Wu-mai), and 花蕎 (Hua-ch'iao). It is sometimes called vulgarly 甜蕎 (T'ien-ch'iao), "sweet buckwheat," to distinguish it from 苦蕎 (K'u-ch'iao), "bitter buckwheat," spoken of in the next article. *Buckwheat* is an important crop in the central provinces of China, being much depended upon as food. It is therefore classed by the Chinese among the cereals, although it is a polygonaceous plant. The small, triangular, nut-like fruits of this plant are very sweet and oily. When ground they make a very nourishing and digestible food. Pastry made from the dark colored dough of this flour is commonly sold in the streets. The crop must be cut before the frost, as the plant is very susceptible to cold. The use of buckwheat as food is considered to be highly beneficial to all of the viscera, giving spirit and strength to the body. It is recommended as a diet in colic, choleraic diarrhœa, fluxes of all kinds, and abdominal obstructions. Gravel, gonorrhœa, and eruptions in children are also thought to be benefited by its use. It is supposed to affect the growth of the hair, and a poultice of the meal is very efficacious as an application to abscesses, carbuncles, and the like. The leaves and the stalks are also used in medicine; the former being considered to be carminative, but, if taken in excess, to produce an eruption. The ashes of the latter are used in combination with lime as an application to virulent sores, unhealthy granulations, and to the relief of centipede bites.

FAGOPYRUM TARTARICUM.—苦蕎麥 (K'u-ch'iao-mai). This "bitter buckwheat" is similar to *Fagopyrum esculentum*, but is considered by the Chinese to be slightly poisonous, injuring the stomach and producing jaundice, if taken in excess. Its only use is found in the scraped bark being taken in combination with bean hulls, the seeds of *Cassia tora*, and orange peel for making a pillow. This pillow, being habitually used on the bed, is considered to have a beneficial action on the eyes.

FALLOPIA NERVOSA.—薜寶葉 (Hsieh-pao-yeh). A plant described as a tall shrub, found growing wild at Macao and Canton, and furnishing a tea leaf, is thus identified by Loureiro and Bridgeman. It is not found in the *Péntsao*. The name, 後山茶 (Hou-shan-ch'a), which is also given to it, is probably local, and does not indentify it with the 山茶 (Shan-ch'a), *Camellia oleifera*.

FARFUGIUM KÆMPFERI.—橐吾 (T'o-wu). This plant is so identified in Japan, but is described in the *Péntsao* under *Tussilago farfara*, and is not discriminated from this latter. Its medicinal uses, therefore, will be referred to the article on *Tussilago*.

FATSIA PAPYRIFERA.—通脫木 (T'ung-t'o-mu), 通草 (T'ung-ts'ao), 1405. The second name given above is the common name of the plant, but it is also the term under which *Akebia quinata* is described in the *Péntsao*. To prevent confusing these, this fact must be borne in mind. This araliaceous plant, which is the same as *Aralia papyrifera*, has been identified by Sir W. Hooker as the source of the rice paper used by Chinese women in the making of artificial flowers. This paper is also used by Chinese artists, who make brilliant paintings upon it. The plant is herbaceous, but sometimes has a tree-like appearance. It grows plentifully in Formosa, and has been found in Hupeh and Szechuan. Diuretic, pectoral, galactagogue, anthelmintic, deobstruent, and antidotal properties are attributed to the plant. A decoction is used for washing sore heads. The pollen found upon the flowers is considered to be a specially efficacious application to infectious sores, hemorrhoids, and in consumption. The broken rice paper, called 通草片 (T'ung-ts'ao-p'ien), and the rice paper cuttings, called 通草碎 (T'ung-ts'ao-sui), are used to absorb discharges from wounds.

FERNS.—A large number of different kinds of ferns is found in China, but they have not been much studied, and only a few are mentioned in the *Péntsao*. Under the name of 蕨 (Chüeh) and 薇 (Wei) the *Péntsao* discusses the more

common kinds, which are *Pteris*, *Osmunda*, and *Vincetoxicum*, and they will be further discussed under these titles. The young shoots of some kinds are eaten, and a kind of arrow-root is made from the rhizomes, which, after proper washing and cooking, are also eaten, in spite of their bitterness. Of course these things are only used as substitutes for food in times of famine, which is an index of the sad distress of the country at such times. Demulcent, diuretic, soporific, and vulnerary properties are ascribed to these roots.

FERN and LYCOPODIUM SPORES.—海金沙 (Hai-chin-sha), 344, 竹園葵 (Chu-yüen-sui). The fern which produces these spores is found in all of the Yangtse provinces, from Szechuan to the sea. The fern grows in hilly districts in shady places, preferably among trees. Hence the second name above given, "bamboo garden coriander." The product, which is commonly called by the Chinese "golden sea-sand," is an exceedingly light, fine, reddish-brown powder, which burns almost as readily as *Lycopodium* powder. Its medicinal action is considered to be diuretic, antilithic, and sedative, and it is given in fevers, dysuria, hematuria, and other urinary disorders. It is suggested that it might be used as a substitute for lycopodium powder in pill making.

FERULA.—阿魏 (A-wei), 阿虞 (A-yü), 薰渠 (Hsün-ch'ü), 哈昔泥 (Ha-hsi-ni). The *Pentsao* says that the first character given above is the equivalent of the interjection "Oh!" supposed to be uttered over this stinking gum resin. The second name given is the Persian equivalent, while in India it is called 形渠 (Hsing-ch'ü), Sanscrit *Hingu*; and another name said to be used in western Asia is 央匱 (Yang-kuei). The last name given at the head of this article is the Mongolian, or Turkic, equivalent. The countries of Central Asia seem to be the source of supply, but it is said to be found growing also in the Kunlun mountains. As is the case with the European supply, the drug is probably derived from *Ferula narthex* and *Ferula scorodosma*, as well as from other species. A very good description of the drug and its preparation are given in the *Pentsao*, where the rarity of the genuine article

is also spoken of. There is a saying to the effect that "of *assafœtida* there is none genuine; of skullcap (a common herb) there is none sophisticated." Garlic, together with the placenta of a lying-in woman, or a dead fœtus, is actually boiled in water and evaporated to produce an abominable compound as a substitute for this stinking drug. The Mongols use *assafœtida* with meat as a condiment. The drug is said to be the exudation from both an herb and a tree. That prepared by pounding and boiling down the root is deemed superior to the simple exudation of the cut root. The yellow grained samples are said to be the best. Siamese and Sumatran *assafœtida* are said to be collected like *gamboge*, with which they are perhaps confounded. Several tests for proving the genuineness of the drug are given in the *Pêntsao*; one being that it should leave a white mark on a copper vessel after being kept in it over night. Deodorizing, anthelmintic, carminative, cordial, alterative, antispasmodic, deobstruent, alexipharmic, and antiperiodic properties are ascribed to it. It is said to assist in the digestion of every kind of meat, and to correct the poison of stale meats, meats of animals that have died of disease, and of edible mushrooms and herbs. Possibly one of the ascribed virtues which would prove most useful to ordinary humanity is that of suppressing the devil and driving out evil. The *Pêntsao* does not say whether this is a result of the odor, or of an astral aura emanating from the second character of the name. This character is properly written 藜 (Wei). It is possible that *galbanum* is also sometimes confounded with *assafœtida*.

FICUS CARICA.—無花果 (Wu-hua-kuo), 映日果 (Ying-jêh-kuo), 優曇鉢 (Yu-t'an-po), 阿朮 (A-tsang). The first two names given above are the common names of the ordinary Chinese fig, and the third and fourth names are said to be those of the Cantonese and Persian varieties respectively. The Chinese fig, the natural habitat of which is probably the Yangtse valley, is a small, irregular shrub, bearing a fruit very much smaller and inferior in quality to the Persian variety. In the article on this subject in the *Pêntsao*, three other fig-like plants are spoken of. One, the 文光果 (Wên-kuang-kuo), Faber identifies as *Xanthoceras sorbifolia*. Another,

called 天仙果 (T'ien-hsien-kuo), is *Ficus erecta*; while the third, which is unidentified, is called 古度子 (Ku-tu-tzū). Stomachic and corrective qualities are ascribed to the fig, which is sometimes called 木饅頭 (Mu-man-t'ou), as is also the fruit of *Ficus pumila*. The leaves, which are thought to be slightly poisonous, are recommended to be used to steam painful and swollen piles. Mr. Eitel (Handbook of Chinese Buddhism) gives 優曇鉢羅 (Yu-yün-po-lo) as the name of a tree, the *Udumbara* of the Buddhists, which is *Ficus glomerata*. This may be the fig referred to by the third name at the head of this article.

FICUS PUMILA.—木蓮 (Mu-lien), 薜荔 (Pi-li), 木饅頭 (Mu-man-t'ou), 鬼饅頭 (Kuei-man-t'ou). The Chinese names given to this plant are also applied to other plants. The first above given is used for the *Magnolia*, while the third is equally applied to *Ficus stipulata*, and probably also to *Ficus carica*. Probably the most distinctive name is the second. The leaves are large and round, and if bruised, exude a white juice, like varnish. This suggests its similarity to the *Ficus indica*, the source of *gum lac*. The plant is a creeper, and bears a hollow "fruit" of red color. This product is much esteemed by the birds, which eat of it with great avidity. The leaves are used in medicine in the treatment of dysentery, hematuria, and locally as an application to carbuncle. The juice of the vine is also employed in the treatment of skin diseases. The whole plant is thought to have a beneficial action upon the virile powers, and is therefore used in the treatment of spermatorrhœa, and as a galactagogue. The plant, when eaten, is said to remove pain in the heart.

FICUS RETUSA.—榕 (Jung). This is the *Banyan* tree, of which the adventitious rootlets, called 榕鬚 (Jung-hsü), are used in medicine. The *Pêntsao* speaks of the varnish-like juice which exudes from the tree, but does not mention its being used in medicine. The tree is found in China most plentifully in the province of Fukien. A good description is given in the appendix to the *Pêntsao*. The only use to which the rootlets seem to be put is in the treatment of toothache,

for which purpose they are mixed with salt, thoroughly dried and powdered, and applied to the decayed or aching tooth. They are considered to be a sovereign remedy.

FICUS STIPULATA.—菱玉子 (Ai-yü-tzŭ), 9. The 菱 (Ai) is a delicate climbing plant of Formosa and the south-eastern provinces, which bears a fig-like fruit. The plant is not mentioned in the *Pêntsao*, nor in any other medical work examined. Kangle's Dictionary mentions it, but is very indefinite in its description. That mentioned in the Customs lists came from Formosa and was exported to Java. Porter Smith describes the exported article as hard, dried, woody, immature, tasteless fruits, generally attached to their stalks, or sometimes separated, and cut into two, showing the characteristic fructification of the genus. The fruits are also called 饅頭籬 (Man-t'ou-lo) and 木饅頭 (Mu-man-t'ou). To what use they are put does not appear, but it has been suggested that they may be employed in decoction as a fomentation for painful piles and ulcers.

FŒNICULUM VULGARE.—薤薤 (Shih-lo), 慈謀勒 (Tzŭ-mo-lo), 小茴香 (Hsiao-hui-hsiang), 438. The first of the names is from the Persian *zila*, or *zira*. The second is also of foreign origin, but from what language is not known. The third refers to the origin of the drug from a Mohammedan country. The stalks and leaves of the plant are eaten in China, and the seeds are in frequent demand as a condiment. The *fennel* is sometimes confounded with *star-anise*. The fruits, commonly called seeds, are greyish-brown, slightly curved, beaked, with five prominent ridges, and have the characteristic aroma of the fennel. The shoots of the young plant are considered to be carminative and respiratory. The fruits are prescribed in fluxes, dyspepsia, colic, and other abdominal disorders of children. Made into a *Spirit of Fennel*, it is used locally for backache and toothache. The leaves and stems may be similarly employed. A number of other fennel-like plants are mentioned in the *Pêntsao* under this article. Some of these are used for food in their natural habitat, and the medicinal virtues of all are regarded as similar to those of fennel.

FORSYTHIA SUSPENSА.—連翹 (Lien-ch'iao), 719. This is spoken of in the classics as 連 (Lien) and 異翹 (I-ch'iao). In the Erhya 旱蓮子 (Han-lien-tzū) is given as a synonym, but this is also given in the *Pêntsao* as a synonym for 鱧腸 (Li-ch'ang), which is *Eclipta alba*. 旱蓮草 (Han-lien-ts'ao) is mentioned in the Customs lists (359), but this probably refers to *Eclipta alba* or *Wedelia calendulacea*. Strange to say, Braun, in the Hankow list, identifies this latter with dried lilies. In this he has probably been misled by the first two characters. Another name given in the *Pêntsao* for the *Forsythia* is 爾華 (Lan-hua), which is properly a name applied to several orchidaceous plants. The *Peilu* also gives 三廉 (San-lien), and the root is called 連軛 (Lien-yao) and 竹根 (Chu-kên). This shrubby plant grows in marshy places. There is also said to be a smaller variety which grows on high mountains. The fruit is a capsule, and it is the valves of this which appear in commerce. These are little, boat-shaped, brown bodies, a half to three-fourths of an inch in length, with a thin longitudinal partition. They originally contained a few dark, pendulous seeds, which have an aromatic taste. The seeds are not mentioned in the Chinese medical books. The valves are reputed to be antiphlogistic, antiscrofulous, laxative, diuretic, and emmenagogue. They are prescribed also for deafness, and as an anthelmintic in pin-worms. The stalks and leaves are thought to be antifebrile, with special action on the lungs and heart. They are used in poultice as an application to ulcerated glands and piles. The root is regarded as slightly poisonous. Besides its antifebrile action, its use is thought to have an exceedingly beneficial influence on the circulation, improving the appearance of the body, and giving life and force. It is also prescribed in colds and jaundice. A decoction of the root is used for washing cancerous sores.

FRAGARIA INDICA.—蛇莓 (Shê-mei), 地莓 (Ti-mei). Both names refer to the creeping habit of the plant. It is quite common in neglected gardens and along the roadsides. It bears yellow flowers and a bright red fruit, and the leaves, together with the root, are used in medicine. The fruit is

also thought to be slightly poisonous, and the juice is taken in fevers and to counteract arrow poison and snake bite. It is considered to be antiseptic, and is therefore applied to aphthous sore mouth and fever sores.

FRAGARIA WALLICHII.—地 楊 梅 (Ti-yang-mei). This plant grows north of the Yangtse in moist, shady places, and in the fourth and fifth months there is fruit. Nothing farther is said in regard to it in the *Péntsao*. The stem of the plant is used in dysentery and chronic diarrhœa.

FRAXINUS PUBINERVUS.—秦 皮 (Ch'in-p'i), 172. The first character is properly written 栲 (Chin), Another name is 苦 櫪 (K'u-li), but this name is applied in the Peking mountains to *Fraxinus bungeana*, which is one of the plants upon which the wax insect lives. The *Ch'in-p'i* is a tree with a green bark. It is not distinguished by the Chinese from some varieties of *Quercus*. The bark, when steeped in water, is said to produce a bluish indelible ink. The common name of the wood is 白 櫪 木 (Pai-hsün-mu). The bark is the part used in medicine, and its virtues seem in the main to be those of an astringent. It is prescribed in catarrhal fever, inflamed eyes, fluxes, and in decoction to wash snake and insect bites. It is also regarded as tonic to the genito-urinary system.

FRITILLARIA ROYLEI.—貝 母 (Pei-mu), 993. This liliaceous plant grows in different parts of China. It is cultivated in Chekiang and exported from Ningpo. It is also much cultivated in Szechuan, and this variety is regarded as much superior to any other. The Reports of Trade for 1869 and 1880 give interesting notices of this drug. The Hankow reports for 1879 also speak of the Szechuan drug. Father David mentions the *Pei-mu* as growing in the high mountains of Thibet, having yellow flowers, and the corms being used in medicine. That growing in Chekiang has grayish-white flowers. According to Henry, the name *Pei-mu* is applied in Hupeh to an orchid, which is not the same as the Szechuan drug. Porter Smith's identifications of this drug are all wrong, unless that of *Uvu-*

laria grandiflora may be correct in some parts of China. These genera are closely allied and somewhat difficult to distinguish. The classical name of the plant is 蕈 (Mêng) or 蔞 (Mêng). The first character of the common name is also written 蕈. This name has reference to the bulbs resembling a bunch of cowry shells. The corms are dug up in the spring and autumn, so that the difference in size depends not only on the difference in species, but also on the stage of development of the corm. Those coming from Chekiang are usually as large as a good sized marble. The Szechuan variety is smaller and held in more esteem than the others, and commands a higher price. These corms are naked, of a white, or yellow color, and may be broken into two or more segments, disclosing the central shoot. They are easily crushed by the teeth to a white, starchy, and almost tasteless powder. The likeness of this product to the oriental *Hermodactyls* and *Colchicum* is suggested. The corms are used by the Chinese in medicine, and are prescribed in fevers, coughs, dysuria, hemorrhages, deficiency of milk, threatened mammary abscess, lingering labor, rheumatism, and diseases of the eye. They are regarded as having specially favorable action on the viscera and the bone marrow. They are also highly recommended in spider, snake, and scorpion bites.

FUCUS SACCHARINUS. See *Algæ*.

FUMARIA OFFICINALIS.—紫花地丁 (Tzŭ-hua-ti-ting), 1411 (?). This is a common roadside weed in China, described in the *Pên-tsao* as of two varieties: one having purple, and the other white flowers. The herbage of these plants is used in decoction as an application to glandular swellings, strumous sores, carbuncles, and every kind of abscess. It is also taken internally for jaundice, and to remove wheat awns from the throat.

FUNGI.—芝栢類 (Chih-êrh-lei). Fungi growing on trees (木耳, Mu-êrh, "wood-ears") are preferred by the Chinese to the more delicate mushrooms. Many of the latter are apparently poisonous, and some of the more delicate varie-

ties are not grown in China, which facts lead the Chinese to the same result. See *Epiphytes*, *Dendrobium*, *Exidia*, *Loranthus*, *Mushrooms*, *Pachyma cocos*, and *Viscum*.

FUNKIA SUBCORDATA.—玉簪 (Yü-tsan), 白鶴仙 (Pai-hao-hsien). This is a common cultivated plant of the Chinese gardens, growing to the height of a foot or so, having large, round leaves, which are dark on the under side. The stem of the plant is bracted, and the flowers grow in the axils of the bracts. They are white and pearly, giving origin to the Chinese name. The root and leaves are used in medicine; both being regarded as poisonous. The expressed juice of the root is considered to be a counter poison to infectious abscesses and cancerous sores. It is prescribed in the early stages of cancer of the breast, abortion, to overcome cantharidal poisoning, and as an anodyne in fish bone lodged in the throat, fractures, and the extraction of teeth. The bruised leaves are applied in insect bites, and a spirit is taken or applied in cardiac pain. The flowers are now distilled and a perfumery made, which is used in cosmetics. They are also prescribed in suppression of urine or dysuria, as well as being added to prescriptions for the treatment of skin diseases and wounds.

G.

GALANGA.—See *Alpinia officinarum*.

GALBANUM.—It is entirely probable that this drug is imported into China, as it comes from a region which supplies many such products to the Chinese markets. But under what name it may come has not yet been ascertained. It is possible that in some cases it may be confounded with assafoetida.

GALIUM APARINE.—猪殃殃 (Chu-yang-yang). This *cleavers* is thus identified by Faber, but it is not found in the *Pêntsao*. The *Kuang-chiün-fang-pu* places it among green vegetables, but nothing is said in regard to it except that pigs are very fond of it, and that it is used as a vegetable in the spring.

GALLA.—無食子 (Wu-shih-tzŭ), 沒石子 (Mu-shih-tzŭ), 874, 墨石子 (Mo-shih-tzŭ), 摩茶澤 (Mo-t'u-tsê). The most of the names above given are attempts to reproduce the Persian name *Mazu*. Efforts to explain the Chinese names in any other way are scarcely warranted, however plausible some of these explanations may seem. The description of the tree given in the *Pêntsao* is very vague, and the Chinese seem to be ignorant of the origin of these galls, which they suppose to be a fruit of the tree alternating with the proper fruit. Those coming from Persia and Arabia have long been prized in China. These galls are not essentially different from those found in the European markets, as they practically come from the same place. The Chinese books direct that the galls shall be pierced, and dried in a sand bath until they assume a brownish-black color, when they are ready for use in medicine. Their use in making ink seems to have been formerly known in China, as also their use as a hair dye. They are powdered and given in dysentery, chronic diarrhoea, nocturnal sweating, seminal emissions, toothache, and the *kan* (瘡) disease in children. They are applied to sores and skin affections as a stimulant and astringent. Galls have been successfully employed in some parts of India in very mild and chronic forms of

intermittent fever. Modern Chinese seem to understand the antiperiodic effect of this drug, although the Cinchona salts have superseded all other forms of treatment for malarial fevers.

GALLA SINENSIS.—五倍子 (Wu-pei-tzū), 1466. These are the galls that are produced upon the leaves or leaf-stalks of *Rhus semialata* by an insect, which is probably an aphid. The tree is of the same genus as that which yields the Chinese and Japanese varnish or lacquer. In India the excrescence is called *Kakra-singie*, and sometimes attains to the size of a man's fist. The galls are usually met with as hard, brittle, oblong, horn-like, contorted bodies, about an inch and a half long, and resembling a seashell. They are pointed, or tapering, at either end, or triangular, irregular, and tuberculated. The outer surface is velvety, of a yellowish or light brown color, the thin walls somewhat translucent, and the interior smooth, and occupied by the remains of the insect. They contain between seventy and eighty per cent. of tannin. They are collected for the most part in Manchuria and the province of Szechuan. There is a Japanese kind which is smaller, and that from India, produced upon the *Rhus succedanea*, is more cylindrical. These galls are used by dyers and tanners to produce a black color, or are mixed with cochineal and other coloring substances (according to Dr. Williams) to produce grey, brown, and fawn tints. They are the principal ingredient in a kind of imperial electuary, which is very highly rated and only obtainable as a gift from the throne. The Chinese use them medicinally as an expectorant, astringent, and corrective remedy, and they are applied topically to chancres, swellings, and wounds. The second character in the name at the head of this article is properly written 倍 (P'ei).

Faber speaks of the *Galls of Celtis sinensis*, which he calls 木桃兒 (Mu-t'ao-êrh), but these are not mentioned in the *Pêntsao*.

GAMBIR.—See *Areca catechu* and *Uncaria gambir*.

GARCINIA MORELLA.—藤黃 (T'êng-huang). These characters are sometimes wrongly written 銅黃 (T'ung-huang). This is the same as *Garcinia hanburii*, and the drug produced,

which is the inspissated juice, derived from incisions made into the bark of the tree, and collected in a hollow bamboo, is the *Siamese gamboge* of commerce. The tree, which is common in Hunan and Shensi, is called 海藤 (Hai-t'êng). When the juice exudes from the bark and drops upon the stones, it is called 沙黃 (Sha-huang). That which exudes from the tree and congeals on the bark is called 腦黃 (La-huang). We are indebted to Hanbury for his careful observations upon this substance. A full account will be found in his Science Papers, page 326 et seq. Gamboge, as it appears in the Chinese market, consists of short cylindrical pieces of the shape of the bamboo tube in which it has been prepared. Irregular masses are also found. Chinese draughtsmen use it as a pigment. Its medicinal use is limited to external application; its purgative properties either not being known, or else considered of too violent a character for safety. The Chinese regard it as very poisonous. It is used both alone in powder, and as an ingredient in a large number of prescriptions, for the treatment of wounds of all kinds, cancerous sores, and to cause decayed and painful teeth to drop out. Its irritant and stimulant action upon the skin is fully taken advantage of in the treatment of indolent ulcers.

GARDENIA FLORIDA.—梔子 (Chih-tzŭ), 639. There are several kinds of this shrub in China, and these have been divided into species by various observers, such as the one here given, *Gardenia radicans*, *Gardenia grandiflora*, *Gardenia rubra*, and the like. But great confusion exists in regard to these identifications, and as the uses of the various drugs derived from these plants are practically the same, and as the *Pêntsao* discusses them all under one head, they will not be separated here. Generally speaking, two kinds of dried fruits from these plants are found in Chinese medicine. One, the larger, is called simply 梔子 (Chih-tzŭ), while the other and smaller is called 山梔子 (Shan-chih-tzŭ). The larger occurs as a smooth, oblong, orange-brown, or yellowish, imperfectly two-celled berry, from one to two inches in length, strongly marked with six ribs which terminate in the superior permanent calyx, which generally crowns even the dried fruit of the

shops. The pericarp is fragile and horny, marked internally by two narrow, projecting receptacles. The seeds are numerous and embedded in a dark orange pulp. The smaller fruits are met with as ovoid, smooth, six-ribbed, light or dark brown, or even black berries, crowned with more of the calyx than are the larger fruits. They vary from one-half to an inch or more in length. These are the berries which are more frequently used in medicine than are the large ones. In the Customs lists several different kinds of the drug are mentioned as appearing in commerce. 黃梔子 (Huang-chih-tzū), 512, is given as the principal term for this product, while 建梔 (Chien-chih), 103, is a kind from Chienchang prefecture in Kiangsi. The name 黃梔子 (Huang-chih-tzū) is not found in the *Pêntsao*, but is mentioned in other Chinese medical works. It seems to be identical with the common 梔子 (Chih-tzū). 山梔子 (Shan-chih-tzū) and 山黑梔 (Shan-hei-chih), 1092, are given as names for the variety yielding the small fruit. The Hankow list speaks of the 紅梔子 (Hung-chih-tzū) as a species of *Gardenia* from Szechuan. All of these fruits are used for dyeing purposes, producing a beautiful yellow color, but there is some difference in the value of the different fruits for this purpose; the Szechuan variety producing a reddish yellow or orange color. The flowers of the plant are very fragrant, and are used for flavoring tea and in cosmetic preparations. In the season when they are in bloom, they are much worn by Chinese women as hair ornaments. The medicinal uses of the smaller fruits are various; they being prescribed in fevers, fluxes, dropsies, lung diseases, jaundice, and externally as a vulnerary remedy. The larger fruits are more particularly used externally; the pulp being applied to swellings and to injuries, and to such difficulties as wine-nose, dog bite, slight burns and scalds, and the like. Other names given for this plant are 木丹 (Mu-tan), 越桃 (Yüeh-t'ao), and 鮮支 (Hsien-chih). In the Customs lists the root of this plant, 梔子根 (Chih-tzū-kên), 140, is spoken of as an article of commerce, but this is not mentioned in the *Pêntsao*.

GASTRODIA ELATA. — 赤箭 (Ch'ih-chien), 天麻 (T'ien-ma), 1296. This orchidaceous plant, called "red-arrow" by the Chinese, grows in the plains of the central

provinces. Pao P'o-tzũ says that the plant moves even when the air is still; while T'ao Hung-ching goes one better, and says that it is not moved by the wind, and moves only in still air! The central root is large, and it is said to always have twelve smaller tubers of the size of a hen's egg on the side. These tubers are much used for food, both raw and steamed. The best sort comes from Shantung. It is worthy of note that an Australian species of this plant, *Gastrodia sesamoides*, has a root which is full of starch, and which is used as food by the natives. The tubers, dried and shrivelled, are found in the Chinese medicine shops. They are in the form of flat, yellowish-brown pieces, irregularly oblong, and measuring from two to two and a half inches long by one inch and a half broad. This drug is considered to have very beneficial properties, expelling all kinds of poisonous effluvia, giving strength and virility to the body, improving the circulation, and strengthening the memory. It is prescribed in rheumatism, neuralgia, paralysis, lumbago, headaches, and other neuralgic and nervous affections. The stalk of the plant, which is called 還筒子 (Huan-t'ung-tzũ), is also considered to be tonic and aphrodisiac. The plant also produces a fruit, which becomes yellow and ripe as the leaves begin to shrivel up and fall off. It contains seeds, the kernels of which are starchy.

GELSEMIUM ELEGANS. — 鉤吻 (Kou-wên). This identification is not quite certain. Faber uses this same Chinese name also for *Rhus toxicodendron*. But in an article on Chinese Drugs, published in the *China Review* (Vol. XV, page 214), it is proved that the plant *Kou-wên* of the *Pentsao* is *Gelsemium elegans*. It is known at Hongkong under the names of 胡蔓強 (Hu-wan-ch'iang), 斷腸草 (Tuan-ch'ang-ts'ao), and 大茶葉藤 (Ta-ch'a-yeh-t'êng), the two former of which are names found in the *Pentsao* as synonyms of *Kou-wên*. In Japan it is *Rhus toxicodendron*, but 黃精葉鉤吻 (Huang-tsing-yeh-kou-wên) is given as an equivalent term, and this is also assigned to *Croomia japonica*. The extremely poisonous character of this plant is well recognized by the Chinese, and one of the names given to it is 毒根 (Tu-kên), "poison root." Li Shih-chen says: "When people happen by mistake to eat

the leaves mixed with vegetables, they die in the course of half a day.' The plant is also called 斷腸草 (Tuan-ch'ang-ts'ao) and 爛腸草 (Lan-ch'ang-ts'ao), because when it comes in contact with the bowels of man or beast, they become black and gangrenous in a short time. The younger leaves in spring and summer are especially dangerous. The old leaves in autumn are less injurious. The counter-poison recommended by the *Péntsao* is the blood of a white goose or duck. Medicinally the root is used, and it is recommended for wounds, caked breast, perspiring feet, and skin eruptions. In these cases it is presumed that it is used locally. It is also said to be useful in coughs and poisonous effluvia, as well as in difficulties of the vocal organs. How it is administered in these cases is not mentioned. The substance is also used for killing birds and other animals. So exceedingly fearful are the Chinese of its poisonous properties, that full directions are given for counteracting its effects. It would seem that fuller directions as to its administration and dosage would have been equally advantageous.

GENTIANA SCABRA.—龍膽 (Lung-tan), 791. 陵游 (Ling-yu) is another name. The first Chinese name is used for more than one species of *Gentian*. Indeed the Index Floræ Sinensis enumerates fifty-seven species of this genus, many of which are called by this one name. Morrison, in his dictionary, applies this name also to *Dictamnus albus*, and according to Porter Smith, this substance has been found in the markets under this Chinese name. The plant is common in mid-China, growing in mountain valleys. It has a blue, bell-shaped flower, and a perennial root, which in the recent state is almost white. As it appears in the shops, it consists of long, reddish-brown, numerous rootlets, attached to a short, twisted rhizome, which is seen on section to be much closer and more of a brown color than the European gentian root. The taste is agreeably bitter. It is prescribed in fevers, rheumatism, poisonous effluvia of the viscera, fluxes, and general debility. Its use is thought to benefit the liver, strengthen the memory, and give lightness and elasticity to the body. It is used locally in skin diseases and ulcers, and in affections of the

throat. Its anthelmintic properties are also recognized. It is specially recommended in nocturnal sweating, hematuria, and ophthalmia.

GERANIUM NEPALENSE.—牛扁 (Niu-pien). This identification is exceedingly doubtful. The Japanese identify it as *Aconitum lycoctonum*, but Faber identifies that found here in China as this *cranesbill*. The plant grows in marshy places in river valleys; the leaves resembling aconite leaves. Both the leaves and root are used in decoction for washing sores, and especially for destroying lice and maggots on cattle. The plant is not poisonous, although the root is considered to be slightly deleterious. The *Pên-tsao* speaks of another plant under this head, which is also used for killing pediculi. This is called 虱建草 (Shih-chien-ts'ao). It has not been identified.

GEUM DRYADOIDES.—蛇含 (Shê-han), 蛇銜 (Shê-hsien), 龍銜 (Lung-hsien). This plant grows in mountain valleys and on stony ground. It has small leaves and yellow flowers. It is said to be cultivated in Szechuan for medicine. Snakes are reported to dislike it. The stem and leaves are used medicinally. It is regarded as a special drug for children, and is even recommended to be taken by the mother during the foetal life of the child. It is prescribed in convulsive disorders, nervous irritability, and as an anodyne in wounds and sores. The fevers of children are specially susceptible to its good influences. It is prescribed for the bleeding of wounds, obstinate skin diseases, and the bites of centipedes and scorpions.

GEUM JAPONICA.—水楊梅 (Shui-yang mei), 地椒 (Ti-chiao). This is a variety of the well known *water avens*. It bears a fruit, shaped like the pepper fruit; hence the second name. It does not seem to be used internally as medicine, although it is not regarded as poisonous. The fruit is applied externally to boils and abscesses.

GINKO BILOBA.—銀杏 (Yin-hsing), 白果 (Pai-kuo),
952. See *Salisburia adiantifolia*.

GLEDITSCHIA CHINENSIS.—皂莢 (Tsao-chia), 皂角 (Tsao-chio), 1331. This leguminous tree is met with throughout China and Cochin China. It bears a pod which in some specimens attains to a length of fully two feet. This is thin and knife-like in appearance, and contains many flat, brown seeds, which are used in bathing and in washing clothes. The tree is thickly beset with thorns, which are called 天丁 (T'ien-ting). At the proper time for the seeds to drop, the people surround the tree with bamboo baskets, and all of the seeds are said to fall from the tree in one night. Li Shih-chen says that sometimes when a tree does not produce fruit, the people bore a hole in the trunk, fill it with from three to five pounds of cast iron, and cover the opening with mud. Then it will bear fruit. At Peking, this beautiful tree is called by the second name given above. It bears small, greenish-yellow, scented flowers, and is much prized as a lawn tree. The medical uses to which the Chinese put the different parts of the tree are very numerous. The pods are considered to be expectorant, emetic, and purgative. They are prescribed in coughs, flatulence, chronic dysentery, and prolapse of the rectum. The seeds and pods are used in the form of a bolus as an antidote in case of metallic poisoning. The coarse powder is blown into the nostrils, or put into the rectum, of the victims of accidental drowning and hanging. It is said to extract the water and to open the passages of the body. Various other difficulties, remarkable in their character, are treated with these seeds, such as difficult labor, dribbling saliva in children, decayed teeth, chronic consumption, and cancer of the rectum. The thorns are used as an anthelmintic, in decoction as a wash to ulcers, skin diseases, caked breast, and retained placenta. They are also used as needles in opening abscesses, and as counter-irritants in tumors and growths. The bark of both the stem and the root is used as an anthelmintic and antifebrile remedy. The leaves are used in decoction for washing sores. Another species or variety of this plant, called 鬼皂莢 (Kuei-tsao-chia), is mentioned. It is used for the treatment of ulcers and skin diseases.

GLEDITSCHIA JAPONICA.—猪牙皂莢 (Chu-ya-tsao-chia), 牙莢 (Ya-chia), 牙皂 (Ya-tsao), 1487. This a Japanese identification of a species of *Gleditschia* differing from *Gledits-*

chia chinensis in some respects. In the *Pên-tsao*, Sukung says in regard to it: "It is an inferior sort. The pod is crooked, thin, uncomely, and not succulent. When used for washing, it does not remove the dirt. The pods, which are two feet long, are coarse and dry. The best are those which are only from six to seven inches long." Hanbury received some of these pods, and he described them as follows: "They are from two to four inches long, and from $\frac{3}{10}$ to $\frac{5}{10}$ of an inch broad, more or less sickle-shaped and compressed, their upper edge prolonged into a narrow wing. The anterior extremity is pointed, the posterior attenuated into a short stalk. The pods are indehiscent, and have thick, pulpy valves, which are extremely smooth and of a deep brown. The substance of the pod, when chewed, even in very small quantity, produces an extremely disagreeable sense of acidity in the fauces." He suggests *Prosopis* as an identification. The medical uses of these pods are not distinguished from those of *Gleditschia chinensis*, although they are regarded as inferior to the latter.

GLYCINE HISPIDIA.—大 菘 (Ta-tou), 赤 菘, 菘, and 菘 (Shu), 菘 菘 (Jên-shu), 菘 菘 (Jung-shu), 菘 菘 (Shih-tou), 黑 菘 (Hei-tou), 黃 菘 (Huang-tou). This is the same as *Soja hispida* and *Dolichos soia*, and is the Chinese and Japanese *soy bean*. It has been known in China from ancient times, and has always been considered by the Chinese as the most important of the cultivated leguminous plants. A very large number of varieties is found throughout the Empire, especially in the north. The name "great bean" applies to the plant, not to the seeds, as these are quite small. It is employed in China and Japan in the preparation of three products which are of almost universal use in oriental cookery. These are "bean oil," "bean-curd," and "soy." There are many varieties of this bean, which the Chinese distinguish by the color of the seeds; these being black, white, yellow, gray, azure, and spotted. The black sort is used in medicine, and the yellow is specially valued in the preparation of bean-curd and soy. The black kind is not much used as food, as it is thought to render the body heavy. The Chinese regard those things which give lightness to the body with more favor than those

which promote flesh and sluggishness. The characters 未, 菽, or 菽 (Shu) are the classical name, while 荳菽 (Jên-shu) and 菽菽 (Jung-shu) are equally ancient compound names for this plant. 豉 荳 (Shih-tou), "bean-relish bean," indicates its use in making the bean relish and soy.

Medicinally, the black beans are considered to have much value. Their frequent use is thought to have a most beneficial effect upon the body, giving strength and vigor, albeit with heaviness. This latter fact is the only objection offered to the use of these beans. They are regarded as an admirable counterpoison against most of the vegetable poisons, such as *Aconite* and *Croton tiglii*. Carminative and quieting properties are also ascribed to them. They are prescribed in a large number of difficulties, notably post-partum and sexual disorders; but as they are always in combination with other active drugs, it may be readily supposed that the beans play no very important part in these prescriptions. The green bean hulls, 1317, chewed into a pulp, are applied to smallpox ulcers, corneal ulcer, and the excoriation produced in children by urine. The bruised leaves of the plant are used as a local application in snake bite. The flowers, 1310, are used in blindness and opacity of the cornea.

The *bean sprouts*, called 大 荳 黃 卷 (Ta-tou-huang-chüen) and 荳 蘗 (Tou-nieh), are also mentioned in the *Péntsao*. Bean-sprouts (荳 芽, Tou-ya) are a common article of diet with the Chinese, but these former are made of the black bean, and are especially used in medicine. Li Shih-chen gives the following mode of preparation: "On a water day (壬 癸 日) soak black beans in clear water, and after the sprouts have grown, take off the hulls and dry the sprouts in the shade." Their medical properties are considered to be laxative, resolvent, and constructive. They are reputed to have special influence upon the growth of the hair, and to be curative in ascites and rheumatism.

The yellow variety of beans is also given a separate discussion in the *Péntsao*. As was before said, these are used for the most part in the preparation of bean oil, bean-curd, and soy. The beans and pods of this variety are larger than those of the black kind, and in the green state they are highly

esteemed by the Chinese as an article of food. But they are also considered "heavy," and if partaken of too freely they are thought to produce jaundice. They are considered to be carminative and deobstruent, and are recommended in ascites. Locally they are applied to smallpox ulcers. The ashes of bean stalks are specially recommended as an application to unhealthy granulations in hemorrhoids (possibly fungous growths of the anus).

The oil, 荳油 (Tou-yu), is considered to be very slightly deleterious, and is used as a local application to ulcers and skin diseases, and for removing bandoline from the hair. This oil is manufactured in large quantities, especially in Manchuria, and is shipped to every part of China. It is used as food, chiefly by the poorer people, and was formerly used as a burning oil; but kerosene has now almost superseded it for this latter purpose. It is usually dark colored, and has a not very pleasant odor.

BEAN RELISH (*Salted Beans*), 大 荳 豉 (Ta-tou-shih), 1318, is a product much valued by the Chinese. The meaning of the character 豉 (Shih) is difficult to render in English. It refers to salted and fermented beans, and is applied to both the prepared beans themselves and to other preparations made from them, some of which are in liquid form. For this last reason, this character is sometimes thought to refer to "soy." But the term "relish" will be used for this product to distinguish it from soy, which will be found described a little later. Tao Hung-ching (V Century) says that Puchou (蒲州) in Shansi and Shenchou (陝州) in Honan were places noted for the excellence of this product. He says that at Shenchou there is produced a liquid bean relish which in ten years will not spoil, but for medical purposes it is not so good as other kinds, as no salt was used in its manufacture. On the other hand, Meng Shen (VII Century) says that the Shenchou liquid bean relish is better than the ordinary kind. He gives its composition as follows: "Use Hispidia beans which have been fermented, first steaming them soft. To each peck add of salt four pints, pepper (椒), four ounces. In the spring time, let stand three days; in summer, two, when it will be half ripe. Then add five ounces of ginger (生薑), and let

stand to clarify. Use only the clear part." Li Shih-chen says: "All sorts of beans can be used in making this product, but that made from the black bean is used in medicine. There are two kinds of this relish: one called insipid relish (淡豉, *Tan-shih*), and the other salty relish (鹹豉, *Hsien-shih*). The liquid form of the former is the one most used in treating diseases. To make this, in the sixth month take two or three pecks of the black *Hispidia* beans, wash clean and soak in water over night. Drain off the water and steam soft. Spread out upon matting, and after it has become slightly cool, cover with artemisia stalks. Examine it every three days to note the process of fermentation. The layer of *Mycoderma* which grows on top should not be allowed to become too thick. When sufficiently fermented, take out and dry in the sun and sift clean. Use clean water and mix into a half-dry-half-moist condition, just so that the juice will exude between the fingers when the material is squeezed in the hand. Put into an earthenware jar and pack firmly, cover with a layer of mulberry leaves three inches thick, and seal up with clay. Set the jar in the sun every day for seven days. Then take out and dry for a little while in the sun, and again moisten with water and repack in the jar as before. This do seven times, and then boil again, spread on matting, dry with fire, pack again into the jars, and seal up for future use."

"The method of making the salty relish is as follows: Take one peck of *Hispidia* beans and soak them in water three days. Wash, steam, and spread out in a store room, and when they have fermented, take them up, sift them clean and wash in water. For every four catties take one catty of salt, half a catty of shredded ginger, and of peppers, orange peel, thyme, fennel, and apricot kernels, a sufficient quantity. Put all into an earthen jar and cover with water to the depth of an inch. Cover with bamboo skin, and seal up the mouth of the jar. Place in the sun for one month, when it will be finished. To prepare the liquid bean relish, between the tenth and first moons take three pecks of good salted beans. Boil fresh hempseed oil until it smokes; then put in the beans and cook thoroughly. Spread the mixture out on matting and dry in the sun. When it is dry, steam again. Repeat this

process three times, and then add a peck of white salt and pack all well together. Pour on hot water and percolate three or four gallons. Put into a clean caldron and add pepper, ginger, onion, and shredded orange peel, and boil all together until it is evaporated one-third. Then put into a whole vessel and let stand, and it will develop an exceedingly fine flavor." In addition to the bean relish several other kinds are made, such as bran relish, melon relish, and soy relish; but these are for food and are not used in medicine.

These salted beans and their derivatives are used medicinally in various ways. The insipid relish is used in the treatment of colds, headache, chills and fever, malaria, noxious effluvia, irritability, melancholy, decline, difficult breathing, painful and cold feet, and for the destruction of poisons in pregnant domestic animals. In the treatment of fevers and perspirations, it should be cooked into a paste. For driving away melancholy, the uncooked article should be made up into pills and taken. For chills and fever, colds on the chest, and for ulcers, it is boiled and eaten, as it also is in the case of dysentery and colic. It may also be used for the treatment of ague, bone disease, poisons, marasmus, and dog bite. It is useful in expelling gas, benefiting the internal organs, treating colds and cold poisons, and for nausea.

The Puchou relish has a very salty and cooling taste. It corrects irritability, fever, poison, cold, and decline. It benefits all of the internal organs, is diaphoretic, opens up the passages, destroys astral influences, and clears the breathing ("opens up the nose"). The Shenchou liquid relish also allays irritability and feverishness. These are employed medicinally in obstinate dysentery, hematuria, locomotor ataxia, (手腳不遂, Shou-chio-pu-sui), excessive hemorrhage in abortion, threatened abortion, difficult labor, tinea, venereal sores, stings of insects, scorpion bites, horse bites (anthrax?), wine drinkers' diseases, foreign objects in the eye, and thorns in the flesh.

BEAN FERMENT.—豈黃 (Tou-huang). This is the fermentation pellicle (*Mycoderma*) which forms on the top of fermenting beans, as the mother-of-vinegar forms on the

top of vinegar in its process of preparation. The pellicle contains, in addition to the *mycetes* of fermentation, various kinds of moulds and mildews, and its composition is probably not at all uniform. The method of preparation is given as follows: "Take a peck of black beans and thoroughly steam them. Spread upon matting and cover with artemisia stalks, as in the process of preparing soy. When the pellicle is formed on top, take it off, dry in the sun and powder, when it is ready for use. The taste is sweet and cooling, and the substance is non-poisonous. It is specially recommended in the treatment of rheumatism, especially that of the knees, for the insufficient action of the five viscera, spleen, and stomach, giving strength to the body, lubricating the muscles and skin, improving the complexion, invigorating the marrow, and toning up the system generally, enabling one to eat fats. It is sometimes combined with pork fat and made into pills for producing flesh. A hundred pills should be taken at one time. Fat people should not use this substance. Chewed into a paste and applied to eczema, it proves very efficacious.

BEAN CURD.—菘腐 (Tou-fu). The method of making bean curd had its origin in the Han dynasty, during the reign of Huai Nan Wang (A.D. 23), at Liuan. All sorts of black beans, yellow beans, white beans, clay beans, green beans, and peas can be used in its preparation. The process of manufacturing is given in the *Pèntsao* as follows: "Wash the beans and crush them in water. Skim off what floats, and boil. Make a natron solution, or a decoction of the leaves of Shan-fan (山礬), *Symplocos prunifolia*, or use sour soy vinegar, and add to the beans. Heat all together in a caldron. Afterwards pour into a large jar in which has been placed powdered gypsum and mix well together. What will be produced is a saltish, bitterish, sour, acrid mixture, and what congeals upon the surface of the compound is to be taken out and dripped clean of the other solution. This is *bean-curd*." The taste is sweet, alkaline, and cooling. It is considered to be slightly deleterious. It is thought that the ingestion of bean curd prevents the curing of diseases, but if carrots are put with the bean curd, this action is pre-

vented. It is reputed to be beneficial to the internal organs, improving the breath, harmonizing the spleen and stomach, removing flatulence, and expelling evil gases from the bowels. Used warm it disperses subcutaneous hemorrhage. It is prescribed in chronic dysentery, ophthalmia, swellings, and drunkenness.

Soy.—**醬** (Chiang). Common names are **醬油** (Chiang-yu) and **豉油** (Shih-yu). Li Shih-chen says that the Chinese name indicates the power of this substance to counteract the poison which may exist in food. Several forms of soy exist, such as flour soy, made of wheat or barley flour; sweet soy, of similar composition, but varying slightly in the method of manufacture; and bean soy, made of various kinds of beans, but more particularly of the *Hispidia* bean. One method of manufacture is as follows: "Take of *Hispidia* beans three quarts, and boil in water. Mix with twenty-four catties of flour and allow to ferment. To every ten catties of the mixture take of salt eight catties, of well water forty catties; mix and allow to stand until it is ripe." Several other methods of manufacture are given in the *Péntsao*, differing in various respects from this, but the method here given will suffice to illustrate the mode of manufacture. Soy is a black, thin liquid, having an agreeable saltish flavor, and frothing up of a yellow color when even slightly shaken. It is the universal sauce of the Chinese and Japanese, and is largely exported to India and Europe as a convenient menstruum for other flavoring substances used as condiments. In China it is both made in large quantities by shops and in smaller quantities by domestic manufacture. It is considered to provoke the appetite and to correct any injurious qualities of food. It is laxative, cooling, and antidotal to various poisons, according to Chinese estimation. It is often applied to burns, scalds, eczema, and leprosy sores. Its use is considered beneficial in threatened abortion and the hematuria of pregnancy. Two other kinds of soy are mentioned in the *Péntsao*, both made from the seeds of the elm (apparently of two different species). One is called **榆仁醬** (Yu-jên-chiang) and the other **燕萸醬** (Wu-i-chiang). In regard to these two terms for elm, see the article on *Ulmus*. Both these kinds of soy are considered to be laxative, diuretic,

and anthelmintic. They should not be used to excess, as they are considered to have some deleterious properties.

GLYCYRRHIZA.—甘草 (Kan-ts'ao), 587. Other names are 蜜甘 (Mi-kan), 蜜草 (Mi-ts'ao), 美草 (Mei-ts'ao), 落草 (Lu-ts'ao), 靈通 (Ling-t'ung), and 國老 (Kuo-lao). This last, name is applied to the plant on account of its great virtues as a remedy. The drug is very highly prized by the Chinese, and enters into the composition of very many prescriptions. The most common species that supply the Chinese licorice root are *Glycyrrhiza echinata* and *Glycyrrhiza glabra*, both of which are found growing plentifully in northern China. Quantities are also brought from Mongolia, especially from the region about Kokonor. In fact, the plant seems to grow extensively throughout all the region of Central Asia. The root is commonly sold in long pieces, dry, wrinkled, and red on the surface, and yellow, fibrous, and tough in the interior. The taste is disagreeably sweet and slightly mucilaginous. It stands next to ginseng in importance in Chinese pharmacy, being the great corrective adjunct and harmonizing ingredient in a large number of recipes. Like most celebrated Chinese drugs, it is credited with the property of rejuvenating those who consume it for a long time. The roots, twigs, and efflorescence are used in medicine. Tonic, alexipharmic, alterative, and expectorant properties are ascribed to the drug. It is used to allay thirst, feverishness, pain, cough, and distress of breathing. It is specially prescribed for children, and is used in a large number of their maladies, but as it is usually exhibited in combination with other drugs, it can readily be understood why purely imaginary virtues should be ascribed to it. Locally, it is applied, mixed with honey, to burns, boils, and other sores. The properties ascribed to the twigs and flowers do not differ in any essential respect from those ascribed to the root.

GLYPTOSTROBUS HETEROPHYLLUS (*Taxodium heterophyllum*).—水松 (Shui-sung). The *Pentsao* says that this grows on the shores of the southern seas in the water, and looks like a pine. Hence the name. It is prescribed in animal bites and in the dropsy of pregnant women (hydropsamnion?).

GNAPHALIUM MULTICEPS.—鼠麴草 (Shu-chü-ts'ao). Other names are 鼠耳 (Shu-êrh) 佛耳草 (Fo-êrh ts'ao), 320, 米麴 (Mi-chü), 無心草 (Wu-hsin-ts'ao), 香茅 (Hsiang-mao), 黃蒿 (Huang-hao), and 葶母 (Jung-mu). This is an artemisia-like plant, growing principally in northern China, with a whitish, hirsute leaf, and bearing yellow flowers. Hence one of the names, "yellow artemisia." The medicinal action of this plant is regarded as decidedly anti-malarial and anti-febrile. It is also prescribed in coughs and diseases of the lungs and air passages.

GNAPHALIUM POLYCEPHALUM.—芸草 (Yün-ts'ao). This is a fragrant plant with sessile leaves, both the white flowers and the scabrous leaves having fragrance. For this reason it is much cultivated in gardens. The odor is very persistent, and it is said that fleas, lice, and moths do not like it. Because of this latter fact, the plant is frequently put under the bed mats and into books to drive these insect pests away. No medicinal properties are ascribed to it.

GOMPHRENA GLOBOSA.—百日紅 (Pai-jih-hung). No part of this beautiful tree seems to be used in medicine. It is much cultivated in gardens as an ornament, and the name refers to its long period of flowering. The flowers are small, red, and fragrant. They are sometimes called 丁香花 (Ting-hsiang-hua).

GOSSYPIUM HERBACEUM.—草綿 (Ts'ao-mien), 綿花 (Mien-hua). This malvaceous plant, which yields the cotton wool, and which is the same as *Gossypium indicum*, is not distinguished in Chinese works from the sterculiaceus *Bombax malabaricum*, the cotton tree. The reason for this probably appears in the fact that the cotton tree was known in China from very ancient times, and its cotton was used by the Chinese in the manufacture of cloth before the introduction of the cotton plant, which probably took place about the XI Century, coming by the way of the south, either by foreigners trading with the Chinese, or by the Mongol conquerors of China, who about the same time brought it from the west and

south-west, or by both of these factors. The plant is now grown in all parts of southern and central China. Under the title of 木棉 (Mu-mien) the *Pentsao* discusses this plant and gives 古貝 (Ku-pei) and 古終 (Ku-chung) as synonyms, saying that the former refers to the tree, while the latter refers to the plant. The Sanscrit names given are 睽婆 (San-p'o) and 迦羅婆劫 (Chia-lo-p'o-chieh), the latter of which may be an attempt at transliteration of the Indian name *Karpasi*. Kao-chang, the country of the Uigurs, is named as possessing a cotton plant which produces a textile fiber, called 白疊 (Pai-tieh). The *Kuang-chün-fang-pu* gives full directions as to the growing of cotton, and names the various varieties raised. The Chinese card cotton by means of a bow, producing a very light floss. Usually the Chinese cotton fiber is short staple, but they have one kind, called 絲綿 (Ssū-mien), which is very silky and of great length. They consider the foreign cotton, which they have had to buy so largely of late years on account of the failure of their own crops, as inferior in warmth to their own staples. The cotton plant does not seem to be used in medicine. The fiber, both in the raw state and after having been incinerated, is used to staunch wounds. The seed, 綿花子 (Mien-hua-tzū), 綿花仁 (Mien-hua-jên), 848, are employed in the manufacture of *cotton seed oil*, which was formerly used in villages as food and for lamps. Its taste is very unpleasant, which fact is due to the Chinese roasting the seeds before expressing the oil. It is used medicinally as a demulcent, and is applied to leprous, scabious, and other forms of skin disease.

GYMNOCLADUS CHINENSIS. — 肥皂莢 (Fei-tsochia). This is a leguminous tree, similar to *Gleditschia*. It was for some time supposed to be a *Cæsalpinia*, but it was later found to belong to *Gymnocladus*, and the above designation was assigned to it. It is a large tree, growing in central China, and bearing white flowers. Its pods are collected for the market, and are met with as greasy, fleshy, yellowish, or reddish-brown legumes, three or four inches long, and about one and a half inches broad. They abound in an acrid, detergent, fatty principle, so that when the pods are roasted and pounded into a pulp, they may be kneaded into balls. These

are usually as large as children's marbles, and were formerly much used for washing clothes and the body. They are called 肥皂它 (Fei-tsao-t'o), and are not allowed to be used in public baths, as they have a strong smell. Foreign soap has now taken the place of these, having even taken the name of this plant for its common name in Chinese vernacular, 肥皂 (Fei-tsao). The seeds are black and smooth, and are called 肥皂核 (Fei-tsao-ho), 肥皂莢 (Fei-tsao-tou), and 肥皂子 (Fei-tsao-tzŭ), 298. They were described by Hanbury as being three-fourths of an inch in diameter, of a compressed spherical form, each furnished (when perfect) with a large, rigid, persistent podosperm. A transverse section shows a pair of plane cotyledons, between the flat sides of which and the thick, hard testa lies a layer of black, horny albumen. These are edible after roasting, but are more frequently used by the makers of artificial flowers with which to wax their threads. The pods are the parts principally used in medicine, and are prescribed in rheumatism, dysentery, and hematuria. They are applied to eczema, favus, and venereal sores. It is said that if the pods drop into water which contains goldfish, these latter will die. The seeds are reputed to be carminative in their action.

GYMNOGONGRUS PINNULATA.—鹿角菜 (Lu-chio-ts'ai), 猴葵 (Hou-k'uei). This is one of the marine algæ, found all along the coast of China south of the Yangtse. It grows to the height of three or four inches, and looks like a stag's horns; hence the name. It is of a purplish yellow color, and is gathered by the natives as food and for medicine. Its taste is very mucilaginous, and it is easily converted into a gelatinous mass by cooking in water. Women sometimes use it as a bandoline. It is used medicinally, principally as a demulcent in fevers and colds, and it is said to be very useful in cinabar poisoning. Its demulcent properties would surely commend it in catarrhal affections of the bowels or bladder.

GYMNOGRAMME JAPONICA.—蛇眼草 (Shê-yên-ts'ao). This is a fern which is found growing in old wells, or in other damp places where there is more or less constant shade. The sori, which are found on the fronds, are often exceedingly

numerous, and are said to look like snake's eyes; hence the name. True to Chinese therapeutical principles, this plant is used only as an application in cases of snake bite.

GYMNOTHRIX, *Alopecurus*. — 狼尾草 (Lang-weits'ao), 稂 (Lang), 董節 (T'ung-lang), 狼茅 (Lang-mao), 孟 (Mêng), 宿田翁 (Su-t'ien-wêng), 守田 (Shou-t'ien). In all probability these terms may not all relate to the same species. The second term would seem to be generic, while the first is a very good translation of the English name, "fox-tail." This grows in China, as it does in other parts of the world, in damp fields. The seeds are used, though scarcely medicinally; as they are said, if used as food, *to prevent hunger!* Under this article in the *Pentsao* a related plant is mentioned, which is called 蒭草 (K'uai-ts'ao). This is *Scirpus* (which see).

GYNANDROPSIS PENTAPHYLLA. — 白花菜 (Pai-hua-ts'ai), 羊角菜 (Yang-chio-ts'ai). This is a cultivated vegetable of the gardens. It is described as having a weak stalk, spreading out in branches with pinnatifid leaves. In the autumn it bears a white flower with long petals, and produces a small horn about two or three inches long (the seed capsule?). The seeds are black and tiny, and are gathered for use as medicine. There is also a yellow flowered kind. If taken in excess, the drug produces flatulence and a sense of oppression in the stomach. Medicinally, it is used as a carminative, and the decoction is employed as a wash for piles and for rheumatism and malarial disorders.

GYNOCARDIA ODORATA. — 大風子 (Ta-fêng-tzŭ). These seeds are imported into China from Siam. The large tree which yields them is common in Cambodia, Siam, the Indien Archipelago, Malaysia, Assam, and other parts of Eastern India. The whole order (Bixineæ) to which this tree belongs is tropical and poisonous. The large, round, indehiscent, succulent, capsular fruits, compared by the Chinese to the cocoanut, contain very many matted, ovoid, irregular, compressed, grayish-brown seeds. They vary from a half to seven-eighths of an inch in length, and consist of a hard, woody testa,

to the surface of which portions of firm dry pulp, or of the rind of the fruit, are often adherent, sometimes to the extent of uniting two or three seeds into one mass. The albumen is oily, and incloses large, heart-shaped, leafy cotyledons. The Indian nuts are somewhat different from the Siamese samples, the testa being smooth, thin, and fragile in the case of the former. *Chaulmugra* and *Petarkura* are Indian names for the drug. The seeds are likened by the Chinese to *Mylitta lapidescens* (雷丸, Lei-wan). The method given in the *Pentsao* for preparing the oil is as follows: "Use three catties of the seeds, remove the hulls and skins; grind up in a mortar very fine. Pack into an earthen jar and seal up tightly. Put the jar into a pot of boiling water and seal the pot, so that no steam can escape (possibly for increased heat under pressure). Steam it until the oil assumes a black and tarry appearance. This is the 'chaulmugra oil'" (大風油, Ta-fêng-yü), 1221. This is an extract rather than an oil, although it probably contains all of the latter found in the seeds. Both the seeds and this oily extract are used in the treatment of leprosy. Indeed, the name of the drug is derived from its reputed qualities in the treatment of this disease (大風疾, Ta-fêng-ch'i). *Sophera flavescens*, *Momordica cochinchinensis*, and calomel are variously used in combination with the oil or seeds in the internal or external treatment of the disease. The drug is also recommended for impetigo, psoriasis, syphilis, scabies, and parasitic pediculi. Some of the chaulmugra seeds found in Chinese shops would seem to be from *Hydnocarpus venenatus*, of the same order as *Gynocardia*, which has been found almost equally as useful as the latter in the treatment of leprosy. The Indian name of this is *Neeradimootoo*.

GYNURA PINNATIFIDA.—三七 (San-ch'i), 1059, 山漆 (Shan-ch'i), 金不换 (Chin-pu-huan). This scitameneous plant is named from the irregular arrangement of the leaves. The Chinese say that there are three on the left side and four on the right; hence the first name. Li Shih-chen says that *this is probably not true*, but that the first name is a corruption of the second, which means "mountain varnish." This name refers to its property of causing the edges of wounds to adhere

together. From its extraordinary reputation amongst military and fighting men, the root of this plant is very costly. The last name, "gold no recompense," refers to this fact. The drug comes from Kuangsi and Yunnan, where it is cultivated. It occurs in tapering pieces of from three-quarters of an inch to an inch in length. The yellow external surface is wrinkled, marked with small nodules and ridges, and the interior is of a pale yellow color. The taste is bitter and slightly saccharine, something like that of ginseng, to which it is likened by the Chinese. Vulnerary, styptic, astringent, and discutient properties of a very high degree are attributed to this drug. It is recommended in all forms of hemorrhage and wounds, including tiger and snake bites. The leaves have similar properties, and are often combined with the rhizome.

H.

HABENARIA SAGITTIFERA.—鵞毛玉鳳花 (Ē-mao-yü-fêng-hua). This orchidaceous flower blooms in the autumn, and has a waxy petal which is likened in shape to a bird. It has an appearance of being very light, and this light, waxy, bird-like petal is indicated in the name by the three characters, 毛, 玉, and 鳳. No medicinal properties are assigned to the plant.

HALYMENIA DENTATA.—鷄腳草 (Chi-chio-ts'ao). This is a fresh water alga, a species of *dulse*, which grows in marshes and ponds. It has a red stalk and opposite fronds. The shoot has a bitter taste, and is used in fluxes that have a tendency to become chronic. A decoction of the root is employed in lepra-like difficulties.

HAMAMELIS JAPONICA.—金縷梅 (Chin-lü-mei). The *Kuang-chün-fang-pu* describes the beautiful thread-like petals of this shrub, which flutter gracefully in the wind. The plant is very similar to *Hamamelis virginiana*, but does not seem to have been used medicinally by the Chinese.

HELIANTHUS ANNUUS.—向日葵 (Hsiang-jih-k'uei), 照日葵 (Chao-jih-k'uei). Although the *sunflower* is extensively cultivated in gardens and fields throughout China, and the fruits are used as food, it is not clearly mentioned in the standard works on medicine or botany. On account of a reference in the classics, the meaning of which is anything but clear, this plant has been confounded with the malvaceæ. The above names are the common designation by which the plant is known in Japan and China. The fruits are also fed to fowls, the leaves are made fodder for cattle, and the stalks and roots are used as fuel. The oil, 葵子油 (K'uei-tzŭ-yu), is also known to the Chinese, but does not seem to be much used. Aside from the nutritive properties of the fruits, no medicinal qualities have been found ascribed to this plant.

HEMEROCALLIS.—萱草 (Hsüan-ts'ao), 476. The first character is written 諼 (Hsüan) in the classics, and is defined by 忘憂 (Wang-yü), the plant of forgetfulness. The common name is 鹿葱 (Lu-ts'ung), because the plant is like the onion and deer eat of it. Still another name is 宜男 (I-nan), because it is said that if pregnant women wear the flowers at the girdle the child will be a male. There are several species of this genus found in China, mostly having orange and yellow flowers. The names given in this article are variously referred to *Hemerocallis fulva* and *Hemerocallis minor*. The dried flowers are largely consumed as food by the Chinese, and are called 金針菜 (Chin-chên-ts'ai) and 黃花菜 (Huang-hua-ts'ai). The article appearing in the Customs list, however, does not consist alone of the flowers of this plant, but also of other species of lily. They are used both as medicine and as a relish with meat dishes. They consist of inferior, tubular perianths of the unopened flower, enclosing six introrse stamens, with the three-celled, superior ovary, and simple stigma characteristic of liliaceous plants. They are twisted, or wrinkled, so as to give a length of four or five inches, the color being of a dark, brownish-yellow, translucent, and covered with a whitish mould or bloom. The odor is agreeable, and the taste sweet and mucilaginous. Medicinally, they are used together with the shoot, and are considered to be antifebrile and anodyne. Some intoxicant or stimulant properties seem to belong to these drugs. The root is diuretic, and is given in dysuria, lithiasis, dropsy, jaundice, piles, and tumor of the breast.

HEMIPTELEA DAVIDIANA.—樞 (Ch'u). This is a small ulmaceous tree, provided with large thorns, and found in the northern provinces. It is described in the *Pêntsao* together with the *elm*, and its medicinal virtues are not distinguished from those of the latter.

HEPATICÀ.—地衣 (Ti-i), "earth clothes," also called 仰天皮 (Yang-t'ien-p'i) and 掬天皮 (Chü-t'ien-p'i). The *Pêntsao* does not give much description of this plant, but what is given is characteristic. The taste is bitter, cooling, and slightly deleterious. Its medicinal virtues are said to

be anodyne and antifebrile, and it is prescribed in angina and sunstroke, and also as a local application in smallpox ulcerations.

HETEROPOGON CONTORTUS.—地筋 (Ti-chin), 菅根 (Chien-kên), 土筋 (T'u-chin). This is a grass with a hirsute root. It is nearly related to *Imperata arundinacea*, both in appearance and in medicinal virtues. The root, shoot, and flowers are all used as a demulcent and antifebrile remedy.

HIBISCUS ESCULENTUS and HIBISCUS MANIHOT.—黃蜀葵 (Huang-shu-k'uei). The identification of malvaceous plants is exceedingly uncertain. The Chinese names are often used interchangeably for different genera and species, and even for plants of other orders. The descriptions also lack in definiteness, so that it is safe to say that different plants are often confounded. The one under consideration represents one or more edible species, which include that furnishing *okra*. However, it is sometimes mistaken for *Althea rosea*. It is grown extensively in China as a garden flower, as well as a vegetable, and it comes up from year to year as a volunteer. It bears a six-celled, conical seed pod, about the size of a thumb, and the seed capsules are arranged spirally in the pod. The seeds are black. The stalk grows to the height of six or seven feet. The bark is used for making rope. The flowers, seeds, and root are all used medicinally, and they are considered to be diuretic and demulcent in their action. They are prescribed in difficult labor, and as a local application to various kinds of sores, wounds, scalds and burns. The root is mucilaginous, and decoctions of this, as well as of the seeds, are used in sizing paper.

HIBISCUS MUTABILIS.—木芙蓉 (Mu-fu-jung), also 地芙蓉 (Ti-fu-jung). Other names are given, but are not especially distinctive. The last two characters are usually applied to *Nelumbium* and *Papaver somniferum*, and are used in this case on account of the resemblance of these flowers to those of the lotus and poppy. This tree grows readily almost everywhere in China. The prevailing color of the flowers is

red, but several colors are mentioned. The bark, as in the case of many malvaceous shrubs, is used for rope making. The leaves and the flowers are the parts used in medicine, and they are evidently demulcent, and are by the Chinese considered to be expectorant, cooling, antidotal to all kinds of poison, and anodyne. They are prescribed in old coughs, menorrhagia, dysuria, and wounds, especially burns and scalds that are slow in healing. Another name for this plant, as given by Faber, is 秋葵 (Chiu-k'uei), but what is said about this name in the Chinese books does not clearly indicate what it is. It is stated that the (Chiu-k'uei) is planted in the autumn and the 冬葵 (Tung-k'uei) is planted in the winter. For this last see *Malva verticillata*.

HIBISCUS ROSASINENSIS.—扶桑 (Fu-sang). *Fu-sang* is mentioned in the ancient books as the name of a fabulous tree behind which the sun is supposed to rise. It also refers to the name of a country where the plant grows, and which has been variously identified as Saghalién, Japan, and America. Professor Neuman confounded this plant with *Agave mexicana*, and upon this identification built up a hypothesis of the discovery of America by the Chinese. The shrub grows to the height of four or five feet, and the flowers show red, yellow, and white varieties. The red is called 朱槿 (Chuchin) and 赤槿 (Ch'ih-chin). A wrong writing of the first name is 佛桑 (Fo-sang). A name common to this and other malvaceous plants is 日及 (Jih-chi). The leaves and the flowers are used medicinally only in combination with other drugs, beaten into a paste and applied as a poultice to cancerous swellings and mumps.

HIBISCUS SYRIACUS.—木槿 (Mu-chin). It is also called 日及 (Jih-chi), because the flowers open in the morning and fall off before evening. Another name is 藩籬草 (Fan-lits'ao), because it is used for making hedges, being cultivated for this purpose. It bears beautiful red flowers, much resembling those of *Althea rosea*. The bark and root are used in medicine. The taste is mucilaginous, and they are used as demulcent and antifebrile remedies in diarrhœas, dysenteries, and dysmenorrhœa. Locally, they are also applied in all sorts of

itchy and painful skin diseases. The flowers, 858, are similarly employed, and are sometimes made a substitute for tea. This is called 紅花茶 (Hung-hua-ch'a), and comes from Kiangsi. They are considered to be quieting to the stomach and diuretic. The seeds are employed in headaches and colds, and are also used, combined with pig marrow, as an application to discharging ulcers.

HIEROCHLOE BOREALIS.—白茅香 (Pai-mao-hsiang). This grass is said to have its habitat in Annam. The Taoists use it as a bitter herb. It is to be distinguished from *Andropogon*, *Heteropogon* and *Imperata*. The root is the part used in medicine, and it is said to give a fragrance to the whole body and to be warming to the viscera when taken internally. Mixed with peach leaves and made into a decoction, it is added to bath water for the treatment of skin diseases in children.

HIRNEOLA.—See *Exidia auricula judæ*.

HORDEUM VULGARE.—大麥 (Ta-mai). The classical name is 麩 (Mou). Notwithstanding the fact that this cereal was known to the Chinese from very early times, it has not for a long time been much cultivated by them. They do not seem to have esteemed it highly as food, and have not used it extensively in the manufacture of spirituous liquors; millet and rice being most frequently used for this latter purpose. Another name by which it is called in the Chinese books is 稞麥 (K'o-mai). Several varieties of *barley* are grown, and these seem for the most part to be divided between two species, namely, that given above and 穞麥 (Kung-mai), the so-called "naked barley," which separates from the chaff in the same manner as does wheat. Another possible species is spoken of, on account of its glutinous qualities named 糯麥 (No-mai). This has not been identified, but is used for making wine. The *Kung-mai* is grown in Szechuan and Shantung as food for men, but for the most part either kind of grain is used to feed horses. It is probable that formerly the grain was of much more importance than it is now. As found in the market, the kernel is longer and not so plump as that found in

western countries. But this is true in regard to all of the cereals raised in China, and is due probably to long years of inbreeding, failure to rotate crops, and lack of proper conditions of soil. Barley is considered by the Chinese to be very nourishing, preventing fever and giving vigor and strength to the body. Continual use of it as food is said to prevent the hair from turning grey. It is used for making poultices for ulcers and as a dressing for burns. The shoots of the plant are used as a diuretic and as an application to chilblains and to frozen extremities. A mildew or rust found on the awns about the time that the grain is ripe, and called 大麥奴 (Ta-mai-nu), is considered to be antifebrile and antidotal to poisonous drugs. *Malt* or *Barley Sprouts*, under the name of 穞麥蘗 (Kung-mai-nieh), or 麥芽 (Mai-ya), 817, is prepared by moistening the grain and allowing it to germinate. It is then dried in the sun, the sprouts rubbed off, and the grain is ground into flour. It is considered to be peptic, stomachic, lenitive, demulcent, expectorant, and abortifacient. This last property might indicate the presence of an *ergot*. It is much prescribed in puerperal and infantile affections, and its reconstructive properties are well recognized. For this purpose it is recommended in phthisis and the *kan* (疳) disease of children (tabes mesenterica?). It is also said to have the power of suppressing the secretion of milk in women whose children have suddenly died after birth.

HOUTTUYNIA CORDATA.—蕺 (Ch'i), 蒞菜 (Chü-ts'ai), 魚腥草 (Yü-hsing-ts'ao). This plant grows in damp shady places in mountainous districts. It has a heartshaped, succulent leaf, green on one side and red on the other, and is good for feeding to pigs. Notwithstanding the fact that it has a decayed fishy smell, to which the last name above given refers, it is sometimes eaten by the Chinese as a salad. It is a piperaceous plant, and was formerly pickled. When eaten in excess it is said to cause shortness of breath, and is therefore considered to be slightly deleterious. Its ascribed properties are in the main antidotal and astringent, and it is therefore prescribed in poisoned sores, infectious skin diseases, piles, prolapsus ani, pernicious malaria, snake bite, and the like. The juice of the fresh leaves is most frequently used.

HOVENIA DULCIS.—枳椇 (Chih-chü), 129. This is a rhamnaceous tree yielding fruit-like, thickened branches, of a russet color, and filled with a pleasant, yellowish, pear-like pulp, which is cooling and laxative. Near Peking it is miscalled 枳棗 (Chih-tsao) in imitation of 鷄爪子 (Chichao-tzū, which is a common way of saying 鷄距子 (Chichü-tzū. In south China it is miscalled 桔枸 (Chieh-kou), 棘枸 (Chi-kou), and 鷄橋 (Chi-chü) in imitation of its proper name. Other names are 蜜積椇 (Mi-chih-kou), 蜜屈律 (Mich'ü-lü), 木蜜 (Mu-mi), 木錫 (Mu-hsing), and 木珊瑚 (Mushan-hu). The names given to the wood are 白石木 (Pai-shih-mu), 金鈎木 (Chin-kou-mu), 栱拱 (Ping-kung), and 交加枝 (Chiao-chia-chih). The tree is met with in all of the eastern provinces, and probably some of the central and western. It is also found in India and Japan. The real fruits of the tree are small, dry, and pea-like, and are pendent upon the fleshy peduncles, which greatly increase in size at the time of their maturing. They contain a flat, shining, dark-red seed, resembling that of *Linum usitatissimum*. The seeds are sold under the name of 枳椇子 (Chih-chü-tzū), 129. Both the fruits and the fleshy peduncles are considered to be antifebrile, laxative, diuretic, and quieting to the stomach. Remarkable antivinous properties are also attributed to them. It is said that after the ingestion of large quantities of alcohol the use of this drug will prevent any intoxicant or poisonous action. The bark of the tree is used in diseases of the rectum.

HUMULUS JAPONICUS.—葎草 (Lü-ts'ao). This is properly called 勒草 (Lei-ts'ao), because the plant is covered with fine prickles which chafe (勒) the skin when they come into contact with it. Another name is 來莓草 (Lai-meits'ao). This is the common wild hop of China and Japan. Its medicinal action is considered to be diuretic, tonic to the genito-urinary organs, and constructive in chronic fluxes. It is prescribed in lithiasis, nocturnal emissions, chronic dysentery, chronic malaria, and typhoid fever. This is one case in which the Chinese have reached about the same conclusions as have been reached by western physicians.

HYDROCHARIS MORSUS RANÆ.—白蘋 (Pai-p'ing). The *Pentsao* does not distinguish this from the 蘋 (P'ing), *Marsilia quadrifolia* and 水萍 (Shui-p'ing), *Lemna minor*. It cannot be the former, as it bears small white flowers in summer and autumn, and *Marsilia* is a cryptogamous plant. This is a Japanese identification. See *Lemna* and *Marsilia*.

HYDROCOTYLE ASIATICA.—積雪草 (Chi-lisüeh-ts'ao). This is Faber's identification, after Thunberg. But Bretschneider thinks it is *Nepeta glechoma*. Why the labiate *Nepeta* should be confounded with the umbelliferous *Hydrocotyle* is difficult to understand. But "when doctors disagree, who shall decide?" In the *Pentsao*, under the Chinese name given above, is also discussed 地錢草 (Ti-ch'ien-ts'ao), which Faber makes to be *Conocophalus conica*, and 連錢草 (Lien-ch'ien-ts'ao), which in Japan is *Nepeta glechoma*. The medicinal virtues of all three will be discussed under *Nepeta* (which see). The Customs lists give 崩大碗 (P'êng-ta-wan), root, as a term for *Hydrocotyle*, but this term has not been found in the Chinese books.

HYDROPYRUM LATIFOLIUM, *Zizania aquatica*.—菰 (Ku), 菱草 (Chiao-ts'ao), 蔣草 (Chiang-ts'ao). This is a tall grass, much cultivated throughout China on account of its young stalks, called 菱白 (Chiao-pai), which are eaten as a vegetable. Porter Smith evidently confounded the characters 菱 (Chiao) and 菱 (Ling), and mentions this under *Trapa bicornis*. The plant grows commonly in rivers, lakes, and marshes, and the leaves make excellent fodder for horses. The young shoot looks something like a bamboo-shoot, and it is eaten both raw and cooked, having an agreeable, sweet taste. It is called 菰笋 (Ku-sun), 菱笋 (Chiao-sun), 菱白 (Chiao-pai), and 菰菜 (Ku-ts'ai). The central mass of the shoots, which is likened to a child's arm, is considered separate from the shoots, and in addition to the two last names above given is called 菰手 (Ku-shou) and 菱把 (Chiao-pa). These are both considered to be extremely cooling in their nature, and thin blooded people are recommended not to eat of them too freely. They are prescribed in fevers for their diuretic and

thirst-relieving properties. The root is also considered to be cooling, and is used medicinally in similar difficulties to those in which the shoot is recommended. Incinerated and mixed with chicken excrement, it is applied to burns. The leaves are said to benefit the five viscera (heart, lungs, liver, stomach, and kidneys).

The seeds, which in the *Chouli* were included with the six grains (since reduced to five), have apparently fallen into disuse, and are now gathered only in times of scarcity. They are called 菰米 (Ku-mi), 菱米 (Chiao-mi), and 彫胡 (Tiao-hu). They are nearly an inch long, have a grayish cuticle, but a white starchy interior. They were formerly made into cakes and eaten with fish. They also can be used as a substitute for rice. This product is similar to, if not identical with, the *Indian rice* (*Zizania aquatica*) of North America, which is much used as food by the American Indians. Its virtues are said to be about the same as those of other parts of the plant.

HYOSCYAMUS NIGER.—It is probable that this plant is found in China, but identifications are uncertain. Henry found a plant cultivated in a mountain garden in Hupeh which proved to be *Hyoscyamus*. It was called 蕘蓉 (Lang-tang), but elsewhere this is *Scopolia japonica* (which see). Tatarinov gave this identification to 鬧羊花 (Nao-yang-hua) and 羊躑躅 (Yang-chih-chu), but these have later been determined to be *Rhododendron*, or possibly *Datura*. If *henbane* grows here, its proper name has not yet been found, or it is confounded by the Chinese with other things. It is entirely probable that one or more of the above names is sometimes applied to this plant.

HYPERICUM CHINENSE.—金絲草 (Chin-ssü-ts'ao), 金絲桃 (Chin-ssü-t'ao). The elliptico-lanceolate leaves, lanceolate sepals, pentafid stigma, and woody, round stem of this beautiful, flowering plant, distinguish it from other species of *St. John's wort*. It is frequently used as an ornamental plant. It is credited with astringent and alterative properties, and is also prescribed in miasmatic diseases and snake bite.

HYPOXIS AUREA.—仙茅 (Hsien-mao), 453. The *Pêntsao* says that this grows in western countries, but it is found in Hupeh, Fukien, and Kuangtung. Another name is 婆羅門參 (P'ò-lo-mên-shên), or "Brahminical ginseng," on account of its being brought from India and of its reconstructive properties. A Sanscrit name given for it is 河輪勒陀 (Ho-lun-lei-t'o). The root is the part used in medicine, and its properties are similar to those ascribed to ginseng. These are reconstructive, rejuvenating, aphrodisiac, and tonic. It is prescribed in wasting diseases, dyspepsia, lassitude, impotence, wounds, and diseases of the eyes and ears.

I.

ILEX CORNUTA.—狗骨 (Kou-ku). Another name is 貓兒刺 (Mao-êrh-t'zǔ), "cat-thorn." It is said to resemble 女貞 (Nü-chen), *Ligustrum lucidum*. It is described as having leaves of a beautiful green color, thick, leathery, and evergreen; each leaf having five angles terminating in spines. It blossoms in the fifth month, bearing small white flowers. These are followed by the fruit, which, when ripe, is of a dark red color, having a thin skin and being of a sweet taste. The kernel consists of four parts. Of course, this refers to the four seeds which are usually joined together. The wood is white, and resembles that of *Buxus sempervirens*. The bark is boiled to make bird-lime. The bark and leaves are used in medicine; the former being considered to be tonic, while the latter is used in decoction in intertrigo. A medicinal tea, called 角刺茶 (Chio-tz'ü-ch'a), is made of the leaves in the Kiangnan provinces. It is said that if women drink of it they will not become pregnant, and it is regarded by the Chinese as the most efficient preparation for putting a termination to pregnancy. Its abortifacient properties are spoken of in almost extravagant terms. Other properties attributed to the tea are those of a carminative and for purifying the blood. The common names for the *holly* in Kiangnan are 老鼠刺 (Lao-shu-tz'ü) and 老虎刺 (Lao-hu-tz'ü). The wax insect is sometimes found growing on this tree.

ILEX PEDUNCULOSA.—冬青 (Tung-ch'ing). Confusion reigns supreme in regard to the use of this Chinese name. It is most frequently confounded with *Ligustrum lucidum* (which see), on account of the fact that the wax insect is occasionally found growing upon this *Ilex*. The name is also written 凍青 (Tung-ch'ing). Both of these names are used in the sense of "evergreen," and are therefore applied to several non-deciduous trees. For this reason confusion arises in their use as a distinct term for a genus or species. The term is also applied to *Xylosma racemosa*, while 細葉冬青 (Hsi-yeh-tung-ch'ing) is referred to *Ilex integra*.

In Manchuria the *mistletoe* is called 冬青, but here again its general sense of "evergreen" is meant. The wood of this *Ilex* is white, beautifully veined, and was formerly used for making the ivory-like tablets which officials held before their breasts at Imperial audiences. It bears small white flowers, and red berries of the size of a pea. The leaves will dye a dark red color. The young shoots are sometimes used for food. The seeds, bark, and leaves are used in medicine. The two former, digested in wine, are used as carminative and tonic remedies. The ashes of the latter are used in skin diseases and poisoned wounds. A spirit prepared from the seeds is highly recommended to be taken in hemorrhoids.

ILLICIUM ANISATUM.—八角茴香 (Pa-chio-hui-hsiang), 928. *Star anise* is confounded with 藜香 (Huai-hsiang) in the *Pêntsao*. This latter is an umbelliferous plant, most probably *Pimpinella anisum*, with which the description in the *Pêntsao* agrees. The plant which produces the star-anise does not seem to have been very well known to Chinese botanists, and their identification of this drug seems to have depended largely upon the characteristic odor. It is brought in sea-going junks principally to Canton, and for this reason is called 舶茴香 (Po-hui-hsiang). It is presumed that it comes from the East Indies or Japan, although it is said to grow in Kuangsi. All that is said about the plant is that it is different from the native 茴香 (Hui-hsiang) in every respect except the odor. In the Appendix to the *Pêntsao*, where it is called 木八角 (Mu-pa-chio), a tolerable description of the shrub is given. It is likened to *Hibiscus mutabilis* in appearance. The seeds are recommended in constipation, and as a diuretic, in lumbago, hernia, extrophy of the bladder, and the like. There is a 草八角 (Ts'ao-pa-chio) which seems to be a smaller variety of the shrub. It certainly is not an umbellifer. The star-anise fruits, as they appear in commerce, present the radiate, star-like arrangement of the eight follicles, from which appearance they receive their name. Each of the follicles is compressed laterally, boat-shaped, roughened, and opens more or less at the top, disclosing a shining, yellow, ovate, solitary seed in the smooth cavity. The fruits vary

from one inch to an inch and a quarter in diameter. One or more of the carpels is often abortive. Within the brittle testa is a pair of shrunken, oily cotyledons. The pericarp has a strongly aromatic, faintly acidulous taste, and an odor like that of aniseed. The seeds have a sweeter flavor. There is an oil, called 八角油 (Pa-chio-yu), which is said by Dr. Williams to be made by distilling the fruit in small retorts; a picul producing about seven catties of oil. It is sent to Europe and America in tin-lined cases. The oil is pale, and warm or sweetish to the taste. It becomes solid at about 50° Fahrenheit.

IMPATIENS BALSAMINA.—鳳仙 (Fêng-hsien). The *Pêntsao* gives a good description of this "touch-me-not;" the irritable character of the seed pods being admirably expressed by 急性子 (Chi-hsin-tzū), 46, a more common name by which the plant is known. In the north of China this plant is used in combination with alum as a finger nail dye, and for this reason the name 染指甲草 (Jan-chih-chia-ts'ao) is given to it. For the same reason it is called 海藕 (Hai-na), evidently in imitation of the Arabian *henna*. These latter, however, properly refer to *Lawsonia alba* (which see). The tender stalks are said to be eaten after having been soaked in wine for one night. The plant does not breed worms, and insects are said not to visit it. This last statement probably refers to the structurally upside-down character of the flowers. The seeds are thought to injure the teeth and the throat, a property also referred to the root of *Funkia subcordata*. The powdered seeds are mixed with a small quantity of arsenious acid and applied to carious teeth, when these are easily removed. Dysphagia and cases of fish or other bones sticking in the throat are treated with them. The powdered seeds are directed to be taken in difficult labor, the soles of the feet being rubbed at the same time with as many castor beans as the woman is years old. The flowers are mucilaginous and cooling. They are used in snake-bite, lumbago, and intercostal neuralgia. They are thought to improve the circulation and to relieve stasis. The root and the leaves are considered to be slightly deleterious. They are prescribed for all sorts of foreign

bodies in the throat—copper coins and other metals that have been inadvertently swallowed—as well as in thorns and splinters in the flesh. It is said that if the white flowers are mixed with the leaves and root, and all beaten into a pulp and rubbed into the four canthi (角) of a sick horse's eye, the horse will break into a sweat and immediately recover.

IMPERATA ARUNDINACEA.—白茅 (Pai-mao). Li Shih-chen says: "This plant is short and small. In the third month it bears panicles of white flowers, followed by the fruits. The root is white, very long, flexible like a tendon, provided with joints, and of a sweet taste. The common people call the plant 絲茅 (Ssi-mao), 'floss grass.' It is used for thatching houses. It furnishes the drug 茅根 (Mao-kên), spoken of in the *Pênching*. At night the dry root gives out a light, and after decaying, changes into glow worms." The root, 茅根 (Mao-kên), 825, is used in medicine. To it are ascribed restorative, tonic, hemostatic, astringent, antifebrile, diuretic, and antivinous properties. It is prescribed in fevers, nausea, dropsy due to weakness, jaundice, asthma, hematuria, nosebleed, and the like. The sprouts of the plant which shoot forth in the spring are likened to needles, and are therefore called 茅針 (Mao-chên). These are regarded as solvent to other food and thirst relieving. They are also prescribed in hemorrhages and wounds. The flowers are similarly regarded. The rotted grass from a thatch is boiled with wine and used in the treatment of hemoptysis and the bites of poisonous insects. It is also prescribed in vaginismus, obstipation, and other urgent difficulties.

INCARVILLEA SINENSIS.—角蒿 (Chio-hao). This is named for Father Petrus d'Incarville, who lived at Peking from 1740 to 1757, during which period he did much research in the flora and fauna of China. This is a beautiful bignonaceous plant, with large scarlet flowers, found at the end of summer in the mountains and plains near Peking. The seeds are angular, black, and resemble those of *Silene aprica*. The leaves resemble those of *Cnidium monnieri*. The plant is considered to be slightly poisonous. It is prescribed for every form of skin disease or ulcer, and for spongy gums.

INDIGOFERA.—A number of plants producing *indigo* are found in China, nearly all of which go by the common name of 藍草 (Lan-ts'ao), "blue plant." Other Chinese names are used, but their specific application to genus or species is not always clear. Faber calls 大青 (Ta-ch'ing) *Indigofera tinctoria*, and such is also the identification of the Customs lists, 1218. In Japan the plant with this Chinese name is *Justicia crinata*, but the description in the *Péntsao* does not agree with an acanthaceous plant. However, it may be the plant which Fortune describes as being extensively cultivated in Chekiang province for producing indigo, and which he called *Ruellia indigotica*, being the same as the *Strobilanthes flaccidifolius* of Nees. The *Péntsao* does not mention 大青 as an indigo bearing plant. It says that it is a common plant, growing to the height of two or three feet, having a round stem, leaves three or four inches long, dark green on the upper side and paler underneath, and placed in opposite pairs at the upper joints of the stem. The flowers are red, small, and arranged in corymbs. The fruit is at first green, but afterwards turns red, and resembles that of *Zanthoxylum*. The stalk and leaves are used in medicine, and they are considered to be anti-febrile and antidotal. They are employed in all sorts of febrile epidemics, including typhoid fever and epidemic dysentery.

Another name assigned to *Indigofera tinctoria* is 木藍 (Mu-lan). This is a leguminous shrub cultivated in the south of China and India. It is described in the *Péntsao* as having leaves resembling those of the *Sophera*, with pale red flowers, followed by pods an inch or more long. 菘藍 (Sung-lan) is *Isatis tinctoria*, the *woad* of western dyers. In Japan there is another species called 江南大青 (Chiang-nan-ta-ch'ing), and judging from its name, to be found in China also, which is identified by Franchet as *Isatis japonica*. There is also 蓼藍 (Liao-lan), which is *Polygonum tinctorium*. These three are the source of most of the indigo produced in China, and are described under the general term 藍 (Lan) in the *Péntsao*. Two other kinds are mentioned, called 馬藍 (Ma-lan) and 吳藍 (Wu-lan), but these are probably only varieties of the others. The fruits of these plants are used in medicine. They are considered to be antidotal, anthelmintic, and restorative. Con-

tinued use prevents the hair from falling and rejuvenates the body. The juice of the bruised leaves is considered antidotal to medicinal poisons, wolf-bites, and arrow wounds. It is also applied in insect stings, cantharidal blisters, and arsenic cauterizations. The 馬藍, stalk and root, is recommended in menstrual difficulties, and the 臭藍 is considered to be an antifebrile and antidotal remedy, being prescribed in much the same difficulties as the 大青 and the 馬藍.

Indigo itself is called 藍澱 (Lan-tien), or more properly 藍靛 (Lan-tien). According to the *Péntsao* it is prepared by throwing the plants into pits dug in the field, macerating them in water for one night, after which lime is added and the whole well beaten up. The water is then drawn off, leaving the thick, dark blue indigo paste at the bottom to dry, preparatory to being placed in bamboo baskets. It is then ready for the dyer's use. The froth rising to the top of these pits is collected and made into an extract, called 靛花 (Tien-hua) or 青黛 (Ch'ing-tai), 194, in imitation of the true indigo formerly brought from Persia. Indian indigo is also imported into China, as is likewise Manila liquid indigo. The Formosan product is an excellent dye, but is frequently much adulterated. In the province of Chihli a very good dye is made and sold under the name of 京靛 (Ching-tien). Liquid indigo is called 水靛 (Shui-tien), dry indigo 土靛 (T'u-tien), and indigo dye 靛青 (Tien-ch'ing) or 青黛 (Ch'ing-tai). The indigo trade is a profitable one in China, since the prevailing color of Chinese clothes is made with this dye. Although aniline dyes, on account of their brilliancy and cheapness, are having quite a vogue in China, they will with difficulty supersede indigo, which on account of its ease of production, its long use by and adaptability to the tastes of the Chinese, and its durability as a pigment, will continue to hold a strong place in Chinese textile manufactures. Medicinally, the common indigo is thought to have similar virtues to the plants from which it is derived; that is, of an antifebrile, anti-poisonous, astringent, and anthelmintic remedy.

The 青黛 (Ch'ing-tai) or 靛花 (Tien-hua), also called 青蛤粉 (Ch'ing-ko-fên), originally came from Persia, but it is now made in China, as indicated above. Its medicinal action

is the same as that of the plants and the common indigo, but it is held in rather higher esteem than the others. Swellings, bruises, stings, strumous glands, and tumors in general are treated topically with this remedy. Fevers, fluxes, worms, and infantile disorders are treated internally with it. It is a remarkable fact that the Chinese recommend it in convulsive and nervous disorders, when we remember that it had quite a vogue among western physicians some years ago for this purpose. Also, the domestic use of the bluebag in western countries for stings of insects, is paralleled by the Chinese recommendation of this substance for the same purpose.

Mixed up in the *Pentsao* with the discussion of these indigoferous plants, is mentioned 甘藍 (Kan-lan) or 藍菜 (Lan-ts'ai), which is a variety of *Brassica oleracea*, much grown in the Yellow river plain. Its use as a vegetable is regarded as highly beneficial to the body, giving strength and vigor to the vital organs, and brightening the intellect. It is recommended to be eaten in jaundice. Soporific qualities are attributed to the seeds.

INULA CHINENSIS.—旋覆花 (Hsüan-fu-hua), 475. This seems to be the same as *Inula britannica*, or English *elecampane*. It is indigenous to North China, Mongolia, Manchuria, and Korea, and a variety is also found in Japan. The Chinese name should not be confounded with that of *Calystegia*. Other names are 金錢花 (Chin-ch'ien-hua) and 金錢菊 (Chin-ch'ien-chü), applied most properly to the cultivated plant, which much resembles *Calendula*. Other names refer to the color of the flowers, or to its resemblance to the *chrysanthemum*. The flowers are the part chiefly used in medicine. Tonic, stomachic, alterative, deobstruent, carminative, and laxative properties are ascribed to the drug. Sometimes the whole dried plant, including stalks, pappose fruits, and roots are found for sale in the shops. The stalks have a bitter aromatic taste. The leaves and roots are considered to be vulnerary and discutient.

IPOMŒA AQUATICA.—蕹菜 (Yung-ts'ai). This is cultivated as a garden vegetable in central China. It is grown either in water or on marshy ground. A small raft of reeds

is made and floated on the water. Seeds are dropped into crevices in the reeds, and the plant grows thus directly from the water. The plant is said not to have much taste, but is cooked with pork, and is relished in this way. It is considered to have a beneficial influence upon the body, and is used as an antidote to poisoning by an unidentified plant, called 野葛 (Yeh-ko) or 胡蔓草 (Hu-wan-ts'ao). It is also recommended in difficult labor.

IPOMŒA BATATAS.—甘藷 (Kan-shu), 山芋 (Shan-yü). The Chinese do not distinguish clearly between *taro*, the *yam*, and the *sweet potato*. The second name given above is properly *Batatas edulis*, but in the *Pên-tsao* it is included with 薯蕷 (Shu-yü), which is *Dioscorea quinqueloba*. The plant under discussion is much cultivated at the south and its tubers used as food; sometimes to the complete exclusion of rice or other cereals. It is considered to have a good effect upon the body, giving strength, and especially benefiting the spleen, stomach, and kidneys. However, those who live largely upon these and yams do not seem to be so well nourished as do those who live on rice.

IRIS ENSATA.—蠶寶 (Li-shih). This name is also written 荔寶 (Li-shih), and the plant is mentioned in the *Lichi* under this character. A common name is 馬蘭 (Ma-lin), 805, which at Peking is *Iris oxypetala*. Porter Smith, following Tatarinov, wrongly writes this 馬蘭 (Ma-lan), but this is the *aster*. This plant has blue or white flowers; the fruit is a capsule, and the seeds resemble those of the hemp. The leaves resemble those of *Allium*, but are longer and thicker. The root is long and fibrous, and the Chinese use it to make brooms or brushes. For this reason it is called 鐵掃帚 (T'ieh-sao-chou), "iron broom." The fruits are prescribed in fevers, rheumatism, hemorrhages, post-partum difficulties, and fluxes. They are considered to be diuretic, stimulant to the appetite, astringent, and antagonistic to vegetable and animal poisons. To the flowers, leaves, and roots are ascribed similar virtues, and they are specially recommended as anthelmintic remedies. In Japan 鐵掃帚 (T'ieh-sao-chou)

is *Lespedeza juncea*, a leguminous plant, and drawings in some Chinese works seem to agree with this.

IRIS SIBIRICA.—溪蓀 (Chi-sun). The Chinese do not distinguish this from 白昌 (Pai-ch'ang) or 水菖蒲 (Shui-ch'ang-p'u), *Acorus calamus*, and it is described in the *Pênstao* under this title. All that is said is that there is one kind found in eastern China in rivulets and swamps, which is called by this name. In odor and color, its root is said to resemble the 菖蒲 (Ch'ang-p'u) which grows among stones (*Acorus gramineus*), but its leaves have no central ridge. It is not eaten, but is used as an expectorant, and is also employed for destroying insect vermin.

IRIS TECTORUM.—鳶尾 (Yüan-wei). Another name is 烏園 (Wu-yüan). The root is called 鳶頭 (Yüan-t'ou). At Peking it is cultivated as an ornamental plant under the name of 草玉蘭 (Ts'ao-yü-lan). The root is said to somewhat resemble galangal root, having a yellow skin and white flesh. When chewed, it gives a scratchy sensation to the throat. The taste is bitter, and the drug is slightly poisonous. Its medicinal properties are regarded as being somewhat transcendental, being chiefly recommended for driving away evil influences and miasms. It is used in marasmus and wasting diseases.

IXORA Sp.—胡黃連 (Hu-huang-lien). This identification is suggested by Faber. See *Barkhausia repens*.

IXORA STRICTA.—賣子木 (Mai-tzū-mu). The name is also written 買子木 (Mai-tzū-mu). It is said to come from the mountain valleys of Lingnan, and has a leaf like that of the persimmon. It grows up with a slender shaft to the height of about seventeen feet. It has dark green leaves from one to two inches long, and its branches have a purplish color. The flowers are red and in clusters. The seeds are black and shining, and resemble *Zanthoxylum* seeds. The stems are the parts used in medicine, and are recommended in bruises, extravasated blood, and wounds. The drug is said to be beneficial to the bone marrow, to be anodyne, and quieting to the pregnant uterus.

J.

JASMINUM NUDIFLORUM.—迎春花 (Ying-ch'uhua). This is cultivated everywhere in gardens. It is the same as the *Jasminum sieboldianum*. The Chinese name is also applied to the *Magnolia conspicua*. It flowers very early in the spring before the leaves come; the flower somewhat resembling that of the *Daphne*, and being yellow in color. The leaves are used in medicine as a diaphoretic in fevers and wounds.

JASMINUM OFFICINALE.—素馨 (So-hsing). In the *Pêntsao* this is described in a foot-note to the article on *Jasminum sambac*, where it is stated that the plant is of foreign origin, and is also called 耶悉茗 (Yeh-hsi-ming) and 野悉蜜 (Yeh-hsi-mi), either of which is a good transliteration of the Arabic *yêsmin* or the Persian *yâsmin*. The flowers are of two colors, white and yellow, identified by the Japanese as *Jasminum grandiflorum* and *Jasminum floridum* respectively. The *Oil of Jasmine* is expressed from the flowers of this, as well as from those of *Jasminum sambac*. The medicinal uses are not distinguished from those of the latter.

JASMINUM SAMBAC.—茉莉 (Mo-li). This plant is now well known in China, but is of foreign, probably Persian, origin. This is indicated by the fact that a number of very different characters of similar sound are used for the name of the plant, all approaching in sound those given above. So it is probable that they are all transliterations of some foreign name. The plant is exceedingly popular on account of the fragrance of its beautiful white flowers, and it is therefore cultivated in all pleasure gardens. A song, the tune of which is probably the most popular among Chinese airs, was composed praising the fragrance and beauty of this flower. Any Chinese will play or sing this air, if asked for the "*Mo-li-hua*." The petals of the flower are used to scent teas and to prepare cosmetics. They are also used, together with those of *Jasminum officinale*, in the manufacture of the *Oil of Jasmine*.

The *Péntsao* says that there is also a red kind, called 柰花 (Nai-hua), but this is the *night-blooming jasmine* or *Nyctanthes arbor tristis*, the *musk flower* of eastern India. The roots of the jasmine are said to be very poisonous. A tincture made from them is said to have very powerful sedative, anesthetic, and vulnerary properties. One inch of the root extracted with wine will produce unconsciousness for one day, two inches for two days, three inches for three days, and so on. The bruised flowers of this jasmine are strongly recommended by Dr. Waring (*Pharmacopœia of India*, p. 137) as a remedy for arresting milk abscess, or as a galactagogue.

JATROPHA JANIPHA.—白附子 (Pai-fu-tzŭ). This is the identification of Loureiro, whose description agrees very well. The resemblance of the root to that of aconite gives it the Chinese name, but the *Péntsao* says that this does not indicate any relationship. It seems to have come originally from Korea, but is also found in Manchuria. Porter Smith took it to be an aroid plant, and the Customs lists classify it as a species of *Arisœma*, 944. The tuberous, oval, elongated roots sold under this name vary a good deal in size, being from an inch to two inches in length. The epidermis is of a brown color, mottled, withered, and reticulated. The interior is pure white, starchy, and firm in texture. The plant grows in sandy soil, and is evidently slightly poisonous, although but a slight degree of acidity seems to exist in the tubers. The different varieties of South American *cassava* also vary in this respect; some retaining more of the poisonous juice than do others. It is said to be useful in apoplexy, aphonia, wry-neck, paralysis, chorea, heat-stroke, and similar diseases. At the present time it is chiefly used as a face powder to remove pock-marks, stains, and pigmentary deposits.

JUGLANS REGIA.—胡桃 (Hu-t'ao), 核桃 (Hei-t'ao), 377, 羌桃 (Ch'iang-t'ao). The seed of this tree was brought to China by General Chang-chien, of the Han dynasty. In the *Péntsao* its habitat is given as the Tangut country, about Kokonor. The second character in each of the names given refers to the resemblance of the green fruit to the peach. The

tree is said now to grow in nearly all of the northern provinces. The nuts are not regarded as being very wholesome, but this is due to its supposed alchemic relations; nevertheless, the effects of the nuts when ingested seem to be rather good than otherwise, being said to produce plumpness, strengthening and lubricating the muscles, and increasing the blackness of the hair. They are also considered to be diuretic, antilithic, and stimulant to the kidneys and lungs. They are recommended in heartburn, colic, dysentery, and intestinal intoxications. The oil of walnut seeds is used as an anthelmintic and as an application to several kinds of skin diseases, including eczema, chancre, and favus, and is applied to the hair as a pomade. The pericarp seems to furnish an oily juice, which is used as a hair and whisker dye. The bark of the tree and root, as well as the hard shell of the nuts, are used as astringent remedies, and also for dyeing the hair and whiskers and summer grass-cloth. Another species, called 山胡桃 Shan-hu-t'ao), is spoken of under this heading, and is not distinguished from the other in its medical uses. This is *Juglans sieboldiana*.

JUNCUS COMMUNIS, *Juncus effusus*.—燈心草 (Têng-hsin-ts'ao). This sedge grows plentifully in the marshes of central China, and is used for making mats and lamp wicks. Its appearance when growing gives rise to its common name, 虎鬚草 (Hu-hsü-ts'ao), "tiger-beard-grass." The stalks are steamed and the cuticle peeled off, leaving the central white pith, which is sometimes used to keep fistulous sores open in order to make them heal from the bottom. It is also much used to prepare a menstruum for other drugs. It is said to be antilithic, diuretic, pectoral, lenitive, sedative, derivative, and discutient. The ashes of a lamp wick are placed upon a mother's nipples, and thus administered to a nursing child for the relief of night crying. The Chinese watch the growth of the flower-like snuff of lamps and candles, and draw ominous conclusions from its appearance.

JUNIPERUS CHINENSIS.—檜 (Kuei). This is a tall, straight tree, very common in the northern provinces of China. A remarkable thing about this tree is the dimorphism of its

leaves. Generally, these resemble the leaves of the common cypress, which are scale-like and appressed, but frequently on the same tree will be found spreading, acicular leaves, and in rare instances the tree has only this sort of leaves. When it has only such leaves, it is called 栝 (Kuai). The wood of the tree is quite resinous and the fruits are globular, constituting the *juniper berries*. The Chinese do not distinguish this tree, at least in its medicinal virtues, from *Thuja orientalis* (which see).

JUSTICIA GENDARUSSA.—秦艽 (Ch'in-chiao), 170. This identification is exceedingly doubtful. The plant described in the *Péntsao* is in all probability one of the Acanthaceæ. It grows in the mountain valleys of Szechuan. The root is of a dark yellow color, twisted and contorted, and about one foot long. The leaves are said to resemble lettuce leaves. The root is the part used in medicine, and it is very bitter in taste. It is boiled in milk and given in rheumatism, dysuria, fever, carbuncle, jaundice, and diarrhœas. Diuretic and diaphoretic properties belong to this drug, as well as cooling and anodyne qualities.

JUSTICIA PROCUMBENS.—爵狀 (Chio-chuang). Other names are given to this creeping plant, among which is 赤眼老母草 (Ch'ih-yên-lao-mu-ts'ao), "red-eyed old mother plant." It grows in the river valleys of Central China, in old fields and waste places. The odor is unpleasant. The whole plant is used in decoction in backache, plethora, and flatulence. In Japan this Chinese name is applied to *Mosla punctata*, a labiate plant.

K.

KADSURA CHINENSIS.—五味子 (Wu-wei-tzŭ). Properly these Chinese characters are applied to *Schizandra chinensis*, and the plant will be described under that title. These magnoliaceous genera are so nearly alike that the Chinese do not readily distinguish them. The *Kadsura* is found in Japan, where it is distinguished as 南五味 (Nau-wu-wei), referring to the fact that it is found in South China, while the *Schizandra*, being found most plentifully in North China and Korea, is called 北五味 (Pei-wu-wei), 1477.

KÆMPFERIA GALANGA.—山奈 (Shan-nai), 1063, 山賴 (Shan-lai), 三奈 (San-nai). The fragrant, warm roots of *Alpinia* and *Kæmpferia* are grown in the south of China, and exported under the general name of *Capoor Cutchery*, which is not a very happy alteration of the Hindustani name of this drug, *kafur-kuchri*, "root of camphor." The root is met with in shops in flat, oblong, or round disks, from a half inch to an inch in diameter. Externally, they are covered with a reddish-yellow, shriveled epidermis. Internally, they are white. Some of the pieces are very irregular in shape, and branched. The odor is camphoraceous, but pleasant, and the taste is warm and aromatic. The plant is likened to ginger, and the root is eaten as a relish. It is credited with stimulant, stomachic, carminative, prophylactic, and similar properties. It is principally used as a remedy in toothache, or as a wash in dandruff or scabs upon the head. It appears to destroy lice and pediculi. Dr. Williams says: "It is exported from Canton and Swatow to India, Persia, and Arabia, where it is used in perfumery and medicine, and also to preserve clothes from insects." It is sometimes identified with 廉薑 (Lien-chiang), which is a somewhat similar scitamineous root, used in the south as a remedy in pyrosis. The character 賴 is sometimes improperly written 辣, and it is properly written 藟. The country of Fu-liu, which is probably Syria, is said to have a plant yielding a root like that of *Kæmpferia*, from the flowers of which is produced an oil used for anointing the body in febrile difficulties.

KÆMPFERIA PUNDURATA.—蓬莪茂 (P'êng-omou). Another name by which it is known in the Customs lists is 蓬莪蕊 (P'êng-o-shu), 1003. An alternative name given in the *Pêntsao* is 蓬莪 (Shu-yao). The drug comes from the East Indies and the southern provinces of China. The *Pêntsao* says that there are two kinds, a poisonous and a non-poisonous, and that the method of testing this matter is to offer the root to a sheep, and if the sheep will not eat it, it is rejected. The root is specially prepared for medical uses by digesting in vinegar, as is sometimes done in the case of aconite. Carmiulative, stomachic, peptic, emmenagogue, and cholagogue properties are attributed to the drug.

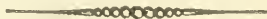
KERRIA JAPONICA.—棣棠 (Ti-t'ang). This is the identification in both China and Japan, but the Chinese term is almost uniformly confounded with 棠棣 (T'ang-ti), or 常棣 (Ch'ang-ti), which is another name for 郁李 (Yu-li), *Prunus japonica*. The *Kuang-chün-fang-pu* makes the distinction between these clear, and gives a very good description of this plant. It is much cultivated in gardens, and is prized for its golden yellow, polypetalous flowers, especially as it blooms with such magnificence in the early spring. The plant is used medicinally in the diseases of women.

KOCHIA SCOPARIA.—地膚 (Ti-fu), 1263. This plant grows in marshes and fields. It is also cultivated in gardens, the young tender leaves being used as food. The old plant is used for making brooms, and its common name at Peking is 掃帚草 (Sao-chou-ts'ao). The seeds, shoots, and leaves are used medicinally, and to all are attributed diuretic and restorative properties. The seeds are prescribed in fevers, colds, intercostal neuralgia, hernia, dysentery, and incontinence of urine in pregnant women. The shoots and leaves are prescribed chiefly in dysentery and diarrhœa, and in digestive disorders generally.

KÆLREUTERIA PANICULATA.—藥華 (Luan-hua). The *Pêntsao* describes this as a tree growing in Central China, the leaves of which resemble those of *Hibiscus syriacus*,

having yellow flowers and a fruit like that of *Physalis alkckengi*. The fruit capsules of this tree are bladderlike, and contain black seeds, the size of a small pea. The flowers are used for dyeing yellow, the leaves for dyeing black, and the seeds are made into beads. The seeds are called 木欒子 (Mu-luan-tzŭ), but at Peking they are miscalled 木欄子 (Mu-lan-tzŭ), and the tree 木欄牙 (Mu-lan-ya). The flowers are the parts used in medicine, in epiphora and conjunctivitis. The drug seems to be employed only as an eye medicine.

KYLLINGIA MONOCEPHALA.—金牛草 (Chin-niu-ts'ao), 155, is the identification of the Customs lists, but upon what authority does not appear. The Hankow lists call this *Ardisia japonica*, which in Faber's list is 紫金牛 (Tzŭ-chin-niu). What is spoken of under this term in the *Pêntsao* does not answer well to the description of *Kyllingia*, or indeed of any cyperaceous plant, but does approach that of a myrsinaceous one. So its medicinal virtues will be mentioned in the *Ad-denda* under the title of *Ardisia*. In Japan *Kyllingia monocephala* is 水蜈蚣 (Shui-wu-kung), and in the Appendix to the *Pêntsao* is mentioned 蜈蚣萍 (Wu-kung-p'ing), "centipede-like duck-weed," which from the description is evidently a sedge, and may be *Kyllingia*. Insects do not like the odor of this plant, so it is dried and burned in bed-rooms and about beds to produce a smoke, which is said to drive away all sorts of parasitic insects.



L.

LACTUCA.—白苣 (Pai-chü), 石苣 (Shih-chü), 生菜 (Shêng-ts'ai). The *Péntsao* says that 白苣, 苦苣 (K'u-chü, possibly *Cichorium endivia*), and 蒿苣 (Wo-chü, *Lactuca sativa*) should not be cooked, but should be eaten raw with salt and vinegar. For this reason they are called 生菜 "raw vegetable." The name 苣 (Pa) is also given for this plant, but this is an error; it should be 苣 (Chi). Faber calls 白苣 *Lactuca albiflora*, but this does not agree with the *Péntsao*, as the plant there described bears yellow flowers. The "white" refers to the leaves, which are slightly hirsute. Two crops are grown in the year: one being sown in the first or second moon, and the other from the eighth to the tenth moon. Two other varieties are mentioned, called 紫苣 (Tzŭ-chü) and 苦苣 (K'u-chü) respectively. The former is sometimes mixed with clay in making pottery, producing an imitation copper. These are both probably only varieties of *Lactuca sativa*. The action of this lettuce is considered to be highly beneficial, toning up the sinews, dispelling flatus, aiding the circulation, strengthening the intellect, correcting poisons, relieving thirst, and opening the emunctories. The expressed juice of the stalk is instilled into the interior of a bubo after it has been opened and the pus removed.

In the article on 蒿苣 (Wo-chü), also called 蒿菜 (Wo-ts'ai) and 千金菜 (Ch'ien-chin-ts'ai), and which is also *Lactuca sativa*, the *Péntsao* says that it was brought to China from a country called 髡 (Kua, 過 Kuo?) in the time of the Han dynasty. The envoys who brought it received such a rich reward that the plant was called 千金菜 (Ch'ien-chin-ts'ai), "thousand ounces of gold vegetable," from this fact. It is cultivated in the same manner as the 白苣, and is found in two varieties—the white and the purple. The seed stalk, when it first shoots up, is eaten under the name of 蒿筍 (Wo-sun). It is consumed raw, and its taste is likened to that of the cucumber. The action of this plant upon the body is considered to be identical with that of *Pai-chü*, but it is more highly regarded as a diuretic and parasiticide. Insects do not

seem to like the juice, and if it is dropped into the ear when an insect has entered that cavity, the insect will be driven out. The seeds are considered to be galactagogue and anodyne. They are prescribed in swelling of the genitals and to make the hair grow on scar tissue.

Another article in the *P'intsao* gives us 苦菜 (K'u-ts'ai), 荼 (T'u), 苦苣 (K'u-chü), 苦蕒 (K'u-mai), 游冬 (Yu-tung), 福苣 (Pien-chü), 老鸛菜 (Lao-kuan-ts'ai), and 天香菜 (T'ien-hsiang-ts'ai) as more or less synonymous terms. Here we have a thorough confounding of genera, as well as of species; at the least *Cichorium*, *Lactuca*, and *Sonchus* being in all probability included among this large number of names. These genera are very similar, resembling each other in their general appearance, inflorescence, and milky sap, as well as in the more or less bitterish taste of most of the species. 苦苣 and 苦蕒 are probably *Cichorium endivia* or *Cichorium intybus*. Henry says that in Hupeh K'u-ts'ai is *Lactuca squarrosa*. 荼 (T'u) seems to be uniformly referred to *Sonchus oleraceus*, and in Japan K'u-ts'ai is used as a synonym. This last term is frequently used in the sense of "bitter vegetable," so cannot always be considered as a distinctive term. According to Li Shih-chien, the leaves of this plant clasp the stem, and this would indicate that what he meant was a *Sonchus*. The action of this vegetable upon the body is much the same as that of the last, but its medicinal virtues are considered to be much greater. Prolonged use is thought to be highly beneficial, preserving youth and vitality. The expressed juice is much regarded as an application to boils, abscesses, and carbuncles, and if put upon warts will cause them to drop off. It is also used in snake bite and bleeding piles. The root is prescribed in fluxes and hematuria. The flowers and seeds are used as an antifebrile and quieting remedy, and in jaundice.

LACTUCA DEBILIS.—剪刀股 (Chien-tao-ku). This is another kind of lettuce that is eaten raw, and is also made into pickle. No medicinal virtues are ascribed to it.

LACTUCA DENTICULATA.—水苦蕒 (Shui-k'u-mai). This is a Japanese identification. Other names are 謝婆菜

(Hsieh-p'o-ts'ai) and 半邊山 (Pan-pien-shan). The root is used in medicine for the treatment of fevers and sore throat.

LACTUCA STOLONIFERA.—胡黃連 (Hu-huang-lien), 482. This is a classification suggested by Faber. (See *Barkhausia repens*).

LAGENARIA VULGARIS.—壺盧 (Hu-lu). These characters are sometimes written with the grass radical, 葦蘆. Other names in the classics are 瓠 (Hu), 瓠 (P'ao), and 瓢 (P'iao). These names all refer to the shape of the gourd and the uses to which it is put, and the Chinese authors try to distinguish different varieties by these names. In the north 瓠子 (Hu-tzū) is applied to a long, club-shaped gourd. It is the pear-shaped, or double-bellied, bottle-shaped gourd to which the name *Hu-lu* is most properly applied. The young leaves of this plant are sometimes eaten. The gourds are used for a variety of purposes, as formerly in America, such as calabashes, dishes, beggars' collection boxes, musical instruments, drug bottles, floats, and the like. The pulp of the fresh fruit is sometimes eaten like the squash, but if taken too freely is liable to cause vomiting and purging. It is considered to be cooling, diuretic, and antilithic. The prickly cortex of the vine and the flowers are regarded as counter poisons, while the seeds are taken together with *Achryanthes bidentata* for diseased and aching teeth and gum boils.

LAMINARIA.—綸 (Lun). See *Algæ*.

LAMPSANA APOGONOIDES.—黃瓜菜 (Huang-kua-ts'ai), 黃花菜 (Huang-hua-ts'ai). This grows wild in moist fields, resembles wild mustard, has a slightly bitter taste, and is used as a pot-herb. It bears a yellow flower and small seeds like rape seeds. The rural people sometimes eat these seeds as a substitute for rice. The use of this plant and of its seed is regarded as beneficial in all cases of feverishness and lack of vitality.

LATHYRUS DAVIDII.—苳芒決明 (Chiang-mang-chüeh-ming). This is a Japanese identification. (See *Cassia mimosoides*).

LATHYRUS MARITIMUS.—野 豌豆 (Yeh-wan-ton). In the *Péntsao* this is discussed under the term 薇 (Wei), and part of the description evidently refers to a leguminous plant, although this latter character is more properly applied to a fern (*Osmunda regalis*). In Peking the same term is used for *Vicia gigantea*. In Japan the classification at the head of this article is the recognised one, although 翹 搖 (Ch'iao-yao) is also called *Lathyrus maritimus* and *Vicia hirsuta*. In the *Péntsao* the plant under consideration is said to grow by river courses and on marshy ground, although there is said to be a highland variety. It is used as a pot-herb, and upon prolonged use it is said to be very nourishing and to greatly benefit the intestinal tract. It is also thought to be tonic to the urinary organs.

LAWSONIA ALBA.—染 指 甲 草 (Jan-chih-chia-ts'ao), 海 納 (Hai-na). The leaves of this lythraceous plant, which grows all over South China, is used by women and children as a finger-nail dye; hence the Chinese names, the second of which is in imitation of the Arabian *henna*. In the *Péntsao* these Chinese names are mentioned under the article on *Impatiens balsamina*, because in North China this latter plant is used in combination with alum as a finger-nail dye. But no description of *Lawsonia* is there given. In India the yellowish-white flowers of this plant are used, together with the leaves, in preparing an extract which is used as a remedy for leprosy. The leaves contain gallic acid, and are therefore astringent. They are used by the natives of India for making a poultice to be applied to bruises and "burning feet." It is probable that the plant was introduced into China from India or Arabia at a very early period. The plant may indeed be *Anchusa* (*Alkanna*) *tinctoria*.

Under the name of 指 甲 花 (Chih-chia-hua), the *Péntsao* mentions a plant which it says resembles 木 樨 (Mu-hsi), *Osmanthus fragrans*, in odor, and which bears yellow and white flowers, and is superior to *Impatiens balsamina* for dyeing the finger nails. This may refer to *Lawsonia*. It is mentioned in the *Péntsao* in a foot-note to the article on *Jasminum officinale*. In the *Kuang-chün-fang-pu* it receives a somewhat fuller description as a shrub, growing to the height of five or

six feet, and as having been introduced from a foreign country, probably Syria or Persia, during the Liang dynasty. Its flowers are as white as snow and very fragrant.

HENNA.—The practice of dyeing the finger nails, and of using similar pigment upon other parts of the body, prevails to some extent in China, especially among women and children. In the south *Lawsonia alba*, and possibly *Anchusa tinctoria*, are used, and in the north *Impatiens balsamina* in combination with alum. The flowers of a ternstrœmiaceous plant, called 水木樨 (Shui-mu-hsi), are also used to some extent for the same purpose. A red or yellow dye is imparted to the nails, which needs daily renewal. Practice varies as to the number of fingers treated in this way. A circular spot of rouge or henna is often to be seen between the eyes, or upon the cheeks or forehead, of Chinese children, especially girls. There is a tradition that this mark was originally a sign of the separation of women during the "uncleanness" of menstruation. In Egypt the *Lawsonia* is collected and used as a dye, and is exported to Turkey, where it has similar uses, and is farther employed to stain the manes and hoofs of horses.

LEAVEN.—麴 (Ch'ü), commonly written 麴. Distiller's leaven is largely used in China in domestic operations. This is called 酒酵 (Chiu-chiao), and is the residuum left after the fermentation process preparatory to distilling spirits. Several kinds of leaven appearing under the name given at the head of this article, and that of 酒母 (Chiu-mu) are described in the *Pentsao* as being made of barley, wheat, or rice. The process of manufacture is about the same in each case. The crushed grain or flour is mixed with water, kneaded into dough, wrapped in the leaves of the paper-mulberry and hung in the open air for from five to ten days. In one kind the wheat-flour is mixed with kidney-beans, the juice of *Polygonum* (蓼, Liao, "smartweed,"), and apricot kernels. It is made during the dog-days (三伏日, San-fu-jih). This is called 麪麴 (Mien-ch'ü). Besides this there are 小麥麴 (Hsiao-mai-ch'ü), 大麥麴 (Ta-mai-ch'ü), and 米麴 (Mi-ch'ü).

The peptic and nutritive properties of these are well recognised in the *Pentsao*, as well as an abortifacient power.

They are used largely in digestive disturbances. A preparation called 神麴 (Shên-ch'ü), 1126, or "spirit-leaven," is described. It is to be made on the fifth of the fifth moon, the sixth of the sixth moon, or during the dog days, and is composed of white flour and the juices of wormwood, *Phaseolus mungo*, apricot kernels, burweed, and wild *Polygonum*, compounded together with the geomantic influences of the white tiger, the azure dragon, the scarlet bird, the black footstep, the hidden path, and the wingless dragon. It is wrapped in the leaves of the paper mulberry and hung up in the same manner as other kinds of leaven. It comes in yellow cakes, two inches and a half long by one inch and three quarters wide, packed up very neatly, two in a box. They are used as a peptic, stomachic, and corrective remedy in dyspepsia, colic, dysentery, the *kan* disease of children, and in difficulties following drunkenness. It is said to have the power of repressing the milk of puerperal women. Its action is very similar to that of malt. Another kind of leaven is called 女麴 (Nü-ch'ü), and this is simply fermented grain. Its virtues are said to be the same as those of the other forms. Still another kind is known as 紅麴 (Hung-ch'ü). This is made of non-glutinous rice, which is washed clean, mixed with "mother-leaven," and by a complicated, slow process of fermentation, made into a very efficient form of leaven of a red color, which is much used in fermenting grain for distillation. Its medicinal properties are the same as those of the other forms, but it is specially recommended in post-partum difficulties and the dyspeptic conditions of children.

LEMNA MINOR.—水萍 (Shui-p'ing), 浮萍 (Fou-p'ing), 327. In the *Pentsao* three plants are more or less confounded under this title: a large one called 蘋 (P'in, *Marsilia*), an intermediate one called 荇 (Hsing, *Limnanthemum*), and the one under consideration, which is the smallest of all. There is also a kind with leaves green above and reddish-purple beneath, called 紫萍 (Tzŭ-p'ing), which in Japan is identified as *Salvinia natans*. Henry says that a sample of the drug *Fou-p'ing* from Hongkong, which is found in the Pharmaceutical Museum in London, is *Pistia stratiotes*. In Peking the plant known by this name is *Lemna minor*. Cooling, diuretic, antiscorbutic,

astringent, and alterative properties are ascribed to this plant. It is added to the bath for the treatment of prickly heat, and the expressed juice is thought to promote the growth of hair. The juice is also applied to syphilitic sores and to carbuncles. The dried plant is used to drive away mosquitos.

LEONURUS MACRANTHUS.—整菜 (Tsau-ts'ai). This grows in shady places in Kiangnan, and resembles the next, having a square stem and a whorl of white flowers at the joints. The *Erhya* calls it 蕹 (T'ui), and a purple flowered variety is called 蔞 (T'ui). This last character, however, is also used for a *Rumex*. The shoots of this plant are used as a vegetable; hence the character 菜 in the name. The medicinal action is vitalizing to the blood, and it is used in post-partum difficulties.

LEONURUS SIBIRICUS.—茺蔚 (Ch'ung-wei), 283, 益母 (I-mu), 550. The *Erhya* also gives the name 蕹 (T'ui) for this. The second name above given is applied also to *Leonurus macranthus*, and in Manchuria to *Lycopus lucidus*. This plant grows near the sea shore and on the margins of pools and marshes. It has a square stem, trilobed leaves, and the flowers are red, tinged with white, and arranged in a whorl around the stem at the joints. The plant has a disagreeable odor, and was called by some ancient authors 臭穢 (Ch'ou-wei). The name *I-mu* is explained by its seeds being used in women's diseases. This plant is collected by poor people and dried, and sold to the medicine shops, where it is met with in bundles. The odor is not strong, but the taste is bitter. Li Shih-chen speaks of two varieties of the plant: one with purple and one with white flowers. The latter is *I-mu*, while the former is called 野天麻 (Yeh-t'ien-ma). The seeds are considered to be constructive and aphrodisiac. They are prescribed in fevers, post-partum hemorrhage, menorrhagia, and loss of virility. Prolonged use promotes fertility. The stalk is used in baths for eruptions on the body, and the juice is employed in dropsies, death of the fœtus, difficult labor, dysmenorrhœa, fluxes, constipation, and locally in boils, cancer, ear abscess, serpent and insect bites, and it is added to cosmetic applica-

tions. An extract, called 益母膏 (I-mu-kao), 549, is prepared and used in cases of difficult or complicated labor.

LEUCOTHOË GRAYANA.—水蓼蘆 (Shui-li-lu). This is a shrub with leaves resembling those of the cherry, but narrower, longer, and much wrinkled. In the fourth moon it bears a small yellow flower, followed by the fruit, which is of the size of a small pea. The taste of this is bitter and acrid, and it is poisonous. It is used in the treatment of itch, ring-worm, and as a general parasiticide. The Chinese name indicates that this is regarded as a species of *Veratrum* growing on moist ground. The root is also said to be used, possibly being in some instances confounded with *Veratrum* root.

LICHENS.—The characters 苔 (T'ai), 薄 (T'an), and 蘚 (Hsien) are used to denote these plants, as well as mosses and algæ. The different kinds are not clearly distinguished. Most lichens are regarded as cooling, astringent, prophylactic, and anthelmintic.

LIGUSTRUM LUCIDUM.—女貞 (Nü-chên), 913. In the *Shan-hai-ching* the second character is written 楨 (Chên). It is also called 冬青 (Tung-ch'ing), in reference to its being an evergreen (see *Ilex*), and 蠟樹 (La-shu), in reference to the fact that it is the tree most commonly inhabited by the wax insect. This tree, with its evergreen leaves, is regarded as an emblem of chastity; hence the name, "female chastity." The tree is most commonly known, however, by the last name, "wax tree," because the cultivation of this tree for the production of the white wax is an extensive and profitable business in some parts of China. The similarity of this tree to *Ilex pedunculosa* is noted by Chinese authors, and the fact that 冬青 (Tung-ch'ing) is used as a name for both serves to cause some confusion between these. But it is pointed out that the leaves of the *Nü-chên* are oblong, from four to five inches long, and its fruit is black; whilst the *Tung-ch'ing* has roundish leaves and red berries. The flowers of these trees are very much alike, those of the

Tung-ch'ing being white, and those of the *Nü-chên* greenish-white. The fruits enter into commerce under the name of 女貞子 (*Nü-chên-tzū*), 913. The taste is bitter. "It is tonic to the centers, brightens the eye, strengthens the *yin*, quiets the five viscera, nourishes the vital principle, makes vigorous the loins and navel, expels the hundred diseases, restores grey hair, and if taken for a long time will increase the rotundity and firmness of the flesh, giving sprightliness and youth to the body." The leaves are prescribed in colds, congestions, swellings, dizziness, and headaches. It is probable that other species of *Ligustrum* are known by the same Chinese name.

INSECT WAX.—蟲白蠟 (*Ch'ung-pai-la*), 953. Li Shih-chen says: "Previous to the Tang and Sung dynasties the wax used for making candles and in medicine was all beeswax. From that period, however, the insect wax began to be known, and it is now an article of daily use. It is found in Szechuan, Hukuang, Yunnan, Fukien, Lingnan, Kiangsu, Chekiang, and Shantung provinces. That from Yunnan, Hêngchou (Hunan), and Yungchang is the best. The wax tree, in its branches and leaves, is classed with the 冬青 (*Tung-ch'ing*), in that during the four seasons its leaves do not fall. In the fifth moon it bears white flowers in clusters and chains of fruits, about the size of those of 蔓荆 (*Wan-ching*, *Vitex incisa*). When fresh, these are green in color; when ripe they are purple. Those of the *Tung-ch'ing* are red." It seems that *Ilex* is here referred to. "The insect is about the size of a louse, and after it has been propagated it remains upon the green branches of the tree, eating its sap and giving off from its body a secretion which adheres to the fresh stalks, gradually becoming changed into a white cere which congeals to form the wax, appearing like frost upon the branches. After the period of great heat (大暑, *Ta-shu*, about July 23) it is scraped off, and is then called 蠟渣 (*La-cha*). If it is allowed to remain until the period of white dew (白露, *Pai-lu*, about September 9), it adheres very firmly and is with difficulty scraped off. The crude wax is melted and purified or steamed in a retort, in order to get rid of the impurities, and is then poured into moulds to cool. This forms the white wax of

commerce. The insects produce the wax while they are young and of white color. When they are old, they are reddish-black in color, and form balls upon the branches of the tree, at first of the size of a grain of millet, but in the second spring they grow to the size of a cock's head, are purplish-red in color, and closely encircle the branches, appearing as if fruits borne upon the tree. The insect deposits its eggs, making a cell that much resembles a chrysalis, which is called 蠟種 (La-chung) or 蠟子 (La-tzŭ). The eggs within this cocoon are like small silkworm eggs. In each bundle there are several hundreds. At the opening of spring they are taken down and wrapped in bamboo leaves and hung upon the tree. The insects gradually hatch out and come out of the envelope and adhere to the under side of the leaves and the other parts of the plant, where they begin the manufacture of wax. The ground beneath the tree must be kept very clean, lest the ants eat the young insects. There is also a tree called 水蠟樹 (Shui-la-shu, *Ligustrum ibota*), the leaves of which somewhat resemble those of the elm. This may be used for breeding wax insects, as can also the 天櫛 (T'ien-chu, *Quercus sclerophylla*.)"

The insect which produces this secretion is the *Coccus Pe-la* of Westwood, otherwise known as *Coccus sinensis*. It is whitish in color when young, but becomes of a dark brown color at the end of the season. The male insect is described in Hanbury's Notes (Science Papers, p. 271) as having large wings, a body of a dark red chestnut color, an elongated anal point, and reddish-brown legs. The body of the female seems to develop in such a way as to envelope the twig upon which it grows. The account given by Li Shih-chen, as quoted above, seems to be fairly close to the facts, as these have thus far been gathered by foreign observers.

The trees upon which the insect grows have been much in dispute as to their identification. For the most part they belong to the Oleaceæ. Without doubt the insect will thrive upon several different species, such as *Ligustrum*, *Fraxinus*, *Ilex*, *Quercus*, and possibly *Rhus*. But it seems now to be well established that *Ligustrum lucidum* (女貞, Nü-chên and 冬青 Tung-ch'ing) and *Fraxinus sinensis* (苦櫛, K'u-li) are the principal trees employed for this purpose; the former for

the most part in the western provinces, and the latter in the eastern. *Ligustrum ibota* makes a good third in the list of wax trees. The *Kuang-chün-fang-pu* gives 蠟樹 (La-shu), "wax tree," as the alternative name for the *Nü-chen*, and while it also gives *Tung-ch'ing* as a name, it seems to use this more in the sense of "evergreen." The trees are usually planted upon dykes between fields, and more rarely in clumps or orchards. Few engage exclusively in this business of producing the wax. It is usually one of the many activities of the Chinese farmer.

In commerce the wax appears in cakes of varying sizes; the usual one being of a diameter of about thirteen inches and about three and a half inches thick, with an oblong hole in the center for ease of handling. Its texture is highly crystalline on its broken surface, much resembling spermaceti, but considerably harder. When pure it is almost colorless, inodorous, and tasteless. It melts at a temperature of about 180° F., and chemically seems to be a ceryl cerotate, its formula being $C_{27}H_{56}$, $C_{27}H_{53}O_2$. It is very slightly soluble in alcohol or ether, but very soluble in naphtha. It is used in China to some extent for making candles, being rarely used pure for this purpose, but sometimes combined with softer fats. It is more particularly used for giving to the ordinary tallow candle a hard coating to prevent its guttering and wasting. For this purpose it is usually colored red with alkanet root, or green with verdigris. Latterly the aniline dyes are being used to produce other colors. It is used in the trades for polishing the edges of books, the edges of the soles of shoes, polishing earthenware, and the like. Medicinally, the *Pentsao* says that it makes flesh grow, stops bleeding, eases pain, restores strength, braces the nerves, and joins broken bones together. It is regarded as a valuable remedy for wounds and all sorts of external difficulties, being used together with the bark of *Albizia julibrissin* for this purpose. It is also considered to have anthelmintic properties when taken internally, and is rubbed into the scalp in cases of favus and alopecia. Pills are sometimes coated with this wax, and it is used for rubbing up with india ink in printing Chinese visiting cards of the better quality. Grosier says that public speakers sometimes swallow

it to the extent of an ounce at a time as a stimulant to the voice. A large pill, made in Canton, and which is called 白蠟丸 (Pai-la-wan), 687, is considered to be a very good vulnerary and pectoral remedy.

LILIUM BROWNII.—野百合 (Yeh-pai-ho); *Lilium tigrinum*.—家百合 (Chia-pai-ho). The first term also includes other wild growing species. In fact, the name 百合 (Pai-ho), 945, is applied to a number of species of lily, the bulbs of which, resembling onions, are used as food. Several other names are given in the *Péntsao*, some of which refer to this resemblance to the onion or garlic. Another name applied to *Lilium tigrinum*, the description agreeing very closely, is 卷丹 (Chüan-tan), which refers to the way in which the flowers roll up as they fade. The domestic varieties of this plant are raised by manuring with the droppings of fowls. The wild kinds are preferred by some. The bulbs are considered to be tonic, eliminant, carminative, quieting, and expectorant. They are used also in epiphora, suppression of milk, post-partum neuroses, and externally in swellings and ulcers. The flowers are dried, powdered, and mixed with oil for the treatment of moist eczema and vesicular eruptions in children. The bulblets in the axils of the leaves are steeped in wine and used in the treatment of intestinal disorders. The dried bulbs of these lilies appear in commerce as 百合乾 (Pai-ho-kan), 945, while the fresh bulbs are called 鮮百合 (Hsien-pai-ho). A sort of starch is also made out of the bulbs, which is called 百合粉 (Pai-ho-fên), 946.

LILIUM CONCOLOR.—山丹 (Shan-tan). This is also known as 紅百合 (Hung-pai-ho) and 紅花菜 (Hung-hua-ts'ai). The term 卷丹 (Chüan-tan) is sometimes applied to the flowers of this species, but it properly belongs to *Lilium tigrinum*. In the case of this plant the flowers are eaten as well as the bulb, which latter is smaller than that of the 百合 (Pai-ho). The bulb is sweet and cooling, and is recommended in uterine fluxes, choreic affections, ulcers, and swellings. The flowers are considered to be invigorating to the blood, and are applied as a poultice to boils and foul ulcers.

LIMNANTHEMUM NYMPHOIDES. — 荇菜 (Hsing-ts'ai). According to the *Book of Odes*, the first character is also written 荇. Another name is 鳧葵 (Fu-k'uei), which Li Shih-chên says ought to be written 荷葵. He also says that the plant is the same genus with 蕓 (Shun, *Brassenia peltata*). It is therefore also called 水葵 (Shui-k'uei), "water mallow." Legge confounds this plant with *Lemna minor*. But these all belong to different natural orders; *Lemna* being the type of the Lemnaceæ, while *Brassenia* is a nymphaceous plant, and *Limnanthemum* an aquatic Gentianacea. The plant grows in water, the stem being so proportioned that the leaves may float on the surface. The leaves are peltate, purplish-red in color, and about an inch in diameter. The inferior part of the stem is white, and is sometimes eaten as a green vegetable. The flowers are yellow. True to Chinese ideas of the virtues of aquatic plants, those supposed to reside in this one are thirst-relieving, antifebrile, and diuretic. The expressed juice is used in fevers, and the bruised plant is applied to swellings, burns, rodent ulcers, and snake bite.

LIMNANTHEMUM PELTATUM. — 灰藜 (Hui-t'iao). Other names are 灰滌菜 (Hui-t'iao-ts'ai) and 金鎖天 (Chin-so-t'ien). The peltate leaves of this plant bear the hook-like appendages characteristic of this genus, and are also covered with a white, powdery efflorescence. The stalk and leaves are highly esteemed as a pot-herb. It bears a small white flower and produces a globular fruit containing seeds which are also edible. The stalk and leaves are bruised together with oil and applied to ulcers and insect bites, and in decoction they are used as a wash for scaly skin diseases, boils, sudamina, and all forms of parasitic skin difficulties. The kernels of the seeds are made into cakes and eaten to destroy and prevent intestinal worms.

LINDERA GLAUCA. — 山胡椒 (Shan-hu-chiao). This is a Japanese identification. It is spoken of in the *Pentsao* in a foot-note to the article on *Daphnidium cubeba*. It has a black drupe, the size of *Zanthoxylum* berries; hence the name. The taste of the drupe is acrid and warming, and it is used as a carminative and gastric stimulant.

LINDERA SERICEA.—鈞樟 (Tiao-chang), also called 烏樟 (Wu-chang). The Chinese liken this tree to the camphor tree, claiming it to be a dwarf variety of the latter. The root is likened to that of *Daphnidium myrrha*. It is a lauraceous tree, allied to *Benzoin*. The leaves are somewhat hirsute, and resemble those of *Persea nanmu*. The root is used in medicine, especially its bark, and is prescribed as a hemostatic in wounds, an astringent in fluxes, and as a wash in skin diseases. The branches and leaves are placed at the doors to ward off miasmatic and evil influences.

LINDERA STRYCHNIFOLIA.—烏藥 (Wu-yao), 1478. See *Daphnidium myrrha*.

LINDERA TZUMU.—梓 (Tzǔ), 木王 (Mu-wang). Bretschneider at first classed this as *Catalpa bungeana*, but in his latest work he says that there can be no doubt that it must be referred to *Lindera*. In Japan it is *Rottlera japonica*, and in this Faber follows. Bretschneider being so wide and careful an observer, he will be given the benefit of the doubt, and this tree will be here described. The Chinese also confound this with *Catalpa* (楸, Ch'iu). Some confusion also exists with this and *Acanthopanax*, and even with *Paulownia*. This is a tall, graceful tree, which on account of its great height and the usefulness of its timber is called by the Chinese 木王 (Mu-wang), "king of trees." It is said that a house built of this timber is never struck by lightning. The white, inner bark of the tree is used in medicine, and is considered to be anthelmintic and parasiticide. It is used in decoction as a wash in scabies and pediculosis in children, and in ophthalmia. It is also prescribed in nausea and vomiting, and is thought to have some antifebrile properties. The leaves are fed to hogs, and are said to be very fattening. They are also bruised and applied in the skin difficulties of these animals, as well as in sores on the hands or feet of mankind.

LINUM PERENNE.—亞麻 (Ya-ma). This plant is grown largely in Shensi for the oil of its seeds, which was formerly used in lamps. It is not eaten on account of its bad odor and taste. It is applied in ulcers and scaly skin eruptions.

LINUM SATIVUM.—山西胡麻 (Shan-si-hu-ma). This plant seems to have been unknown to the ancient Chinese, and it has probably been a comparatively recent introduction into China. It is cultivated in the north for the oil of its seeds, and its use as a textile does not yet seem to be appreciated. Its oil is not distinguished from that of *Cannabis*, *Sesamum*, or of other species of *Linum*. It is employed medicinally in the same manner and for the same purposes as these other oils.

LINUM USITATISSIMUM.—脂麻 (Chih-ma). This is thoroughly confounded with *Cannabis* and *Sesamum*. The term is found in the *Pêntsao* under the latter article, and the name 胡麻 (Hu-ma), 486, is without doubt applied to both genera. The plant is evidently of foreign origin, although it is extensively cultivated in China for the oil of its seeds. The medicinal uses of this plant and of its oil do not differ from those of *Sesamum* (see that article).

LIQUIDAMBAR ALTINGIANA.—This is a tall tree of Java, the Malay name of which is *rassamala*. It has a fragrant wood, which when incised yields a sweet scented resin of about the consistency of honey, and which hardens upon exposure to the air. This substance, which is found in Chinese drug shops, goes by the name of 蘇合油 (Su-ho-yu), 1196, or 蘇合香 (Su-ho-hsiang). The substance is very similar to, if not identical with, the *Liquid Storax* derived from *Liquidambar orientalis* of Asia Minor. The term "rose-maloes," by which this substance is sometimes known, is probably derived from the Malay name for the tree. Garcia says that "Roça-malha" is the name by which it is known in China, but this has not been confirmed by any Chinese work consulted. According to some early writers the substance is produced in the country called 蘇合 (Su-ho), from which fact it receives its name. What this country may have been is not known, but it may suggest Sumatra. The present source of supply for this drug to China is uncertain. The account in the *Pêntsao* suggests Annam, Sumatra, Central India, and Western Asia. This renders it probable that both the product of *Liquidambar altingiana* and that of *Liquidambar orientalis*

are found. One is *Rose-maloes* and the other is *Liquid Storax*. Western observers are said to have found both of these products under this Chinese name in different parts of China. Dr. Bretschneider suggests that the *Balm of Mecca*, a product of *Balsamodendron opobalsamum*, and *Mukul*, obtained from *Balsamodendron mukul*, may also be found in China under the same name. The Sanscrit name of the drug is 咄魯瑟劍 (T'u-lü-sê-chien). Its medicinal action is antidotal to noxious poisons, antimalarial, anticonvulsive, and constructive. Its prolonged use is said to give vitality and lightness to the body and to prolong life. A famous nostrum, called 蘇合香丸 (Su-ho-hsiang-wan), and whose principal ingredients are Rose maloes, Benzoin, Atractylis, Cyperus rotundus, Aristolochia, Santalum album, Lign-aloe, Cloves, Musk, Piper longum, Terminalia chebula, Vermillion, Baroos camphor, and Olibanum, is used in the treatment of malaria, epilepsy, and several other serious difficulties. Dr. Waring mentions two substances as obtained in Burma: one a light yellow balsam and the other thick, dark, and terebinthinate, which correspond closely to descriptions given in the *Pêntsao*. He found these of little use as expectorants, which is the principal property of storax.

LIQUIDAMBAR FORMOSANA.—The character 楓 (Fêng) is applied to this, to *Platanus*, *Acer*, and *Gynocardia*. But the description given in the *Pêntsao* refers to the one under consideration. It is a very tall tree, with rounded, dentate, three-cleft, more or less peltate leaves, which have a peculiar fragrance. The leaves flutter in the wind much like those of the aspen, and being such a large tree, this fact becomes particularly noticeable. It is said that the composition of the character 楓 is explained in this way. The branches are long and supple and wave gracefully in the wind. In autumn they are covered with the beautifully colored leaves, which gives an exceedingly attractive appearance to the tree. On this account, many of these trees were planted in the Imperial palace grounds at Peking by an emperor of the Han dynasty, and the palace from this took the name of 楓宸 (Fêng-chên), and the city was called 楓陞 (Fêng-pi). The

wood of the tree is considered to be especially appropriate for making idols, being thought to 靈 (Ling, "spiritualize") more easily than any other. This is probably due to the fact that on account of the free movement of its leaves and branches in the wind, the tree top is thought to be the abode of various sorts of spirits. The tree bears a white flower, and its fruits are said to be as large as a duck's egg. It produces a resinous extract resembling *Rose-maloes* and *Liquid Storax*, called 楓香脂 (Fêng-hsiang-chih), that produced from the fruits being called 白膠香 (Pai-chiao-hsiang). Indian and Sanscrit names for the substance are given as 薩折羅婆香 (Sa-chih-lo-p'o-hsiang) and 薩闍羅婆香 (Sa-shê-lo-p'o-hsiang). This gum-resin is of a pale yellow color, and is said to resemble *frankincense*. Its medicinal action is that of a hemostatic, astringent, anodyne, and corrective remedy. It is used in all sorts of wounds, skin affections, and ulcers. It is combined with two sorts of *Rhamnus* berries in preparing a suppository (挺納, Ting-na) for the treatment of chronic constipation. The bark of the tree is employed in fluxes and as an astringent wash in skin diseases, while the leaves and the root are used in cancerous growths. The *Erhya* says that *Liquidambar resin* which has been buried in the ground for a thousand years becomes *amber*. An unidentified excrescence found growing on the tree, which is said to somewhat resemble the form of the human body, and which is reputed to grow to the length of three or four feet, is called 楓子鬼 (Fêng-tzū-kuei) and 楓人 (Fêng-jên). It is said to be poisonous, and to produce, when ingested, a laughing delirium which is persistent. Faber gives 山楸 (Shan-ch'iu) as a term for *Liquidambar formosana*, but Chinese botanical works do not seem so to recognise it, but on the other hand identify this with *Catalpa*, as the name implies.

LITHOSPERMUM OFFICINALE (ERYTHRORHIZON).—紫草 (Tzū-ts'ao). Other names are 紫丹 (Tzū-tan), 地血 (Ti-hsüeh), and 鴉銜草 (Ya-hsien-ts'ao). The *Erhya* writes the first character 苺 (Tz'ü). This plant is indigenous to the central and northern provinces of China. It is cultivated for the purple dye yielded by its root. This is dug up in the

spring before the plant has flowered, at which time the coloring matter will be found to be very bright. If gathered after flowering, the color has become deeper, and is considered to be inferior in quality. The root is the part used in medicine, and it is said to act on the blood, to be derivative to the skin and all of the passages of the body, especially the intestinal canal and urinary tract. It is also prescribed in skin affections, and especially in eruptive fevers, being supposed to bring out eruption and to neutralize the poison.

LITSEA GLAUCA.—月桂 (Yüeh-kuei). There is an old tradition that this tree grows in the moon, and that its fruits fall to earth and are found on the ground. This legend dates from the Tang and Sung dynasties. The *Tang History* says that in A.D. 868, at Taichow in Chekiang, these berries fell during a period of more than ten days. Also during the Sung dynasty, during the reign of T'ien-shêng (1023-1032), at the monastery of Lingyin at Hangchow, the berries fell during fifteen moonlight nights. Li Shih-chên gives a number of other legends in regard to this tree and its fruits. In the Taoist books it is called 不時花 (Pu-shih-hua), and it is not permitted to be offered in sacrifice. The only difficulty for which the seeds are recommended to be used is as a local application in ringworm of the scalp in children.

LOBELIA RADICANS.—半邊蓮 (Pan-pien-lien), 974. This is a small plant growing in moist ground, having small leaves and flowers; the latter being reddish-purple in color. The juice is expressed and used on snake and insect bites, and the plant is used in decoction in the treatment of fever, asthma, ague, and the like.

LONICERA JAPONICA.—忍冬 (Jên-tung), 555, 金銀藤 (Chin-yin-t'êng), 162-165. Li Shih-chên gives a good description of this Chinese *honeysuckle*, or *woodbine*. The first Chinese name refers to the plant not withering during the winter, and the second to the fact that the flowers, which are at first white, afterwards become yellow, and as they do not fall early, the plant bears both colors at the same time.

The flowers, vine, and leaves are employed in medicine. Prolonged use is said to increase vitality and to lengthen life. Antifebrile, corrective, and astringent properties are ascribed, and it is used in the treatment of all sorts of infections and poisons. A wine (忍冬酒, Jên-tung-chiu) and a plaster (忍冬膏, Jên-tung-kaō) are officinal. The dried flowers in the Chinese medicine shops have a smell resembling that of some kinds of tobacco.

LOPHANTHUS RUGOSUS.—藿香 (Ho-hsiang), 371. This plant does not seem to be indigenous to China, being referred to Annam, India, and other parts of Southern Asia. A number of Sanscrit and other foreign names are given in the *Pentsao* for it. The plant is cultivated in Lingnan. The branches and leaves are used in medicine; their principal virtues being considered to be carminative and stomachic. They are also used in cholera and as a deodorizing mouth wash. The nausea of pregnancy is another difficulty for which they are recommended. It is possible that *Betonica officinalis* is included under this term. If so, it is interesting to note that this remedy is recommended both in the Herbarium of Appulius and in the *Pentsao* as a remedy for the consequences of the excessive use of wine.

LOPHATHERUM ELATUM.—淡竹葉 (Tan-chu-yeh). This gramineous plant is found growing plentifully in wild, waste land. Its leaves somewhat resemble those of the bamboo. The root is dug up and mixed with fermenting cereals in the production of wine, giving to the latter a peculiarly agreeable aroma. The leaves are antifebrile and diuretic. The root is said to be a certain abortifacient. For this reason it is called 碎骨子 (Sui-ku-tzū), "bone-breaker."

LORANTHUS.—The term 寄生 (Chi-shêng), 58, 1320, properly means an epiphyte; and without doubt the Chinese include under this term species of *Loranthus*, as well as of *Viscum*. It is used to explain the terms 蔦 (Niao) and 女蘿 (Nü-lo), which respectively are the *mistletoe* and *dodder*. The distinction between *Loranthus* and *Viscum* is not clearly made,

but in some cases 桑寄生 (Sang-chi-shêng), 1067, is *Loranthus yadoriki* and 松蘿 (Sung-lo) is *Loranthus kœmpferi*. The former is most highly valued in medicine. It is described as being two or three feet long, having round, thick, soft, green leaves, white flowers, and yellow fruit. The medicinal action of the plant is regarded as anodyne, and quieting to the pregnant uterus. It is employed in puerperal difficulties, threatened abortion, menorrhagia, and insufficient secretion of milk. It is also considered to promote the growth of hair. The fruits are regarded as vitalizing in their action. The 松蘿 (Sung-lo), which is also called 女蘿 (Nü-lo), and which grows principally upon the pine and fir tree, is thought to be antiseptic, antimalarial, diuretic, and somewhat soporific. It is also used in scalp diseases and difficulties of the external genital organs of women.

LOTUS CORNICULATUS.—百脉根 (Pai-mai-kên). This product comes from Kansu and Northern Szechuan, is said to resemble *lucerne*, has a yellow flower, a root like that of *Polygala japonica*, which is gathered in the second and eighth moons and dried in the sun. Its action is carminative, thirst-relieving, antifebrile, restorative, and tonic. It is administered in tinctures, decoction, pill, or powder.

LUFFA CYLINDRICA.—絲瓜 (Ssü-kua). Other names are 天絲瓜 (T'ien-ssü-kua), 天羅 (T'ien-lo), 布瓜 (Pu-kua), and 蠻瓜 (Man-kua). It was unknown in China prior to the Tang dynasty. Now it is grown in all parts of the empire for use as a vegetable. It is planted in the second moon, and the vine is trained over bushes, bamboos, or houses, or a framework of reeds or bamboo poles is made, over which it runs. The leaves are about the size of hollyhock leaves and hairy. The expressed juice of these will dye a green color. The stalk is angled. In the sixth or seventh moon there is produced a five-parted, yellow flower, slightly resembling that of the cucumber. The pepo is something over an inch in diameter, from one to four feet long, deep green in color and mottled, and when it is fresh it can be baked, stewed, or otherwise prepared as a vegetable food. When old and ripe, the fibrous

structure of the pepo renders it useful as a sponge for washing vessels. For this reason villagers call it 洗鍋羅瓜 (Hsi-kuo-lo-kua). The flowers, buds, and young leaves can also be used as food. The ripe pepo is incinerated and pulverized, under which circumstances the medicinal virtues ascribed to it are something extraordinary. It is reputed to be carminative, pectoral, cooling to the blood, antiseptic, anthelmintic, emmenagogue, quickening to the circulation, galactagogue, and is also used in the treatment of hemorrhage from bowels or bladder, hemorrhoids, menorrhagia, jaundice, hernia, orchitis, cancerous swellings, toothache, smallpox, and scarlet fever. Mixed with vermilion, it is used to dry up smallpox pustules. The fresh pepo is considered to be cooling and beneficial to the intestines, warming to the stomach, and tonic to the genital organs. The leaves are prescribed in skin diseases and orchitis, the vine and root in decayed teeth, ozæna, and parasitic affections. The fibres of this gourd are found in commerce under the names of 絲瓜絡 (Ssü-kua-lo), 1190, and 絲瓜布 (Ssü-kua-pu), 1191.

LUISIA TERES.—釵子股 (Ch'ai-tzū-ku). Also called 金釵股 (Chin-ch'ai-ku), but it must not be confounded with *Dendrobium nobile*, which is 金釵花 (Chin-ch'ai-hua). This orchidaceous plant grows in the south and resembles *Asarum*. It is a much vaunted counter-poison, especially against the 蠱 (Ku) infection. It is also prescribed for carcinoma, malaria, and to counteract all sorts of medicinal poisons.

LYCHNIS.—剪草 (Chien-ts'ao), 112, 剪春羅 (Chien-ch'un-lo), 剪紅羅 (Chien-hung-lo), 剪秋羅 (Chien-ch'iu-lo), 剪羅花 (Chien-lo-hua), 剪金羅 (Chien-chin-lo), 剪紅紗 (Chien-hung-sha). These all seem to be species and varieties of this genus. Faber also gives 虞美人 (Yü-mei-jên), but this is not given in the *Pêntsao*, and according to other observers is identified as *Papaver rhæas*, with which identification the description in the *Kuang-chün-fang-pu* agrees very well. The only terms mentioned in the *Pêntsao* are the first two, with the third as a synonym of the second. The description of the first is not at all clear, and as Faber makes it

identical with 虞美人 (Yü-mei-jên), the likelihood of its being *Lychnis* is small. It may be a rubiaceous plant, as the *Péntsao* likens it to 茜 (Ch'ien), which is *Rubia*. The root is used as a tonic, anodyne, parasiticide, and hemostatic remedy. The 翦春羅 (Chien-ch'un-lo) is undoubtedly *Lychnis grandiflora*. It is a very popular garden flower, having fresh green leaves and beautiful red blossoms. 翦紅紗 (Chien-hung-sha) is probably only another name for this. The leaves and flowers are crushed together with honey and used as an application in herpes zoster.

LYCIUM CHINENSE.—枸杞 (Kou-chi), 607, 地骨皮 (Ti-ku-p'i), 1267, 1384. It is also called 甜菜 (T'ien-ts'ai), 1300, which is the leaves, 羊乳 (Yang-ju), the fruit, and 仙人杖 (Hsien-jên-chang), the stalk. This was erroneously identified by Porter Smith with *Berberis lycium*. It is not a berberidaceous plant, but a solanaceous one. It is a common shrub in the northern and western provinces, has soft, thin leaves, which can be eaten, and small reddish-purple flowers. The fruits are small, one-celled, red berries, having a sweet but rather rough taste. The root is met with in light, yellowish-brown, quilled pieces, having very little taste or smell. The general action of the plant is considered to be tonic, cooling, constructive, prolonging life, improving the complexion, and brightening the eye. The shoots or young leaves are recommended to be used in all forms of wasting disease. Used in the form of a tea, they are recommended to quench thirst and to remove the unpleasant symptoms of pulmonary consumption. The root is supposed to have special action on the kidneys and sexual organs, as well as those virtues ascribed to the leaves, and is used as a hemostatic in bleeding of the gums and wounds. The seeds are similarly used. There are a number of officinal preparations, such as an extract, pills, tinctures, and the like.

LYCOPERDON.—馬勃 (Ma-p'o). This is the ordinary *puff-ball*. It is of a purple color, hollow, and soft, growing on decayed wood in damp places. When ruptured, it discharges its spores in a fine powder. It varies in size, up to that of a

peck measure. The reddish-brown, powdery spores are used as a dusting powder for all sorts of ulcers. Mixed with honey or water, they are used in sore throat, as well as in fever and diseases of the lungs.

LYCOPERSICUM ESCULENTUM.—蕃柿 (Fan-shih), 六月柿 (Liu-yüeh-shih). The *tomato* is not indigenous to China; but, as the name indicates, is of foreign origin. Just when it was introduced is uncertain; but, as it is mentioned in the *Kuang-chün-fang-pu*, this occurred before the beginning of the XVIII century. It is not yet much cultivated, as the Chinese do not seem to have learned its value as a vegetable.

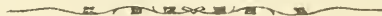
LYCOPODIUM.—Several species of this genus are found in China and Japan. 玉柏 (Yü-po), for which 千年柏 (Ch'ien-nien-po) and 萬年松 (Wan-nien-sung) are given in the *Pên-tsao* as synonyms, is *Lycopodium japonicum*. This grows among stones to the height of five or six inches, and has a purple "flower." The stalk and leaves are employed medicinally. Their use gives lightness to the body, benefits the breath, and quenches thirst. 石松 (Shih-sung), 1158, is *Lycopodium clavatum*. It also grows plentifully in all mountains to the length of one or two feet. The stalk and root are used in the treatment of chronic diseases, and they are supposed to restore health and vigor, moistening the skin and improving the complexion. The Chinese do not seem to have learned to use the sporules of these plants as dusting powders. In Japan, 千年松 (Ch'ien-nien-sung) is *Lycopodium cernuum*, and Faber identifies 仙人縮 (Hsien-jên-t'ao) as *Lycopodium sieboldi*. The last character in the latter name is a way of writing 條 (T'ao). This does not seem to be used in medicine, but is described in the *Kuang-chün-fang-pu*. The Customs lists give 升金草 (Shêng-chin-ts'ao), 1131, as a term for *Lycopodium*, but upon what authority does not appear.

LYCORIS RADIATA.—石蒜 (Shih-suan), 老鴉蒜 (Lao-ya-suan), 一枝箭 (I-chih-chien). In Japan this is called 鐵色箭 (T'ieh-sê-chien), and this term is also found in the *Pên-tsao*. It is an amaryllidaceous plant, the 蒜 (Suan) in the

Chinese name referring to the resemblance of the roots, and the 箭 (Chien) to that of the stalk. The plant is commonly called 水麻 (Shui-ma), and grows almost everywhere in swamps. In the seventh month it produces a red flower with yellow sepals. The root has a purplish skin and a white cortex, and is the part used in medicine. Its taste is acrid, sweet, and cooling, and it is slightly poisonous. It is applied to swellings and ulcers, and administered internally in decoction and tincture to counteract the poisoned phlegm supposed to accompany abscesses and ulcers. It is also used in the nervous affections of children.

LYSIMACHIA ELEUTHEROIDES.—珍珠菜 (Chên-chu-ts'ai), also written 眞珠菜 (Chên-chu-ts'ai). This plant, with its filamentous stalk and leaves, is found in moist ground in Szechuan. As it is used as food, it is probably also cultivated. It is fragrant and succulent, and in the fresh state is highly esteemed as a pot-herb or pickle. It is eaten with honey, or with a piquant sauce called 醃 (Hsi). Its use is regarded as beneficial, but no medicinal properties are ascribed to it.

LYSIMACHIA SIKOKIANA.—排草 (P'ai-ts'ao). It is also called 排草香 (P'ai-ts'ao-hsiang) on account of its great fragrance. It grows in the region of Lingnan, and the root is used to correct fetor of the breath. The Customs lists give 靈香草 (Ling-hsiang-ts'ao) as *Lysimachia fœnum græcum*, but this is not found in the *Pêntsao*, nor is any authority given for the identification.



M.

MABA EBENOS.—烏木 (Wu-mu). Other names, 烏楠木 (Wu-mên-mu) and 烏文木 (Wu-wên-mu). This comes from Hainan, Lingnan, and the Indian Archipelago. It is also said to be brought in junks from Persia (probably, rather, India). Its heavy, hard texture and black color are mentioned in the *Pên-tsao*, as well as the fact that other heavy woods are sometimes stained black to fabricate it. The tree is not a large one, being said to seldom exceed ten feet in height. The wood is pulverized and digested in warm wine, and administered in poisons and cholera morbus.

MACROCLINIDIUM VERTICILLATUM.—鬼都郵 (Kuei-tu-yu). This is somewhat confounded in Chinese works with *Pycnostelma chinensis*, an asclepiadaceous plant, and with *Gastrodia elata*, an orchidaceous one. But this plant is one of the Compositæ. It sends up closely set shoots of one stem, which is surmounted by a whorl of leaves like an umbrella. The root resembles that of *Acryanthes bidentata*, but is smaller and without filaments. The flowers, which come out among the leaves, are yellowish-white. The taste of the drug is bitter, and it is somewhat deleterious. It is recommended for the treatment of an evil disposition, vicious effluvia of the heart, and the hundred poisonous essences. It is also used in malaria, to give power to the loins and legs, and to benefit the muscular strength (腎力, Lü-li) generally.

MÆSA DORÆNA.—杜莖山 (Tu-kên-shan). This is a mountain plant, growing to a height of four or five feet, with leaves like those of *Sonchus arvensis*. It flowers in the autumn, and towards winter it bears a fruit like that of *Lycium chinense*, but larger and white in color. It is used for malarial and other fevers, headache, and nausea. Digested in new wine and administered, it will cause vomiting, which clears away the phlegm and relieves the worst symptoms of febrile attacks.

MAGNOLIA CONSPICUA.—辛夷 (Hsin-i), 464. Because the unopened flower is globular, not unlike a young

peach, it is called 猴桃 (Hou-t'ao). When the flower first opens it resembles a Chinese pen, and for this reason it is called 木筆 (Mu-pi), "wood pencil." Since the flowers appear very early in the spring, the tree is called 迎春 (Ying-ch'un). This must not be confounded with *Jasminum nudiflorum*. The white flowered magnolia is called 玉蘭 (Yü-lan), and has been by some botanists designated as *Magnolia yulan*. These names are all used for this species of magnolia, and usually indicate varieties. It also is called 木蓮花 (Mu-lien-hua), because its flowers resemble those of the lotus (*Nelumbium speciosum*). The tree flowers twice a year: once in the early spring and once in the autumn. It is much cultivated in gardens, and the flowers are usually purple or white. It rarely perfects its fruits. The unopened flower buds (苞, P'ao) are the parts used in medicine. This is one of the many drugs reputed to give lightness to the body, brightness to the eye, added length of life, culminating in a green old age. "It warms the centers, lubricates the muscles, benefits the nine cavities, opens up the nose, expels mucus, relieves swelling of the face and toothache, mitigates cart and boat vertigo, promotes the growth of whiskers and hair, and expels white worms." It is prescribed in headaches and all difficulties of the nose, in which latter case it is especially recommended if combined with musk and onions. The flowers appear in commerce under the name of 春花 (Ch'un-hua), 272.

MAGNOLIA FUSCATA.—含笑 (Han-hsiao). This is the same as *Michelia fuscata*. There are said to be two kinds: the large and the small; and flowers of two colors: white and purple. It is a southern species, not being found in the northern provinces. It flowers in every season, but is most prolific in summer. The flowers are very fragrant, reminding one of *Jasminum sambac*. It does not seem to be used in medicine, but it is possible that its buds are sometimes substituted for those of *Magnolia conspicua*.

MAGNOLIA HYPOLEUCA.—厚朴 (Hou-p'o), 381. This tree is cultivated in the upper Yangtse provinces for its bark, which on account of its extensive use as a medicine is quite an

article of commerce. The wood is dark colored and the bark white. It has very large leaves, and there are two varieties: one with red and the other with white flowers. The drug consists of the rough, thick bark, rolled into large, tight cylinders, from seven to nine inches long, and very thick. The outer surface is of a greyish-brown color, roughened with tubercles and marked with lichenous growths. The inner surface is smooth and of a reddish-brown color. In the coast provinces there seems to be some confusion in regard to the drug; an inferior product, which is probably the bark of a different tree, appearing in commerce (see Customs Lists, 1040). There is some confusion of Chinese terms between this and *Celtis sinensis*. The taste of the true bark is aromatic and bitter, but some of the drug found in the shops is almost tasteless, and is probably inert. Its medicinal properties are deobstruent, tonic, stomachic, quieting, and anthelmintic. It is prescribed in diarrhœas, flatulence, amenorrhœa, pyrosis, and a variety of dissimilar difficulties. The fruit is said to be called 逐折 (Chu-chê), but whether it is the fruit of this or of *Eucommia ulmoides*, the *Pêntsao* is not quite certain. It cures ulcers, brightens the eyes, and benefits the breath. A foot-note to this article in the *Pêntsao* speaks of 浮爛羅勒 (Fou-lan-lo-lê), which in Japan is a variety of *Magnolia hypoleuca*. It comes from Samarcand, and is used as a deobstruent and tonic remedy.

MAGNOLIA OBOVATA.—木蘭 (Mu-lan). This tree is indigenous to China, being found in the mountainous districts of Szechuan, Hunan, and Shantung. It is a large tree, growing to the height of fifty or sixty feet. The wood is a useful building material, being fine grained, and having a yellow heart. Because of this last named fact, it is sometimes called 黃心 (Huang-hsin), "yellow heart." Its flowers resemble those of the lotus, and for this reason it takes the name 木蓮花 (Mu-lien-hua). The flowers are red, yellow, and white. The tree receives its principal name from the odor of its flowers, which resembles that of the orchid (蘭, Lau). The bark is considered to be deobstruent, constructive, diuretic, and tonic, and it is prescribed in fevers, sudamina, dropsy, mental

disease, and alcoholism. The flowers are included among the drugs having the reputation of dissolving bone and metals lodged in the throat.

MALT.—**蘖米** (Nieh-mi). The grains of ordinary millet, spiked millet, glutinous millet, rice, barley, naked barley, beans, and wheat are all malted by the Chinese. The grain is moistened and left to sprout, and when this process has gone on a sufficient length of time, it is dried in the sun, the sprouts are rubbed off, and the grain is ground into flour for making into cakes or bread. The malted millet is called **粟蘖** (Su-nieh) or **粟芽** (Su-ya), and is considered to be cooling, carminative, and stomachic. Mixed with fat and applied to the face, it makes the skin soft and glossy. Malted rice is called **稻蘖** (T'ao-nieh) or **穀芽** (Ku-ya), and is considered to be peptic, carminative, regulating, and constructive. The naked barley is the kind of barley usually malted, and this is called **廣麥蘖** (Kung-mai-nieh) or **麥芽** (Mai-ya), and is considered to be peptic, warming, stomachic, and abortifacient. It is prescribed in cholera, as well as in intestinal indigestion due to over-eating. It is also used in post-partum difficulties and to suppress the secretion of milk in women whose children have died at or after birth. Other kinds of malt or sprouted grain are found, but their general uses do not differ from those given.

MALVA.—The character **葵** (K'uei) is applied to very many malvaceous plants and to several others. *Abutilon*, *Althea*, *Anemone*, *Basella*, *Eranthis*, *Helianthus*, *Hibiscus*, *Malva*, *Ceanthe*, and *Peucedanum* all find it used as a distinguishing term for one or more species; for this reason it is sometimes difficult to distinguish between plants of these different genera. **錦葵** (Chin-k'uei) seems to be regarded by most observers as *Malva sylvestris*. *Malva verticillata* or *Malva pulchella* is assigned to **冬葵** (Tung-k'uei). Ford and Crow called **冬葵子** (Tung-k'uei-tzŭ), 1395, at Hongkong *Abutilon indicum*, but in the north this term seems to refer to a malva. Faber makes *Malva verticillata* to be **天葵** (T'ien-k'uei), but the *Pêntsao* gives this as a synonym of **菟葵** (T'u-k'uei), which in Japan is *Anemone* or *Eranthis*. Li Shih-chên says: "In

ancient times the *K'uei* was a common food, and was ranked as the first of the five vegetables, but now it is not much eaten. It was then called 露葵 (Lu-k'uei, 'dew mallow'). Now it is also called 滑葵 (Hua-k'uei), but it is not much cultivated. There are two kinds, distinguished by the color of the stem, which is either purple or white. The latter is the best. It has large leaves and small yellow or purple flowers. The kind with very many small flowers is called 鴨脚葵 (Ya-chio-k'uei, 'duck's-leg mallow'). The fruit is of the size of the end of a finger, and flattened, having a thin skin, and the seeds are light and resemble those of the elm. That sown in the sixth or seventh moon is called 秋葵 (Chiu-k'uei), that sown in the eighth or ninth moon is called 冬葵 (Tung-k'uei), and that sown in the first moon is called 春葵 (Ch'un-k'uei). Thus the plant can be used all the year." The shoots and leaves are eaten, but they are not considered to be very healthful. If eaten raw, they are especially harmful, and the heart of the shoot is positively injurious. If a person who has been bitten by a mad dog, although cured, eats of these, the disease will return. If eaten with garlic, the poisonous action is not so apt to show itself. It is the spleen vegetable, and any advantage accruing from its use is gained by that organ. Its mucilaginous qualities recommend it as a demulcent in stomach and intestinal troubles. Its use is also said to lubricate the passages, and thus to render labor easy. The ash is used as a styptic in wounds. The decoction is recommended in vermilion and other mineral poisons, and the seeds are similarly used. The root is employed in foul ulcers and as an antilithic, diuretic, and thirst-relieving remedy. It is recommended for difficulties similar to those for which the stalk and leaves are used.

MANDRAGORA.—**狼毒** (Lang-tu), 693. This is a doubtful identification. The drug seems to be a very ancient one with the Chinese, as it is mentioned in the *Shênning Pên-tsao* (XXVIII Century B.C.) as one of the five poisons; the others being *Croton tiglium*, *Veratrum*, *Aconitum*, and cantharides. Ma Chi (X Century) classifies it with the "six old drugs;" the other five being *Ephedra*, orange peel, *Pinellia tuberifera*, *Citrus fusca*, and *Boymia rutæcarpa*. There is not much

description of the plant. Its leaves are said to resemble those of *Phytolacca* or *Rheum*, and both these and the stem are hirsute. The root externally is yellow, but within is white. It is exceedingly poisonous, and is used to destroy birds and beasts, especially rats and other vermin. Its medicinal action is that of a sedative in coughs, angina, and colic. It is also used as a parasiticide in the 蠱 (Ku) disease and in parasitic skin diseases. Combined with another unidentified plant called 野葛 (Yeh-ko), it is used in the treatment of deafness.

MANGROVE BARK.—The *Rhizophora mangle* does not seem to grow in China; but, according to Bowra, the bark is imported from Siam and Singapore, and is used to dye or tan the sails, cordage, and nets of sailors and fishermen. The name given is 栲皮 (K'ao-p'i), but this first character evidently refers to an upland tree, and it is made identical in the *Péntsao* with *Cedrela sinensis*. Another suggested identification is *Platycaria strobilacea*. In the Customs Lists 栲花 (K'ao-hua), 591, and 栲果 (K'ao-kno), 592, are given, but no identification is suggested. A name given for mangrove bark in Giles' Dictionary is 蒺藜 (Ch'ieh-ting), but from what source this term is derived does not appear. It is not known that the Chinese use the bark for any medicinal purpose, although both it and the fruits are excellent astringents.

MANNA.—甘露 (Kan-lu) is a term that is used in Chinese translations of Indian books to express what is meant by the Sanscrit word *amrita*, the food of the Dévas, and it is used in China for manna-like substances, of which there are several. One is produced on a coniferous tree, and resembles the manna of Briançon. A similar substance, called 甘露蜜 (Kan-lu-mi), is described as occurring on a small plant in Szechuan, Samarcand, and Arabia. Under the head of 刺蜜 (T'zu-mi) or 草蜜 (Ts'ao-mi), a clear, honey-like substance is spoken of as coming from Tangut, and produced upon a leafless plant, called 羊刺 (Yang-tz'u). The Turckic tribes are said to call this substance 給敦羅 (Chi-p'o-lo). The

Tamarix manna is called 檉乳 (Ch'êng-ju). Similar properties to those set down in foreign works are referred to these saccharine substances. Some of the mannas are believed to be produced by an insect, probably the *Coccus maniparus* of Ehrenberg. The term 甘露子 (Kan-lu-tzū), applied to *Stachys sieboldi*, should not be confounded with this, as in the former case it only refers to the taste of the drug, as it also does in the case of an unidentified climber called 甘露藤 (Kan-lu-t'êng).

MANGIFERA INDICA.— 菴羅菓 (An-lo-kuo), 檬棵 (Mêng-kuo). The first two characters of the first name are a transliteration of some Indian name, as is also 菴摩羅迦菓 (An-mo-lo-ka-kuo), probably of *amra*, one of the Indian common names for this fruit. Another name is 香蓋 (Hsiang-kai). The Indian origin of this fruit is indicated by the names and spoken of in the books. It is now cultivated at Hongkong, Canton, and throughout the south-eastern provinces. The *Pêntsao* says that the *mango* can be eaten very freely, with no fear of injury. It is thirst relieving, and promotes the circulation of the blood and assists in menstruation. The leaves are also accounted as cooling. According to Lindley, the root bark is an aromatic bitter, good for use in diarrhœa and leucorrhœa. He also reports the seeds to be anthelmintic. Dr. Waring recommends the powdered seeds as an excellent remedy in lumbricoid worms, and says that strongly astringent qualities, dependent upon the presence of a large proportion of gallic acid, recommend this powder for use in menorrhagia and bleeding piles.

MARLEA PLATANIFOLIA.— 大空 (Ta-k'ung). This is Faber's identification. In Japan this shrub is called 八角楓 (Pa-chio-fêng), 930. The *Pêntsao* says that another name is 獨空 (Tu-k'ung). It is described as a small tree with large, rounded leaves. The bark of the root and the leaves are used as insecticides. Faber calls the root 白龍鬚 (Pai-lung-lsü), but upon what authority does not appear. The *Pêntsao* describes this as an epiphyte growing upon some one of the many 楓 (Fêng) trees.

MARSILIA QUADRIFOLIA.—蘋 (P'in). There is some confounding this with *Hydrocharis*, *Lemna*, and *Limnanthemum*, both in China and Japan. This is a larger plant than the others. It has leaves about an inch in diameter, which float on the surface of the water, while the root is at the bottom of the pond. The leaves are arranged in a quadriform manner, and for this reason the plant is called 四葉菜 (Ssü-yeh-ts'ai) and 田字草 (T'ien-tzũ-ts'ao). *Marsilia* is a pseudo-fern, and has no flowers, and so when Chinese writers speak of white and yellow flowered varieties, they confound this with *Lemna* and other plants. The drug is considered to be cooling, diuretic, resolvent, and constructive. Its juice is applied locally to snake bites and ulcers.

MATRICARIA INDICA.—野菊花 (Yeh-chü-hua). *Anthemis*, *Calendula*, and *Chrysanthemum* are not clearly distinguished from this by the Chinese. Another name given in the *Pên-tsao* is 苦蕒 (K'u-i). It grows plentifully in waste land. In Japan it is identified as *Pyrethrum indicum*. The whole plant is used in medicine. Administered in decoction, it is considered to be resolvent, but it is used principally as a fomentation to swellings, boils, tuberculous glands, and inflamed eyes.

MEDICAGO SATIVA.—苜蓿 (Mu-su). This is one of the plants said to have been brought to China by General Chang Chien of the Han dynasty. Its foreign origin is indicated by the fact that its Chinese name is variously written with characters of similar sound. It also has a name derived from a Buddhist book, in which the characters 塞鼻力迦 (Sai-pi-li-ka) evidently stand for an Indian name, possibly *sibarga*, which is the common name for *Trifolium giganteum* in Kabul. *Medicago sativa* is there called *rishka*. In Europe the flowers of this plant are usually purple or blue; but here they are yellow. For this reason the plant is sometimes thought to be *Medicago denticulata*. Faber identifies this latter with 草頭 (Ts'ao-t'ou), 1351, or 金花菜 (Chin-hua-ts'ai), 153. Neither of these names is found in the *Pên-tsao*. He also identifies *Medicago lupulina* with 牛芸草 (Niu-yün-ts'ao) or 黃華

(Huang-hua), and according to the description in the *Kuang-chün-fang-pu*, this is probably correct. The *Mu-su* is included among the vegetables, and was formerly extensively cultivated; and in some parts of China, is still grown. It is found, however, growing almost everywhere of its own accord. It is not much valued as a vegetable, as it is almost tasteless. It is considered too cooling to be eaten very frequently, and it is thought to make one thin, which is always carefully avoided by the Chinese. If eaten with honey it is said to cause dysentery. It is thought to benefit the intestines, and to be generally depurative. The root is prescribed in feverish and high colored urine. The expressed juice is reputed to have some emetic properties, and is administered in gravel to relieve pain.

MELIA AZEDARACH.—楝 (Lien), 苦楝 (K'u-lien), 森樹 (Sên-shu). The fruit is called 金鈴子 (Chin-ling-tzū). The species from Szechuan called 川楝子 (Ch'uan-lien-tzū), 251, and which is *Melia toosendan*, is considered the best. The Chinese do not distinguish clearly between these two species. The fruits of the latter consist of a fleshy, globular drupe, about three-quarters of an inch in diameter, covered with a shining, yellow skin, and usually much shrivelled. It is larger than that of *Melia azedarach*, and probably corresponds to the *nim* or *margosa* fruits of India. They yield a bitter oil, and both in India and China are used as an anthelmintic remedy. At the time of the Dragon Festival (fifth day of the fifth moon) bamboo sprouts and rice cakes are wrapped in azedarach leaves, and tied with silk thread of five different colors, and these parcels are thrown into streams to propitiate the spirit of the waters. The phoenix and the unicorn are said to eat the fruits of this tree, but the dragon abhors them. The tree grows very rapidly, and at Canton its timber is called 森木 (Sên-mu). Always remembering that the Chinese do not distinguish between the two species of *Melia*, the medicinal properties ascribed to the fruits may be said to be those of an antifebrile, quieting, anthelmintic, and diuretic remedy. These fruits are a five-celled drupe, yellow when ripe, and dark and shrivelled when kept any length of time. The *azedarach* is much smaller than the *Ch'uan-lien-tzū*, measuring about half

an inch in diameter. They contain a stone, furrowed longitudinally by five or six ridges. The taste is bitter, and they are, like the leaves, said to be deleterious, but driving away infection. The leaves are used in decoction for the relief of pain in hernia. The flowers are used for prickly heat, and are put under bed mats to destroy fleas and lice. The bark of the root and tree, 633, is anthelmintic and parasiticide. It is highly valued in intestinal worms and parasitic skin diseases. The root, 632, and seeds, 634, are mentioned in the Customs Lists, but are not specially noticed in the *Péntsao*.

MELILOTUS ARVENSIS.—薰草 (Hsün-ts'ao), 零陵香 (Ling-ling-hsiang). This is thought by several observers to be the labiate *Ocimum basilicum*; but the weight of authority seems to be in favor of identifying it with this fragrant leguminous genus. It is quite possible that Chinese botanists often confound it with *Ocimum*, both on account of its fragrance and of several other resemblances. 薰 (Hsün), 蘭 (Lan), and 麝 (Hsieh) are characters which have passed into classical literature as types of fragrance and refinement. The ancients used to burn the *Hsün* plant as incense to make the spirits descend, and when worn in the girdle it is said to dispell noxious influences. The plant seems to have been first grown in 零陵 (Ling-ling), the present 永州府 (Yungchoufu) in southern Hunan. It grows in moist ground, and is found throughout the Yangtse provinces. On account of its fragrance, the plant is used for making mats, pillows, and mattresses. It is also employed in cosmetic applications. Medicinally, it is regarded as carminative, calmative, anodyne, and astringent. It is prescribed in flatulence, colds, muscular rheumatism, polypus of the nose, and toothache. When ingested, it is said to have the property of imparting its fragrance to the body, a thing much desired by the Chinese in the absence of soap, as was formerly the case. The fruits are regarded as tonic. The mucoid sap found in the stalk and root is used in colds and influenza, and is regarded as an excellent local application in piles, prolapse of the anus, and seat worms.

MENISPERMUM DAURICUM.—See *Cocculus*.

MENTHA ARVENSIS.—薄荷 (Po-ho). Also written 菴蘭 (Pa-ho) and 蕃荷 (Fau-ho). The plant grows almost everywhere, but the drug coming from Soochow is regarded as the best. On this account it is called 吳菴蘭 (Wu-pa-ho), 吳 being the old name for Soochow. In the south the plant may be confounded with *Dryobalanops aromatica*, as it is there called 龍腦薄荷 (Lung-nao-po-ho). Two other species or varieties are mentioned in the *Pentsao*, one called 胡菴蘭 (Hu-pa-ho), and the other 石薄荷 (Shih-po-ho). The latter grows in uplands, and is smaller than the ordinary species, while the former seems to be of foreign origin. *Peppermint* is cultivated much in gardens, and is used with other vegetables to give flavor. Carminative, antispasmodic, astringent, sudorific, and alexipharmic qualities are ascribed to these plants. They are prescribed in fevers, colds, nervous disorders of children, nosebleed, fluxes, snake and insect bites, and diseases of the nose and throat. An oil is spoken of in the Customs Lists, 1035, and also *menthol*, 薄荷冰 (Po-ho-ping), 1033, but these are not mentioned in the *Pentsao*. They are brought from Canton, and are probably of quite modern origin.

MENYANTHES TRIFOLIATA.—睡菜 (Shui-ts'ai). The Chinese point out very clearly the slightly narcotic properties of this plant, both in their description of it and in the various names applied to it. It is also called 瞑菜 (Ming-ts'ai), 綽菜 (Cho-ts'ai), and 醉草 (Tsui-ts'ao). It grows in ponds, has a leaf like the *Monochoria hastata*, and a root like that of *Nelumbium speciosum*. The people where it grows pickle it, and use it to promote sleep. Its only medicinal use is as a hypnotic in fevers.

MERCURIALIS LEIOCARPA.—透骨草 (T'ou-ku-ts'ao). This euphorbiaceous plant is not described in the Chinese books. It is prescribed in all sorts of rheumatic difficulties, contracted tendons, and perspiring feet. Combined with *Sophera flavescens*, rhubarb, and flowers of sulphur, it is used in a bath in the treatment of obstinate skin eruptions (possibly scabies or ringworm). The patient is directed to remain in a close, hot room, until the perspiration falls like

rain, and then to bathe in the decoction. It is also recommended in combination with other drugs in nausea and vomiting, as well as in dropsy.

METAPLEXIS STAUNTONII.—蘿摩 (Lo-mo), 芫蘭 (Huan-lan). The fruits of this creeping plant have several fanciful names, such as 雀瓢 (Chio-p'iao), 羊婆奶 (Yang-p'o-nai), 婆婆鍼線包 (P'o-p'o-chên-hsien-pao), and 婆婆鍼袋兒 (P'o-p'o-chên-tai-êrh). It is a climbing plant, the stalks of which, when broken, exude a white juice. It is cultivated, and the leaves are eaten both raw and cooked. The fruit is green, and from two to four inches long. On account of its shape, it is also called 羊角菜 (Yang-chio-ts'ai). The plant belongs to the natural order Asclepiadaceæ, and is found in north China, both wild and cultivated. The seeds are the parts used in medicine; but the virtues of the leaves are considered to be identical. They are thought to be tonic and constructive. The crushed seeds are applied to wounds and ulcers as an astringent and hemostatic remedy. They are also applied to all sorts of insect bites, and if frequently used, are thought to have some escharotic properties.

MICHELIA CHAMPACA.—Porter Smith gives the following characters for the Chinese name of this magnoliaceous tree: 瞻博 (Chên-po), 詹波 (Chên-p'o), 占婆迦 (Chen-p'o-ka); but the source from which he secured these has not been found. From whatever source they may have been derived, they are evidently an attempt to transliterate the Indian name *tsjampac*, or *tchampaka*. It is said to be found in China, but perhaps is only cultivated here. It has very fragrant yellow flowers, and an edible fruit. Its bark is used, with that of other magnolias, to adulterate *cinnamon*. It has been used in the Mauritius, with some success, in the treatment of the low intermittent fevers of that island.

MIRABILIS JALAPA.—紫茉莉 (Tzŭ-mo-li), 臙脂 (Yên-chih). This is described in the *Kuang-chün-fang-pu*. The flowers are only used for cosmetic purposes. Faber also gives 火炭母草 (Huo-t'an-mu-ts'ao) as a name for this *Marvel*

of Peru, or *Four-o'clock*, but the description in the *Pentsao* does not agree. The second name above given simply refers to its cosmetic uses. Other plants also bear this name in some form (see *Basella rubra* and *Chenopodium album*). Another name sometimes found used for it is 洗澡花 (Hsi-tsau-hua), because it blooms at the time of day when people usually bathe.

MOMORDICA CHARANTIA.—苦瓜 (K'u-kua), 628. Also called 錦荔枝 (Chin-li-chih) and 癩葡萄 (Lai-p'u-t'ao), from the warty appearance of its fruit. The plant originally came from the countries south of China, but is now grown in the southern provinces. It is likened in appearance to the wild grape vine, but is smaller. The pepo varies from two to five inches in length, is of a green color, and the skin is marked with longitudinal rows of oblong tubercles, with the intervening space crowded with smaller tubercles. In this tuberculated appearance it is likened to the lichee, and from it takes the second and third names given above. When it is ripe it is yellow in color, and it eventually bursts open, exhibiting a beautiful red pulp enclosing the seeds. The pulp is sweet and can be eaten. The seeds are the shape of squash seeds, and are also tuberculated. The fruit is considered to be cooling and strengthening. The seeds benefit the breath and invigorate the male principle (陽, Yang). The dried fruit in slices, 苦瓜乾 (K'u-kua-kan), 629, and the peduncles, 苦瓜蒂 (K'u-kua-ti), 630, are mentioned in the Customs Lists, but they are not spoken of in the *Pentsao*.

MOMORDICA COCHINCHINENSIS.—木鼈子 (Mu-pieh-tzǎ), 872. Also called 木蟹 (Mu-lsieh). These names refer to the form of the seeds, which are likened to a turtle or crab. The plant is a cucurbitaceous one with a perennial root. It is described as coming up in the spring in the form of a vine or creeper, having a five pointed leaf resembling that of *Batatas edulis*, green and shiny. In the fourth or fifth moon it bears yellow flowers, followed by the fruits, which resemble those of *Tricosanthes multiloba*, but larger; first green in color, and when ripe yellowish-red and covered with soft prickles. Each fruit contains from thirty to forty seeds, flat, and of the

peculiar shape indicated by the name. In the south the young pepo and the leaves are said to be eaten as a vegetable. The seed is of a light to dark brown color, having a double row of tubercles at the margin, and the testa fragile, roughened and sometimes coarsely reticulated. They vary from three-quarters to one and a-quarter inches in diameter, and contain two large, oily cotyledons, green on the outside and yellow internally. These cotyledons are used in medicine, but the oil for the most part is first removed. Their action is considered to be constructive and resolvent, and they are prescribed in strumous swellings of the neck, mammary abscess, mesenteric enlargements, bruises, wounds, swellings, and ulcers. They are recommended in chronic malaria, enlarged spleen, and fluxes.

MONOCHORIA HASTATA.—慈菇 (Tz'ü-ku), 1426. This is also called 水萍 (Shui-p'ing), thus confounding it with *Lemna* and other species of *Monochoria*. The shoots are called 剪刀草 (Chien-tao-ts'ao). The principal name is also written 茈菇 (Tz'ü-ku), and this is not distinguished from *Sagittaria sagittifolia*, being the latter in the north, and *Monochoria* in the south. (See *Sagittaria sagittifolia*.)

MONOCHORIA KORSAKOWII.—萍 (P'ing). This has the same Chinese name as the *Lemna minor*, and is therefore not distinguished from the latter. (See *Lemna minor*.)

MONOCHORIA VAGINALIS.—浮薺 (Fou-shih), 鴨舌草 (Ya-shê-ts'ao), 1483. This "floating polygonum", or "duck's tongue", is likened to *Brasenia peltata*. Like all water plants, it is considered to be cooling.

MORUS ALBA.—桑 (Sang). The mulberry tree is probably the best known tree of China. Its cultivation can be traced to remote antiquity. According to ancient tradition, Si-ling, the empress of Huangti (B.C. 2967), taught the people how to rear silk worms, using the mulberry leaves for that purpose. The tree is cultivated in all parts of the empire, being found in several varieties. Cultivation and the constant denuding the tree of its leaves has resulted in greatly modifying

the plant as found in the orchards of those engaged in sericulture. The stalk is stunted and gnarled, while the leaves are large, green, and succulent, round in the south, and lobed in the north. Some of the varieties are indicated by the names 白桑 (Pai-sang), 魯桑 (Lu-sang), 雞桑 (Chi-sang), 女桑 (Nü-sang), 山桑 (Shan-sang), 地桑 (T'i-sang), 荆桑 (Ching-sang), 金桑 (Chin-sang), and 楨桑 (I-sang). The 壓桑 (Yên-sang), which is probably identical with 山桑 (Shan-sang), is *Morus indica*. The fruits are called 葚 (Shên). This character is commonly but wrongly, written 榘 (Chên); and this mistake in writing is made even in the *Book of Odes*. When the fruits are black-ripe, they are called 黐 (Hsün or T'an). They enter into commerce under the name of 桑葚子 (Sang-shên-tzū), 1066, and are made into a jam called 桑葚膏 (Sang-shên-kaò), 1065, which is the form in which the fruits are preserved for medicinal use. The bark of the root, 桑根白皮 (Sang-kên-pai-p'í), 1071, is also used in medicine. There is a persistent opinion among Chinese observers that any portion of the root which is above ground is poisonous. The drug is considered to be restorative and tonic, and it is prescribed in weakness, menorrhagia, phthisis, and all sorts of wasting diseases. It is also thought to have anthelmintic and astringent properties. The juice of the fresh bark is used in epilepsy in children and in dribbling of saliva. For nervous disorders, the bark from the root extending toward the east is considered especially efficacious. The milky sap of the tree is used in aphthous stomatitis in infants, and in incised wounds, snake, centipede, and spider bites. The fruits are thirst relieving, they benefit the internal organs, promote the circulation of the blood, pacify the soul, energise the spirit, increase mental vigor, and prevent the signs of old age. The juice is anti-vinous, and when itself fermented, benefits the water passages of the body. The leaves, 1073, are considered to be slightly deleterious. Their action is diaphoretic. Made into strong decoction, they are used for sweating feet, dropsy, and for intestinal disorders. The bruised leaves are used in wounds and insect bites, and are thought to promote the growth of hair. The twigs, 1068, are given about the same properties as the fruit, and they are considered prophylactic against all forms

of cold (風, Fêng). They are also diuretic and pectoral. A lye made of the ashes of mulberry wood is used as a stimulant and escharotic in scaly skin diseases and unhealthy granulations. The bark of the tree is sometimes used to dye a brown color. The Chinese claim that the seeds procured from the excrement of fowls and ducks which have been fed upon the berries, produce plants that are more likely to grow to leaf than to fruit, and are therefore more suitable for silk worm rearing.

MOSLA GROSSESERRATA.—薺葶 (Chi-ning). This is a labiate plant, which, on account of its foul odor is called 臭蘇 (Ch'ou-su), and on account of the color of its leaves is called 青白蘇 (Ch'ing-pai-su). It is likened to *Stachys aspera*. It grows almost everywhere on plains, and has a hirsute leaf with a bad odor. The poor people eat it, but the taste is not very pleasant. The stalk and leaves are used in medicine, are considered to be carminative and warming, and are recommended in heart-burn.

MOSLA PUNCTATA.—石薺葶 (Shih-chi-ning). In Japan 爵狀 (Chio-chuang) is given as an equivalent for this plant, but this name applies properly to *Justicia procumbens*. The drug is used as a warming and carminative remedy, and in decoction as a wash for parasitic skin diseases. It grows among the rocks in mountainous districts to the height of one or two feet. It has small leaves and purple flowers. The hill people employ it as a substitute for the last.

MUCILAGE.—水膠 (Shui-chiao). Chinese mucilage is very good, and is usually made from seaweed, to which is added a little alum. Other substances are also used: such as some of the malvaceous plants and fruits, the *bungtali* fruits, the gum from the peach tree (桃膠, T'ao-chiao) and that from the plum tree (樹膠, Shu-chiao), all affording excellent material for making mucilage, and being used as demulcent remedies. But the thing most commonly used in China, both for suspending insoluble drugs and as a paste for adhesive purposes, is rice congee. It is an efficient instrument, usually

ready at hand, or very easily prepared. The Chinese literary man usually depends upon a few grains of cooked rice left over from his last meal, for sticking together paper surfaces.

MUCUNA CAPITATA.—黎 荳 (Li-tou), 狸 荳 (Li-tou), 虎 荳 (Hu-tou). This is a Japanese identification, and it is not quite certain that this is the plant mentioned in the *Pêntsao*. What is there described is a leguminous plant bearing a hairy pod, having a purple flower which resembles that of *Dolichos umbellatus*, while the leaves resemble those of *Dolichos lablab*. The beans are of the size of those of *Canivallia ensiformis*, and are mottled with black. They are very good eating when cooked with pork or chicken. They are considered to be slightly deleterious, and medicinally are warming and respiratory.

MULGEDIUM SIBIRIACUM.—苜 蓿 (Chü-shêng). This is confounded with *Sesamum* by Chinese botanists, and is mentioned in the *Pêntsao* under that article. However, this present identification is very uncertain, although the seeds (苜 蓿 子, Chü-shêng-tzŭ), 234, answer tolerably well to this description. Strange to say, the Customs Lists identify them with the seeds of *Impatiens balsamina*. As described by Braun, they are yellowish brown in color, oblong, and have all the appearance of fennel seeds. Those found in the shops of Peking are of two kinds, black and yellowish-white. What the black are is very uncertain. The others were regarded by Maximowics as seeds of *Ixeris* or *Mulgedium*. The medical action of these seeds is said to be tonic to the viscera, respiratory, and strengthening to the sinews and bones. The drug will also dissolve cinnabar.

MURRAYA EXOTICA.—九 里 香 草 (Chiu-li-hsiang-ts'ao). No description of this plant is given in the books. It is prescribed for abdominal abscess.

MUSA SAPIENTUM.—甘 蕉 (Kan-chiao), 芭 蕉 (Pa-chiao). Also commonly called 香 蕉 (Hsiang-chiao). A good description of this plant is given in the *Pêntsao*, but no dis-

unction is made between the plantain and the banana (*Musa paradisiaca*). A number of varieties are mentioned, such as: 紅蕉 (Hung-chiao), 水蕉 (Shui-chiao), 牙蕉 (Ya-chiao), 牛乳蕉 (Niu-ju-chiao), 板蕉 (Pan-chiao), 佛手蕉 (Fo-shou-chiao), 雞子蕉 (Chi-tzŭ-chiao), 美人蕉 (Mei-jên-chiao), and 膽瓶蕉 (Tan-p'ing-chiao). The plant is met with in Szechuan, Fu-kien, and the southern provinces. It grows in the Yangtse provinces, but seldom ripens its fruit. The fruit is considered to be very cooling, and should not be eaten in excess. When eaten in the raw state, it relieves thirst, moistens the lungs, purifies the blood, heals wounds, and is antivinous. Steamed, it promotes the circulation of the blood and enriches the marrow. The root, 84, is considered to be antifebrile and restorative. Bruised, it is applied to wounds and ulcers, and the juice is administered in jaundice, influenza, and post-partum difficulties. The viscid sap of the plant, which is called 蕉油 (Chiao-yu), is procured by thrusting a bamboo tube into the stalk and collecting the sap in a bottle. It has the antifebrile properties of the other parts, and is specially recommended in epilepsy, vertigo, and to prevent women's hair from falling, to increase its growth and to restore its color. The bruised leaves are particularly recommended as a poultice in incipient abscesses. The flowers are used in cardialgia.

MUSCI.—苔 (T'ai) is almost a family name for *mosses*, but is not confined to these, being also at times applied to *algæ*, *fungi*, and some aquatic spermatophytes. Several mosses are mentioned in the *Pentsao*. 陟釐 (Chih-li), which is variously called 水苔 (Shui-t'ai), 水綿 (Shui-mien), and 苔菜 (T'ai-ts'ai), is probably *Ceramium rubrum*. It was formerly used for making a kind of paper, and is still gathered and dried for food under the name of 苔脯 (T'ai-fu). It is considered to be very nourishing. Its medicinal action is cooling, peptic, and emollient. It is used in fluxes, influenza, and cinnabar poisoning. The moss growing in old wells, 井中苔 (Ching-chung-t'ai), is of repute in the treatment of wounds, scalds and burns, and is considered to be an antidote to several vegetable poisons. That from the bottom of boats, 船底苔 (Ch'uan-ti-t'ai), is prescribed in hemoptysis, gravel, and influenza.

垣衣 (Yuan-i) is a kind of moss which grows on house roofs and stones. In the latter case it is also called 青苔衣 (Ch'ing-tai-i). It is prescribed in jaundice, coughs, fever, flatulence, wounds, burns, and nosebleed. It is considered to be tonic, respiratory, and constructive, and is said to improve nutrition and color.

MUSHROOMS.—A class name for these is 芝栴 (Chih-êrh). Another common name is 菌 (Chün), and still another is 蕈 (Hsin). Mushrooms growing on hard ground are called 菌 (Chün), those on soft earth are called 芝 (Chih), while those growing on wood are called 栴 or 藟 (Êrh). The 藟 (Hsin) is more fleshy than the 菌 (Chün), and is probably referred to *Boletus* or a fleshy *Polyporus*. Some of the mountain varieties are deleterious. Other terms used for mushrooms are 蓋 (Kai) and 菰 (Ku), but these refer to a few specific specimens. 芝 (Chih) is defined in the classics as the plant of immortality, and it is therefore always considered to be a felicitous one. It is said to absorb the earthy vapors and to leave a heavenly atmosphere. For this reason it is called 靈芝 (Ling-chih.) It is large and of a branched form, and probably represents *Clavaria* or *Sparassis*. Its form is likened to that of coral. There are very many varieties; one author says one hundred, but the principal ones are represented by what are known as the 六芝 (Liu-chih), or "six mosses;" namely: the 青芝 (Ch'ing-chih) or 龍芝 (Lung-chih); the 赤芝 (Ch'ih-chih) or 丹芝 (Tan-chih); the 黃芝 (Huang-chih) or 金芝 (Chin-chih); the 白芝 (Pai-chih), 玉芝 (Yü-chih), or 素芝 (Su-chih); the 黑芝 (Hei-chih) or 玄芝 (Hsüan-chih); and the 紫芝 (Tzŭ-chih) or 木芝 (Mu-chih). These are all non-poisonous, edible, and are considered to be highly beneficial. The first comes from Taishan, has a sour taste, brightens the eye, strengthens the liver, quiets the spirits, improves the memory, and prolongs life. The second grows on the Hengshan, has a bitter taste, acts especially on the heart, and has the tonic and quieting properties of the first. The third grows on Sungshan, is of a sweet taste, acts specially on the spleen, and is tonic and constructive, as in the case of the other two. The fourth grows on Huashan, is of a pungent taste, acts specially on the lungs

and air passages, with beneficial properties as before. The fifth grows on Changshan, has a saltish taste, acts specially on the urinary organs, and is of equally general value with the others. The sixth comes from the Kaohsiashan (location not known), is of a sweetish-cooling taste, acts on the bones and ligaments, and has the general constructive properties of the others. It is also recommended in deafness and hemorrhoids.

木耳 (Mu-êrh) has been identified by some observers as *Exidia auricula judæ*, but the probability is rather in favor of its being *Auricularia*, even as its name implies, belonging to the order of *Auriculariales* rather than to that of *Tremalales*. Five species have already been mentioned in the article on *Exidia*. Three others are given in the *Péntsao*. That growing upon *Cudrania triloba*, 柘耳 (Chê-êrh), is employed in the treatment of diseases of the respiratory organs, especially hemoptysis and fetid expectoration. The one growing upon *Diervilla versicolor* 楊櫨耳 (Yang-lu-êrh), is employed to scatter ecchymoses, and has the reputation of rendering the blood fluid. The one growing upon *Cunninghamia sinensis* 杉菌 (Shan-chün), is reputed to relieve cardialgia. Still another, growing upon *Gleditschia chinensis*, 皂莢蕈 (Tsao-chia-hsin), is of high repute in scattering incipient abscesses and in the treatment of diarrhœa due to cold.

The 香蕈 (Hsiang-hsin) grows upon the *Paulownia*, the willow, *Citrus fusca*, and *Hovenia dulcis*. It is of two colors; the purple being called 香蕈 (Hsiang-hsin) and the white 肉蕈 (Jou-hsin). The latter is the fleshy sort, and is probably *Boletus*. They are said to benefit respiration, cure colds, and purify the blood. A kind growing upon the pine tree is used in the treatment of gonorrhœa. Another mushroom, known as 葛花菜 (Ko-hua-ts'ai) and 葛乳 (Ko-ju), is red in color, with a large, flat hymenium. It is used in the treatment of excess in wine. A mushroom known as 天花蕈 (T'ien-hua-hsin) and 天花菜 (T'ien-hua-ts'ai), is fragrant, white in color, and is regarded as a finely edible variety. It is considered to be respiratory and anthelmintic. Another fleshy mushroom, known as 磨菰蕈 (Mo-ku-hsin), grows upon the decaying wood of the mulberry and the paper-mulberry. It is two or three inches long, conical, small at the base and large at the

upper extremity, white in color, exceedingly fragile, and hollow internally. Owing to its shape, it is commonly called 雞腿蘑菇 (Chi-t'ui-mo-ku). This is probably one of the Clavariaceæ, and may be *Pistillaria*. Its medicinal action is upon the intestines and stomach, and it is also said to dissolve phlegm and benefit respiration. A club-shaped mushroom, called 雞攏 (Chi-tsung) and 雞菌 (Chi-chün), is found in the sandy plains of Yunnan. A similar kind, called 雷菌 (Lei-chün), comes from Kiangsi. Both of these are used as food, eaten with tea or cooked with meat broth. They are thought to benefit the stomach, invigorate the spirits, and to cure hemorrhoids. A form growing upon the rudders of old sea-going ships is called from this fact 舵菜 (To-ts'ai). It is used in the treatment of goitre.

The poisonous varieties of mushroom go under the names 土菌 (T'u-chün), 土蕈 (T'u-hsin), 地蕈 (Ti-hsin), 菰子 (Ku-tzŭ), 地雞 (Ti-chi), and 獐頭 (Chang-t'ou). These, the more common forms of wild growing mushrooms, or *toad-stools*, are well described in the *Pên-tsao* as to their coarser characteristics. Medicinally they are used, after having been incinerated, in the treatment of ulcers, scaly skin diseases, and foul sores. Another poisonous variety is called 鬼筆 (Kuei-pi), on account of its pencil-like form. It is also used in the treatment of skin difficulties, especially those of a parasitic nature. Two non-poisonous varieties of common field mushroom are the 鬼蓋 (Kuei-kai) and 地苓 (Ti-chin). These are used in the treatment of nervous diseases of children. The former is found in yellow and white colors, and the latter is ephemeral, coming up in the morning and fading by noon. A horn-shaped kind, found growing upon the bamboo, or in bamboo groves, is for this reason called 竹蕈 (Chu-ju) and 竹肉 (Chu-jou). It is highly esteemed as a vegetable and in the treatment of poisonous effluvia. A mushroom found growing in ponds and marshes, called 蘆菌 (Huan-chün), is very irregular in shape, and was said by one ancient observer to be the metamorphosed excrement of the heron, and for this reason the first character in the name should be written 鶴 (Huan). It is slightly deleterious, and is therefore not used for food. It is esteemed in cardialgia, insect and

reptile bites, intestinal worms, favus, and internally as an anodyne in colic. A prickly variety, which may be referred to *Hydnum*, is found in Szechuan, and is called 蜀格 (Shu-ko). It is non-poisonous, and is used in the treatment of fevers and menstrual difficulties. One called 地耳 (Ti-êrh) is evidently an auriculariaceous form, as is also that called 石耳 (Shih-êrh). The former is eaten, and is said to brighten the eye, benefit respiration, and promote fecundity. The latter is also edible, and has all of the good qualities of the 芝 (Chih), being also used in the treatment of gravel, and being said to benefit virility. It is specially used in hemorrhage from the bowels and prolapse of the rectum. While the name of this would indicate that it was one of the Auriculariales, the fact that the name 靈芝 (Ling-chih), 731, is also given to it might place it among the Clavariaceæ. It is not fully described, so that there is no way in which the matter can be determined except by observation of specimens.

MYLITTA LAPIDESCENS.—雷丸 (Lei-wan), 699. This is one of those growths the nature of which has not yet been accurately determined. Some observers consider it to be the result of one of the parasitic myxomycetes attacking the roots of certain trees, developing in them, and from their substance, these tuberous bodies, as is well known in the case of *Alnus* in America. In this case the tuber leads an independent, though parasitic, existence. Others regard them to be the result of the mycellium of some parasitic fungus penetrating the inner bark of the tree-host, and producing from the tissues of the root itself and the sap of the tree these bodies. In this case the growth is a pathological excrescence. "They occur in the form of small rounded nodules, varying in weight from five grains to nearly a half an ounce. Their exterior surface is of a dark brownish-grey color, and generally finely corrugated; their inner substance has a granular appearance, is of a pinkish-brown color, and of almost stony hardness. A microscopic section shows that the tissue is divided into areolæ, after the manner of that of the truffle and other underground fungi." They have a slight pedicle attached to one or both poles, and are sometimes met with joined together like a roll

of imperfectly divided pills. They have little smell or taste, as they appear on the Chinese market. Similar substances are dug out of the chalk beds of Travancore and Tinnevely. Those produced on the root of the bamboo are called 竹苓 (Chu-ling). The tubers are said to be produced by the thunder-clap metamorphosing the subtle vapors of plants. In the fresh state, they are bitter and cooling in taste, and slightly poisonous, and are among the large number of drugs reputed to be prophylactic and antifebrile, are said to benefit the male but not the female, and if taken for a long time result in impotence. They are recommended in epilepsy, chorea, and other nervous affections of children, and are used for pin worms and maggots in the flesh.

MYRICA RUBRA.—楊梅 (Yang-mei), 杭子 (Chiu-tzū). This tree is likened to *Nephelium*, and its fruit to that of *Broussonetia papyrifera* or *Fragaria*. Foreigners call the fruit the "Chinese strawberry." There are three principal varieties, determined by the color of the fruit—the white, the red, and the purple. They are esteemed in the order here given; the purple being considered to be the best. They are sour and cooling in taste, and are sometimes salted or preserved. In this form they are considered to be pectoral and quieting to the stomach. Taken with wine, they prevent the nausea from wine drinking. They are also said to be carminative, and useful in digestive disturbances, including diarrhoea and dysentery. The kernels of the seeds are used in sweating feet, and the bark of the tree and the root are employed in decoction in the treatment of wounds, ulcers, scaly skin diseases, and arsenic poisoning.

MYRIOGYNE MINUTA.—石胡荽 (Shih-hu-sui). This is a minute plant, growing in the crevices of stones and in moist places among rocks. It is also called 天胡荽 (T'ien-hu-sui). It is not edible, and although it is more or less an aquatic plant, geese will not eat it, and for this reason it receives the name 鶩不食草 (Ê-pu-shih-ts'ao): Its medicinal action is upon the respiratory passages, including the nose. It cures films on the eyes, hemorrhoids, polypus of the nose, and

relieves swellings and deafness. It is also recommended in malarial fevers.

MYRIOPHYLLUM.—水藻 (Shui-tsao). Several haloragous and naiadaceous plants are described in the *Pêntsao* under this term. The larger kind, with leaves like those of *Perilla*, is called by the name given above. This is *Myriophyllum spicatum*. Another, with leaves like the *Chrysanthemum coronarium*, is called 聚藻 (Chü-tsao). In Japan this is *Ceratophyllum demersum*. It is also called 水蘊 (Shui-yün), 鯉草 (Sai-ts'ao), and 牛尾蘊 (Niu-wei-yün). But these are probably quite different plants, being referred to *Myriophyllum*, *Hippuris*, and *Zostera*. Still another mentioned is 馬藻 (Ma-tsao), which is usually referred to *Potamogeton*. All of these plants are considered to be edible, and are used in medicine; the last named being considered to be the best for this purpose. The taste is sweet, very cooling, demulcent, and the plant is non-poisonous. It is prescribed in fevers, to relieve thirst, and in fluxes, especially those of children. Faber also identifies 石帆 (Shih-fan) as *Myriophyllum*, but the *Pêntsao* describes this as a seaweed allied to *Sargassum*, or may be to *Glyptostrobos*. It is used in decoction for the treatment of amenorrhœa.

MYRISTICA MOSCHATA.—肉豆蔻 (Jou-tou-k'ou), 559, 1314. This Chinese name is that of the *nutmeg*. Another name is 肉果 (Jou-kuo). Mace is called 肉荳蔻 (Jou-tou-hua), 560, and 肉果花 (Jou-kuo-hua). It is not produced in China, but is brought from countries to the south, where it is said to be called 迦拘勒 (Ka-kou-lê). In this the Chinese probably confound the nutmeg with the cardamom. The nutmegs found in China are usually olive shaped, dry, and worm eaten. They are used principally as a warming, carminative and astringent remedy in all sorts of fluxes, especially those of children and of the aged. They are very seldom employed as a spice. *Mace* is used medicinally equally with the nutmeg. The Customs Lists speak of 肉豆根 (Jou-tou-kên), 561, which seems to be the root of the tree. This is not mentioned in the *Pêntsao*.

N.

NANDINA DOMESTICA.—南燭 (Nan-chu), 南天燭 (Nan-t'ien-chu). This is a berberidaceous shrub, with evergreen leaves and, in the winter time, beautiful red berries, making a good substitute for Christmas holly. The generic name is taken from the sound of the first two characters in the second name given above. Fortune, from the error of supposing that the last character in the Chinese name was 竹 (Chu), translated the supposed name 天竹 (T'ien-chu) into "*Heavenly bamboo*," a name which the plant still retains among foreigners. But this combination of characters is not found in the Chinese books. The berries are called 猴菽 (Hou-shu), "monkey beans," by the common people, and the plant also goes by the name of 烏飯草 (Wu-fan-ts'ao), because the leaves are used in preparing a kind of rice congee called 烏飯 (Wu-fan) or 青精飯 (Ch'ing-ching-fan). The shrub grows on the hills, but is also cultivated on account of its glossy, green leaves and red berries, which are much used as winter decorations. Medicinally, the branches and leaves are reputed to check discharges, drive away sleepiness, strengthen the tendons, benefit the breath, prolong life, prevent hunger, and keep off old age. They are also prescribed for colds. The seeds, 883, have about the same virtues, and they are said to strengthen virility and improve the complexion. The congee made with the leaves, as mentioned above, has similar virtues, to which are added the nourishing qualities of the rice.

NARCISSUS TAZETTA.—水仙 (Shui-hsien), 金盞銀臺 (Chin-chan-yin-t'ai). This "water-nymph" is much cultivated in China, being found in nearly every home at the New Year's season, growing in specially prepared dishes in which the bulbs are set in clean water among clean pebbles or shells. The flowers are white or red, with yellow centers, and surmount a greenish white stem; hence the second name, "golden-bowl-silver-stand." They are exceedingly pleasing, both on account of their beauty and fragrance. The bulbs are used medicinally as a poultice to swellings, and as a

demulcent bolus to carry bones out of the œsophagus. The flowers are used cosmetically, and are thought to benefit the hair. The plant is regarded as a woman's remedy.

NARDOSTACHYS JATAMANSI.—This plant, which properly belongs to India, is found in the province of Yunnan and on the western borders of Szechuan, but whether indigenous or transplanted is uncertain. Its product, 甘松香 (Kan-sung-hsiang), or true *spikenard*, is found in the medicine shops of China. A name for this, taken from a Buddhist book, is 苦彌哆 (K'u-mi-ch'ê). This is probably a transliteration of some Indian name. Spikenard is classed together with lign aloes, cloves, sandalwood, and *Aglaia odorata*, as one of the five odorous plants. The rhizome is used as a deodorant, carminative, and stimulant. A decoction is used in various skin affections and in the bath to give fragrance to the body. It is used in India in hysteria, epilepsy, and other convulsive diseases. The root is sometimes confounded with sumbul root.

NASTURTIUM PALUSTRE.—葶 藨 (Ting-li), see *Draba nemoralis*. 水芹 (Shui-ch'in), see *Ceanthe stolonijera*.

NAUCLEA GAMBIR.—See *Uncaria gambir* and *Acacia catechu*.

NELUMBIUM SPECIOSUM.—荷 (Ho), 芙渠 (Fu-ch'ü). This exceedingly popular and very useful plant has a distinct name for its every part. Its stem is called 莖 (Ch'ieh); the rootlets on the lower part of the stem or at the top of the rhizome are called 鬚 (Mi); its leaf is called 蓮 (Hsia); its flower is called 蓮花 (Han-t'ao); its fruit 蓮 (Lien); its root 藕 (Ou); its seed 荷 (Ti); and its caulicle 薹 (I). In some parts of the country the flowers are called 芙蓉 (Fu-jung). However, the common names now in use are limited for the most part to 蓮花 (Lien-hua), 722, for the flower, 荷葉 (Ho-yeh), 729, for the leaves, and 藕 (Ou), 923, for the root. Such is the arrangement in the *Pên-sao*, which discusses the plant under the term 蓮藕 (Lien-ou). The seeds, called 蓮實 (Lien-shih), 726, and 石蓮子 (Shih-lien-tzū), or more commonly 蓮子 (Lien-tzū); are usually found in the hard, dry state,

having a black testa and a reddish tegmen. These are removed in preparing the seeds for use, and the fleshy cotyledons are boiled or ground into flour, and in either case form the basis of a very palatable food. The fresh cotyledons are also much relished in the raw state by the Chinese, being peddled on the streets in their receptacles in the season. In any form they are considered to be very nourishing and highly beneficial in preserving the body in health and strength. They are refreshing, preventive of fluxes, promote the circulation, strengthen the virility, and "the more you eat, the more you want of them." Their use is recommended in leucorrhœa and gonorrhœa. Although the plant grows amidst the filth and slime of ponds, it is considered to be an emblem of purity, and for this reason the different parts of the plant are thought to purify the body of noxious poisons and evil conditions. The seeds must not be confounded with those of *Cæsalpinia minax*, which are also called 石蓮子 (Shih-lien-tzŭ), 1153. Li Shih-chên utters this warning, but says that he does not know what these latter seeds are. The root-stock is jointed and fleshy, and when cut across shows a number of cavities in the tissue, concentrically arranged, and terminating at the joints, which interrupt them at every foot or less of the length of the stock. These are boiled and sold in slices on the streets, forming a sweet, mucilaginous food, looking like the sweet potato, and very much relished by the Chinese. The joints of the root-stock are considered separately under the name of 藕節 (Ou-chieh), 923, and are thought to be hemostatic in hæmoptysis, and also in post-partum hæmorrhage, hæmaturia, and bloody stools. Two kinds of *arrow-root* are made of the root-stock, one called 藕粉 (Ou-fên), 924, from the fleshy part, and the other called 節粉 (Chieh-fên) from the joints. The latter is far the more expensive of the two, and is made in the region about Huaian, Kiangsu. The mode of manufacture in either case is to crush the root and wash out the starch with water. After subsidence, the water is drained off and the starch left to dry. The taste of the *Ou-fên* is sweetish and somewhat aromatic. It is considered to be nutritious, stomachic, tonic, increasing the mental faculties and quieting the spirits. The taste of the *Chieh-fên* is some-

what bitterish and acrid, and it is thought to have special action upon the circulation, and is recommended in hemorrhages. The ordinary *Ou-fên* is a reddish-white, glistening, unctuous powder, making a very tenacious jelly of a dark color when boiled with water. It answers all the purposes of the best arrow-root, and is of great value in the treatment of diarrhœa and dysentery. It is given in diseases of the chest, and is an important ingredient in the article called 三合粉 (*Sau-ho-fên*), used in the rearing of hand-fed infants. It also is a chief ingredient in a nourishing pudding specially prepared for the weak and ill-nourished, and called 八仙藕粉 (*Pa-hsien-ou-fên*). This arrow-root, as found in the shops, is so frequently adulterated with leguminous starches that many families endeavor to make it for themselves. The caulicle of the seeds, called 蓮薏 (*Lien-i*) and 蓮子心 (*Lien-tzŭ-hsin*), 728, is bitter in taste, relieves the sense of thirst after hemorrhages, and is used in the treatment of cholera, hemoptysis, and spermatorrhœa. The stamens of the flowers, called 蓮蕊鬚 (*Lien-jui-hsü*), 721, and 佛座鬚 (*Fo-tso-hsü*), purify the heart, permeate the kidneys, strengthen the virility, blacken the hair, make joyful the countenance, benefit the blood, and check hemorrhages. The flowers, 722, are recommended as a cosmetic application to the face to improve the complexion, and it is said that in cases of difficult labor a single petal is taken, the father's literary "style" is inscribed thereon, and then swallowed by the woman, in which case the labor will be made easy. The seed pod or receptacle is called 蓮房 (*Lien-fang*), 720, or 蓮蓬敷 (*Lien-p'êng-fu*), 725. After the seeds have been removed, it looks something like the nozzle of a garden sprinkler. Its medicinal action is regarded as anti-hemorrhagic, and it is also employed to promote the expulsion of the afterbirth and in watery decoction to counteract the poison of deleterious fungi. The leaves, 荷葉 (*Ho-yeh*), receive various names according to their age or position. The very young ones are called 荷錢 (*Ho-ch'ien*), those lying upon the water 藕荷 (*Ou-ho*), and those extending above the water 菱荷 (*Chih-ho*). The dried leaves are sold to grocers, who use them for wrapping up some of their goods. The leaf stalk is called 荷鼻 (*Ho-pi*). The medicinal virtues of the

leaf are considered to be antifebrile, antihemorrhagic, constructive to the blood, promotive of labor and the expulsion of the afterbirth, antidotal to poisonous fungi, and useful as an application in eruptive fevers and other skin diseases. Some of these properties are attributed to the leaf stalk, and it is said to have the special quality of quieting the pregnant uterus. Two lotus-like flowers, brought from some foreign country, and called 紅白蓮花 (Hung-pai-lien-hua), are spoken of in the *Péntsao*. The prolonged use of these drives away old age and gives a fine complexion. They may be *Nymphææ*.

NEPETA GLECHOMA.—積雪草 (Chi-hsüeh-ts'ao). Because this plant has leaves like Chinese copper coin, it is also called 地錢草 (Ti-ch'ien-ts'ao) and 連錢草 (Lien-ch'ien-ts'ao). On account of its fragrance it is called 胡薄荷 (Hu-po-ho). It grows in the river valleys of the central and northern provinces, and is the well known *ground ivy*. The stalk and leaves of the plant are used in medicine, and their chief virtue seems to be that of an antifebrile remedy. They are also anodyne, and are prescribed in every form of fever and in all sorts of spontaneous pain, including toothache and earache.

NEPHELIUM LAPACUM.—韶子 (Shao-tzū). This grows in Lingnan, resembles the *lichee*, and is esteemed as a fruit. It is recommended in severe dysentery and as a warming carminative in "cold" dyspepsia.

NEPHELIUM LITCHI.—荔枝 (Li-chih), 700, 丹荔 (Tan-li). Many of the sapindaceous plants are poisonous, but the *Nephelium* fruits are an exception, being much esteemed both in the fresh and in the dry state. These grow throughout China, but are only found in their perfection in the southern provinces; those from Fukien being regarded as the best. The fruits are dried in the sun or by artificial heat, and are used as a sweetmeat at feasts, and often given as presents to the newly married. They are not regarded as entirely without deleterious properties, and when the raw fruits are partaken of freely they are said to produce feverishness and nosebleed.

Partaken of in small quantities or in the dried form, they are thirst relieving and beneficial to nutrition. But they are specially recommended in all forms of gland enlargement and tumors. The seeds, 701, are regarded as anodyne, and are prescribed in various neuralgic disorders and in orchitis. The leathery external tegument of the fruit is used in decoction in the distress caused by small-pox eruption, and also in fluxes from the bowels. The flowers, bark, and root, 702, are employed in decoction in angina and quinsy.

NEPHELIUM LONGANA.—龍眼 (Lung-yen). A number of other names are given for this plant, which resembles the *lichee*, but is smaller. On account of this inferiority it is called 荔枝奴 (Li-chih-nu), "slave of the lichee." Because it is supposed to benefit the understanding, it is called 益智 (I-chih), but it must not be confounded with *Anomum amarum*. The fruits are supposed to be counter-poison, anthelmintic, and constructive. They act specially upon the spleen, improve the mental faculties, and are regarded as generally beneficial. The seeds are used in excessive perspirations. The flowers, 793, and leaves, 794, are sold on the markets, but are not mentioned in the *Pêntsao*.

NEPHELIUM Sp.—龍荔 (Lung-li). This grows south of the Meiling, and as its name implies, resembles both the *lichee* and the *lungyen*. It is slightly poisonous, cannot be eaten raw, but is cooked and used as food. If eaten in the raw state, it produces a sort of frenzy, and causes one to have hallucinations. This shows the narrow line between the poisonous and non-poisonous Sapindaceæ.

NEPHRODIUM FILIX MAS.—According to Henry, in Hupeh 毛貫衆 (Mao-kuan-chung) is the name for this *malefern*, as well as for *Onoclea orientalis* and *Woodwardia radicans*. It is not distinguished in the *Pêntsao* from 貫衆 (Kuan-chung). In Shantung, according to Fauvel, this last name is applied to *Aspidium jalcatum*; while, according to Franchet, in Japan it is applied to *Lomaria japonica*. Several Chinese names are given in the *Pêntsao* for this plant, among which

is 鳳尾草 (Fêng-wei-ts'ao), or "phœnix-tail." It is probable that a number of species of *Aspidium*, as well as of other ferns, is included under these names. The root-stock is gathered twice a year, in the second and the eighth moons, and dried for use as medicine. Its virtues are considered to be anthelmintic and corrective. It is also used in wounds and hemorrhages, such as epistaxis, menorrhagia, and post-partum hemorrhage. It is employed in the treatment of the diseases of swine. Flowers are spoken of, which would indicate that *Osmunda* is sometimes confounded with this. These so-called flowers are employed in foul ulcers, and are said to be purgative.

NICOTIANA TABACUM.—烟草 (Yen-ts'ao), 仁草 (Jên-ts'ao), 菸草 (Yü [Yen]-ts'ao). This is one of the evil gifts of the new world to the old. It seems to have been introduced into China about the year 1620 A.D., and probably came by the way of Manila. The plant has no proper name in Chinese, being known as 烟草 (Yen-ts'ao), "smoke weed," and 淡巴菰 (Tan-pa-ku), which is variously written, and which is probably a transliteration of the West Indian *tabacco*. There is no evidence to show that the plant was known in Mongolia, as claimed by some, although the Mongolians are said to have smoked the leaves of *Lobelia inflata*, as did some tribes of North American Indians. The plant seems to have been first introduced into Fukien, and this province has maintained its preëminence in producing the kinds which find the most favor with smokers. It is now grown in almost every part of the empire, and almost as many species and varieties are found in China as in America, although the Chinese do not use the care in cultivating, curing, preserving, and manufacturing the products as is the case in America and other countries where it is grown. Various qualities are indicated by such terms as 蓋露 (Kai-lu), 頭黃 (T'ou-huang), 二黃 (Êrh-huang), and the like. These refer to the time and effects of curing. Little care is taken by the Chinese to preserve the leaf from dampness, as it is usually shipped in open boats, only covered with matting, or thatched over with straw. Consequently it loses much of its flavor and

strength, and often becomes mouldy. The prepared tobacco, as formerly almost universally smoked by the Chinese, was called 金絲烟 (Chin-ssü-yen), and was manufactured by tightly packing the leaves with yellow ochre between, and cutting into fine threads with planes. Tobacco is considered by the Chinese to be antimalarial, and to increase this effect, arsenic is sometimes mixed with the leaves before cutting. The deleterious effects of tobacco are fully recognised by the Chinese. 耗肺損血 (Hao-fei-sun-hsüeh), "wasting the lungs and injuring the blood," are the unequivocal terms in which they describe its evil effects. Another author uses 損心 (Sun-hsin), "injuring the heart," which certainly describes the effect well known to Western observers. It is also said to 損容 (Sun-jung), "injure the features," referring to the sallowness and dry skin produced in excessive smokers. In addition to its use as a prophylactic to malaria, its decoction or oil is used to destroy insects, in parasitic skin diseases, and the prepared tobacco is used to staunch the flow of blood in wounds in the same way as "fine cut" is sometimes used in the rural districts of America. 胡黃連 (Hu-huang-lien) with tea, or the Chinese black sugar, are regarded as antidotes to the poison of tobacco.

The flower stalk of the tobacco plant, 烟梗 (Yen-kên), is considered to be more poisonous than the leaves. It is said to be used for stupefying fish. For this purpose it is chopped fine and bruised together with green walnut hulls and thrown into the pond, when the large fish will be stupefied by it, the small ones will be killed, as will also all shrimps, turtles, shell-fish, and other animal life found in the pond; and the author goes on to say that although it thus shows itself to be deadly poisonous, yet men prepare it for smoking! The powdered tobacco leaf is recommended as an insufflation in nasal catarrh (腦漏, Nao-lou). This disease is said to be produced in some people who smoke what is known as 蘭花烟 (Lan-hua-yen), which is made by adding *Eupatorium* seeds to the tobacco, in order to give it fragrance. The expressed juice of the fresh leaves is combined with pine resin, and the vapor inhaled to benefit the blood vessels in defective circulation. The bruised leaves are also applied in snake bite, and the dried leaves sometimes put into beds, or burned under the bed,

to drive away *Cimex lectularius* and his progeny. An old tobacco pipe stem, 烟 桿 (Yen-kan), and the deposit in its interior, 烟 桿 油 (Yen-kan-yu), are regarded as sovereign remedies for the bite of venomous snakes. One that has been in use at least forty years is considered the best, especially if it was smoked by a man rather than a woman. The remedy is both administered internally and applied locally. It is also used in menorrhagia. The substance from the interior of pipe stems, as well as the water from a water-pipe, goes by the names 烟 膏 (Yen-kaō) and 烟 油 (Yen-yu). It is said to be the emanation of the five elements (water, fire, wood, metal, earth) developed in the process of smoking, and is therefore sometimes called 五 行 丹 (Wu-hsing-tan). It is used to kill insects, to cure parasitic skin diseases, snake and centipede bites, and the like. It is also sometimes secured from the metal tops of ordinary pipes.

SNUFF, 鼻 烟 (Pi-yen), was formerly quite extensively used, but, as in Western countries, has largely fallen into disuse. A few officials and wealthy people still employ it, but seem to do so rather to make an exhibition of their costly snuff bottles. The collection of these snuff bottles, which are made of jade, lapis lazuli, chrysoprase, and other precious stones, in many artistic and beautiful designs, has become a hobby with purchasers of bric-à-brac. Snuff-rubbing, as formerly practiced in some parts of America, does not seem to have ever gained a foothold in China. Foreign snuff was introduced through Macao, and was considered to be superior to the native product. This latter was composed of *Angelica anomala*, *Asarum sieboldi*, *Gleditschia officinalis*, *Mentha arvensis*, Baroos camphor, and prepared tobacco (烟 絲). The water tobacco 水 烟 (Shui-yen) comes from Lanchou in Kansu, is also called 西 菸 (Hsi-yü), and is highly esteemed as a tussic remedy, and also in the treatment of snake and scorpion bites. It is probable that this is *Lobelia*, rather than *Nicotiana*, as the leaves are likened to those of *Eriobotrya japonica*.

The use of tobacco has undergone considerable change in China within the last few years. Formerly it was smoked in small quantities at a time, and almost universally with a water pipe or a long-stemmed bamboo pipe, either of which reduced

the absorption of nicotine by the lungs to a minimum. But since foreigners have become so largely identified with the tobacco trade, the use of cigars, and especially of cigarettes, has not only largely driven out the former and less deleterious methods of consumption, but has also vastly increased the per capita amount of tobacco consumed. The modern Chinese student, clerk, or coolie is seldom seen without a "coffin nail" between his lips, almost uniformly inhaling the smoke and blowing it out through his nostrils. If this manner of consumption goes on at its present increasing rate, the Chinese people will soon demonstrate to the world whether or not nicotine has any specially deleterious effects on the race. This will be especially true in this case, since the women use cigarettes almost as freely as the men, and youths and even small children of both sexes are frequent consumers.

NITRARIA SCHOBERI.—Under the title 枸杞 (Kou-chi), Li Shih-chên describes a globular, red, edible berry, which he says grows in Kansu. It is certainly not *Lycium*, as this is not edible. It seems to correspond to a plant described by Przewalski, the *Nitraria schroberi* of the order of Zygophyllæ, the berries of which form an important article of diet to the Mongols and Tangus of Gobi, Ordos, and Tsaidam. The name of the plant in Mongolian is *kharmyk*. It is a crooked shrub, having dense foliage and small thick leaves. It blooms profusely in May, the flowers being small and white. These are followed by the fruit, which consists of small, dark-red berries, ripening in August and remaining on the tree until late in the autumn. The people collect these berries on the twigs when fully ripe and put them away for winter use. They are soaked and boiled in water to soften them, and eaten together with barley meal. The water in which the berries have been boiled is also used as a drink. Bears, wolves, foxes, and birds also feed on the berries. Their medicinal properties, if any, can scarcely be the same as those of *Lycium*.

NOTHOSMYRNIUM JAPONICUM.—藜本 (Kao-pên), 589. Henry says that in Hupeli the drug is derived from *Ligusticum sinense*. The root is said to resemble that of

Conioselinum univittatum, but is lighter and less juicy. The plant has small, bipinnate, entire leaves. As found in the shops, the roots are yellowish-brown, branched and nodulated, with small rootlets and portions of the stem attached to them. They have a sweetish and somewhat acrid flavor. Stimulant, antispasmodic, arthritic, deobstruant, alterative, and resolvent properties are attributed to the drug. It is especially recommended for women, and is also employed in congestive affections of the skin. It is added to cosmetic preparations, both on account of its good influence on the skin and of its fragrance. The seeds are employed in rheumatic affections of the extremities as a resolvent.

NUPHAR JAPONICUM.—萍蓬草 (P'ing-p'êng-ts'ao). This is also called 水粟 (Shui-su), "water millet," on account of the resemblance of its seeds. It grows in the southern provinces in marshes and ponds, the leaves resembling those of *Limnanthemum nymphoides*. It bears yellow flowers, and has a root-stock like that of the lotus, which in famine years is eaten. Its seeds are borne in a capsule about two inches long, and they resemble poppy seeds. They are also edible, and are made use of by the people living in the marshy country in which the plant grows. The flavor of the root is compared to that of the chestnut, and for this reason the plant is sometimes called 水栗子 (Shui-li-tzŭ). The king of Ch'u ferried the river and found the fruit of the 萍 (P'ing), large as a peck measure, red like the sun, and sweet as honey to the taste. This quotation from the *Book of History* is supposed to refer to this plant. The seeds are supposed to benefit the spleen and intestines and to satisfy hunger. The root is regarded as constructive and tonic, benefits the digestive organs, and increases the bodily strength.

NYCTANTHES ARBOR TRISTIS.—柰花 (Nai-hua), 紅茉莉 (Hung-mo-li). This is the "night-blooming jasmine" or *musk flower* of Eastern India. It is called *hursinghar* in India, and is used both in China and in India as a red dye and as an ornament. It is not distinguished in the *P'entsao* from *Jasminum sambac*.

NYMPHÆA TETRAGONA.—睡蓮 (Shui-lien). This is spoken of in the *Péntsao* under the article on *Nuphar japonicum*. Its leaves resemble those of *Limnanthemum nymphoides*, but are larger. Its flowers spread above the leaves, and during the summer open during the day, closing at night and withdrawing beneath the water, to appear with daylight the following morning. It is not distinguished medicinally from *Nuphar*.

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OCIMUM BASILICUM.—羅勒 (Lo-lê), 香菜 (Hsiang-ts'ai), 426. The common name at Peking is 矮糠 (Ai-k'ang). Because it is used in the treatment of opacity of the cornea it is called 瞽子草 (I-tzū-ts'ao). The plant is found everywhere. The *Pêntsao* distinguishes three varieties: one resembling *Perilla ocymoides*, and one has large leaves and is very fragrant, its perfume carrying to a distance of twenty paces, and the third can be used as a vegetable. The plant is recommended to be extensively sown in gardens to overcome the bad odors due to the use of fertilizers. Peptic and carminative properties are ascribed to it, and the decoction is used as a wash for ulcers. It is prescribed in vomiting, hiccough, and polypus of the nose. The seeds are specially prescribed in diseases of the eyes, are said to remove films and opacities, and to soothe pain and inflammation. They are also recommended for rodent ulcer (走馬牙疳, Tsou-ma-ya-kan). The Customs Lists give 九層塔 (Chin-ts'êng-t'a) as a term for *Ocimum*, but this has not been found in the Chinese books.

CECCEOCLADES FALCATA.—風蘭 (Fêng-lan), 弔蘭 (Tiao-lan). This orchidaceous plant grows suspended from rocks in mountain gorges of the southern provinces. It resembles *Dendrobium*, and has been confounded with it. Faber calls it *Angræcum falcatum*. It has a drooping stem and leaves, and the latter are flat and two or more inches in length. When once rolled up they do not open again. The people place the plant in bamboo baskets and suspend these from the eaves of the house, where it grows and blossoms, drawing its nourishment from the air. It is said that if this is suspended in the room in which a woman is going through parturition, the labor will be hastened.

CENANTHE STOLONIFERA.—水蘄 (Shui-chin). The name is commonly written 水芹 (Shui-ch'in). It is described in the *Pêntsao* under the title 苦蘄 (K'u-chin). Other names are 芹菜 (Ch'in-ts'ai), 水英 (Shui-ying), and 楚葵 (Ch'u-

k'uei). There are two kinds: the white, of which the root is used in medicine, and the red, of which the leaves and stem are eaten, either pickled or in the fresh state. This is an umbelliferous plant, much resembling celery. While the white varieties are most commonly eaten, some of the red kinds are considered to be non-poisonous. Caution has to be used, however, as in the case of the red varieties of celery, because these are often deleterious, resembling water hemlock. The properties of the drug are considered to be cooling, strengthening, hemostatic, and antivinous. It is prescribed in choleraic affections of children, urinary difficulties, colds, and hematuria. The seeds are recommended in plethora.

Under the article on *Ranunculus scleratus* is also mentioned 水堇 (Shui-chin). The characters 堇, 蕈, and 芹 are used more or less interchangeably, and serve to confound *Cenanthe*, *Nasturtium*, *Aconitum*, *Ranunculus*, and other genera. However, *Cenanthe* is most commonly referred to when the character 水 is prefixed to either of the three characters. In the article to which reference is here made the plant is recommended to be bruised and applied to horse bites, snake bites, scorpion bites, and cancerous swellings. Administered internally, it has the reputation of causing resolution in scrofulous swellings, curing choleraic affections, and the like. It is said to be emetic if taken in large quantities.

OINTMENTS.—Aside from the very much overworked term 膏 (Kao), the Chinese have no term for ointment as that is understood in the West. Foreign physicians have prefixed the characters 抹 (Mo) or 搽 (Ch'a), "to rub on," "to smear," in attempting to distinguish an ointment from an extract or plaster. A better character would be 塗 (T'u), as that is the one universally used in Chinese medical works to indicate the smearing on the skin of unctuous remedies. The most common vehicle for applying drugs to the skin is the 香油 (Hsiang-yu), "fragrant-oil," or sesamum-seed oil. Lard comes next, and it is often mixed with vegetable wax, beeswax, or white (insect) wax. Pomades and cosmetic applications are many, and are called 胭脂 (Yên-chih). While there are few formulæ of ointments in the Chinese books, unctuous applica-

tions to the skin are very extensively used, although a favorite way of treating skin diseases among the Chinese is the medicated bath. One or two special ointments are mentioned among the *Plasters* (which article see).

OLEA AQUIFOLIA.—Faber gives 枸骨 (Kou-ku) for this, but in China *Kou-ku* seems to be *Ilex cornuta* (which see).

OLIBANUM.—熏陸香 (Hsün-lu-hsiang), 乳香 (Ju-hsiang). See *Boswellia*.

ONOCLEA ORIENTALIS.—This is one of the ferns confounded under the name 貫衆 (Kuan-chung). See *Nephrodium filix mas*.

OPHIOPOGON SPICATUS.—麥門冬 (Mai-mên-tung), 816. Two species are described, one with large leaves, which is this, and the other with small leaves, which is *Ophiopogon japonica*. A large number of names are given for this plant, most of which refer to the similarity of its leaves to those of *Allium odorum*. The plant bears blue, globular berries in winter. The root is the part used in medicine, and as it appears in the drug stores, consists of shrivelled, pale yellow, soft, flexible tubers, from one inch to an inch and a half long, tapering at either end and traversed by a central thread-like cord. The taste is sweet and aromatic, and the smell agreeable. It is non-poisonous and is edible. The plant is specially cultivated in the province of Chekiang. The drug has some of the properties of *squill*, for which it may be used as a substitute. It is supposed to benefit the dual principles, and is therefore tonic and aphrodisiac, promoting fertility. It assists the memory and promotes the secretion of milk. It is considered as one of the very important remedies.

OPUNTIA FICUS.—仙人掌 (Hsien-jên-chang). This "fairy palm" is the well known *cactus* of the plains. It is found in the wilds of Szechuan and Hupeh. It is prescribed, together with licorice, in piles and diarrhoea, and is dried, powdered, and mixed with oil to be applied to favus in children.

ORITHIA EDULIS.—山慈姑 (Shan-tzŭ-ku), 金燈 (Chin-têng). This plant grows in moist places in mountain valleys, and resembles *Sagittaria*. It is valued for its flowers, of which there are white, red, and yellow varieties. The small, shrunken, horny, irregularly ovate bulbs of the plant, with a mass of fibrous, tangled rootlets attached to each bulb, are sometimes called 毛壳 (Mao-k'ò). The hairy rootlets are detached from the bulb before the latter is used in medicine. Slightly deleterious properties are attributed to the drug, and it is used by military doctors in the treatment of strumous diseases, specific diseases of the blood, carbuncles, injuries, hydrophobia, and any disease requiring the exhibition of alteratives. It enters into the composition of a famous nostrum prepared by the Chinese, called the "Universal Counterpoison" (萬病解毒丸, Wan-ping-chieh-tu-wan). The leaves are used externally as an application to buboes, abscesses, and diseases of the breast. The flowers are said to be efficacious in urinary disorders. This is the same as *Tulipa graminifolia*.

ORIXA JAPONICA.—常山 (Ch'ang-shan), 30. Also called 蜀漆 (Shu-ch'i), "Szechuan varnish," 恒山 (Hên-shan), and 互草 (Hu-ts'ao). The *Pèntsao* classifies this plant among the poisonous drugs (毒草類, Tu-ts'ao-lei), and says that it comes from the provinces of Szechuan and Yunnan, and especially from Chentehfu in the former province, where it grows in the mountain ravines. It is also found in the forests of the Yangtse hills. It is described as having a round, pointed stalk, and being not over three or four feet high, with opposite leaves shaped like the tea-leaf. In the second month appears a white flower with green carpels, and in the fifth month a fruit, green and round, and with three seeds in each receptacle. The dried leaves have a greenish-white color when they are fit for use, but if they turn black they are spoiled. The leaves are collected in the fifth or sixth month. One author says that the Szechuan varnish is the stalk of the plant, and that it is gathered in the eighth or ninth month. This plant is also said to be brought from "Hainan," which probably means Cochinchina and other places in the south. The only places from which it is reported as coming in

the Customs lists of 1885 are Canton and Hankow, and the following record is found: "Several plants supply drugs of this name, which are used as febrifuges, as *Dichroa febrifuga*, Lour, *Hydrangea* sp., and an unknown herbaceous plant." By referring to Loureiro's list, we find a plant, the name of which Romanized according to the Cantonese dialect is *cham chan* (the Chinese characters are lacking), but which presumably is this same plant, and is called by him *Dichroa febrifuga*. As Loureiro's work was wholly done in Cochin-China, the plant he thus identifies is presumably indigenous to that country. Whether it is the same as the Szechuan plant described by the *Péntsao* remains to be determined. Tatarinov makes *Ch'ang-shan* to be *Lysimachia*, and 土常山 (T'u-ch'ang-shan) is also a *Hydrangea*. In addition to the leaves and stalk, the shoot and roots are used in medicine. The drug is steeped in a decoction of licorice root to correct its nauseant properties. The tincture, or the dessicated drug, is not strongly emetic, but if prepared with vinegar its emetic properties are increased. All forms of the drug are used in fevers, specially those of malarial origin. There is no form of this latter disease for which it is not recommended. The leaves are used in goitre.

OROBANCHE AMMOPHYLA.—肉菹蓉 (Jou-tsung-jung), 1359. *Tsung-jung* is a name of several orobanchaceous plants. Another variety, or possibly species, of the one under consideration, is called 草菹蓉 (Ts'ao-tsung-jung) or 列當 (Lieh-tang). The ancients thought that this plant sprang up from the semen dropped on the ground by wild stallions, somewhat similar to the supposed origin of *Balanophora*, another orobanchaceous plant. The growing plant is scaly, has a scaly root, and both the root and stalk have the appearance of flesh, from which fact it receives its name. Both the plant and root are eaten either raw or cooked with meat. The root is salted, or dried in the sun, for use as medicine. It is first cleaned, soaked in wine, and the central fibres rejected. These latter are considered to be deleterious. Its virtues seem to be tonic in all of the wasting diseases and injuries, as well as aphrodisiac, promoting fertility in women and curing

impotence in men. It is used in spermatorrhœa, menstrual difficulties, gonorrhœa, and all forms of difficulties of the genital organs. The *Lich-tang* has similar virtues, but is specially recommended in impotence.

ORYZA SATIVA.—稻 (Tao), 稌 (T'u), 糯 (No), 粳 (Kêng), 秈 (Hsien). These characters and several others are used in the classics and other ancient works for *rice*. Originally, *Tao* was equivalent to *No*, and was used for the glutinous variety, while *Kêng* referred to the non-glutinous variety. At present *Tao* is a general term for rice and includes both kinds, but refers for the most part to the non-glutinous, while the glutinous is known only as *No*. *Kêng* is also written 秈 (Kêng). 稌 (T'u) is a very old name, and is no longer in use. The common name now in use is 米 (Mi), which refers more particularly to the hulled rice. In fact, every stage in the growth and preparation of rice gives it a distinctive name. The young shoots are called 秧 (Yang), that growing in the field is called 稻 (Tao), the unhulled rice is called 粳 (Kêng), the hulled rice is called 米 (Mi), the hulls are called 糠 (K'ang), the cooked rice is called 飯 (Fan), and the rice congee is called 粥 (Chou). The glutinous rice is described in the *Pên-tsao* under the term 稻 (Tao). It may be used for distilling spirits (酒), for pastry (糝), for sweet-meats (餡), for dumplings (糕), and as puffed-rice 炒米. All these are quite common uses of the *No-mi*. The dumplings, under the name of 糝子 (Tsuang-tzŭ), are made at the time of the Fifth Moon Feast and consumed in large quantities. They are also made of glutinous millet, and sometimes are stuffed with meat or sweet-meats. The puffed or parched rice is sold at all times of the year, and is largely consumed by children and persons of weak digestion. It also serves as a foundation for candy balls, which are made by sweet-meat makers, and which vary in size from that of a marble to balls a foot or more in diameter. A sticky confection is also made of this rice and sold by street vendors in strips or cakes. The rice is considered too heating as a constant article of diet, and it is said to produce paralytic symptoms in men, cats, dogs, and horses, if consumed for some time (beri-beri?). It is consid-

ered to be constipating, and therefore is recommended to be used in diarrhœas. Cakes made of this rice and fried in camel's fat are used for hemorrhoids. The congee is used in fevers as a diuretic, and both internally and externally as a demulcent. The Chinese often heat the water in which the rice is to be scoured, and after thorough washing the water is called 米泔 (Mi-kan). This is considered cooling as a drink, is administered in fluxes from the bowels, and used to wash foul sores. The rice flowers, 糯稻花 (No-tao-hua), are dried and used as a dentifrice and cosmetic. The root, 糯稻根 (No-tao-kên), 912, is not mentioned in the *Péntsao*. The green culm or stalk is recommended in biliousness, and the ash of the straw is used in the treatment of wounds and discharges. The awns (穀穎, Ku-ying) are also recommended in jaundice. The ashes of the hulls are used to clean discolored teeth.

The non-glutinous kind is described under the title 粳 (Kêng). There are two varieties: the 水米 (Shui-mi) and the 旱米 (Han-mi), or the water-grown and the upland varieties. The former is by far the more common. The Chinese regard rice as the best food, and their term for the prepared article, 飯 (Fan), has about the same signification that the word "bread" had to English-speaking people of the time of King James; that is, a term signifying food in general. Their estimate is very nearly correct, as rice is the one cereal which comes nearest having all the elements necessary to sustain life. It is said to benefit the breath, remove anxiety and thirst, check discharges, warm the viscera, harmonize the gases of the stomach, and cause the growth of flesh. If taken in the form of congee, together with *Euryale ferox*, it will benefit the vital principle, strengthen the will, clarify the hearing, and brighten the eye. If one constantly eats the dry cooked rice, he will not have hiccough. The second water in which non-glutinous rice is scoured is called 浙二泔 (Hsi-êrh-kan) and 米瀋 (Mi-shên), and is regarded as cooling to the blood and diuretic. It is given in hematemesis, epistaxis, and in cases in which medicine has been taken in excessive doses. Parched rice broth, 炒米湯 (Ch'ao-mi-t'ang), benefits the stomach and drives away the vicious humor produced by eating too much farinaceous food; but if the element of fire is not driven out of

the preparation, it will produce thirst. The rust sometimes found growing on the ears of rice, called 粳穀奴 (Kêng-kun), is administered in acute paralysis of the fauces. The lixiviated ash of rice straw, 禾稈 (Ho-kan), is used as an antidote in arsenical poisoning.

Another sort of rice is described under the term 秈 (Hsien). It was brought from Cochin-China (占城國) by the Fukienese, and is therefore called 占稻 (Chan-tao). It is an upland rice, and as it ripens earlier than other varieties it is called 早稻 (Tsao-tao). Its qualities are the same as the ordinary rice. The lixiviated ash of the straw is used in nausea and to destroy stomach worms. The Chinese dry boiled rice in the sun and then grind it into flour, called 米粉 (Mi-fên). This is used for making gruel to feed dry-nursed infants and invalids. It also makes an excellent poultice. (For malted rice see *Malt*, and for *Congee* see that article in the Addenda.)

OSMANTHUS FRAGRANS.—巖桂 (Yên-kuei), 木樨 (Mu-lsi). This tree grows on cliffs; hence the first name. It is spoken of in the *Pên-tsao* at the close of the article on cinnamon, where it is said that there are three varieties: one with white flowers, called 銀桂 (Yin-kuei), one with yellow flowers, called 金桂 (Chin-kuei), and one with red flowers, called 丹桂 (Tan-kuei). There are some varieties that flower in the autumn, some in the spring, some each season, and some monthly. The bark of the tree is thin, has not the properties of true cinnamon, and is not used in medicine. The flowers are very fragrant, are employed for scenting tea and wine, and an oil is distilled from them, called 桂花油 (Kuei-hua-yu), 662. This tree is much cultivated in China for its fragrant flowers, which appear in great profusion in the axils of the leaves. These are used semi-medicinally as a flavor for other medicines, to disguise foul odors, as a tussic remedy, and in cosmetic preparations for the hair and skin. The plant is the same as the *Olea fragrans* of Thunberg.

OSMUNDA REGALIS.—薇 (Wei). This is a Japanese identification, but without doubt the same term is sometimes applied to this fern in China. However, the plant described

in the *Pentsao* under this title is a leguminous one, probably *Vicia gigantea* or *Lathyrus maritimus*. But in the same article the character is made to refer to 迷蕨 (Mi-chüeh), which under the article on 蕨 (Chüeh), *Pteris aquilina*, is described as a "flowering" fern, thus evidently referring to *Osmunda*. But it is not distinguished medicinally from *Pteris*.

OXALIS CORNICULATA.—酢漿 (Tso-chiang), 酸漿 (Suan-chiang), 1204, 小酸菜 (Hsiao-suan-ts'ai). This well known small plant, with its ternate, sour leaves is found in all parts of China. Children like to eat the young fresh leaves. In the fourth moon it bears a small, yellow flower. It is confounded with *Rumex japonicus*. Cooling, anthelmintic, emmenagogue, diuretic, lithontriptic, astringent, and styptic qualities are referred to the plant, and the juice is held to be antidotal to mercurial and arsenical poisoning, as well as beneficial when applied to burns, insect and scorpion bites, and eruptions.

P.

PACHYMA COCOS.—茯苓 (Fu-ling), 332. This is a fungus growth upon the roots of fir trees, and is used by the Chinese both as a food and medicine. It is met with in the form of large tubers, having a corrugated, blackish-brown skin, and consisting internally of a hard, starchy substance of a white color, but sometimes tinged with pale-red or brown, especially towards the outside. The tuber is sometimes perforated by an irregular channel lined with red membrane, marking its attachment to the root. The tubers vary in size from that of a fist to that of a peck measure. The smaller ones, and especially those which cling to the root, are called 伏神 (Fu-shên). They are met with on the sites of old fir plantations, or actually connected with living fir trees. The Chinese suppose these tubers to be produced either from the metamorphosed resin of the fir tree, or from the spurious vapors of the tree. They do not easily decay, and are said to be found unchanged after lying in the ground for a period of thirty years. The Chinese confound them with the genuine root of the *Smilax pseudo-China*, and the two substances are exported to India or elsewhere as *China-root*. The hardest and whitest is the best. The substance probably consists largely of pectine, and is free from smell or taste. A similar substance is found in Japan and in America, in which latter country it is called *Indian-bread*. In China it is ground up, mixed with rice flour, and made into small square cakes, which are sold hot by hawkers on the streets of most cities in the Central provinces. Medicinally, it is considered to be peptic, nutrient, diuretic, and quieting, especially in the nervous disorders of children. It is prescribed in wasting diseases. The red variety is specially recommended in diarrhœas and disorders of the bladder, while the skin of the tuber, 333, is considered useful as a diuretic in dropsy. The smaller and younger varieties, 伏神 (Fu-shên), are considered to be superior as a nerve tonic and sedative to those which are older and larger. The portion of the root of the fir tree which is encircled by

these growths is called 神木 (Shên-mu), and is prescribed in contractions of the tendons and convulsive disorders. (See articles on *Smilax* and *Fungi*.)

Pueraria
PACHYRHIZUS THUNBERGIANUS.—葛 (Ko), 599. This is a wild growing creeper, of the order of Leguminosæ, furnishing a textile fiber of which a kind of cloth is made. The cloth somewhat resembles in texture that made from *Bœhmeria nivea*, and is also called grass-cloth. The Chinese name for this cloth is 葛布 (Ko-pu) or 貢布 (Kung-pu), and it is of a yellow color, very fine and durable, and is much prized by the Chinese as a summer cloth. The root of the plant, 600, 601, is used both as food and medicine, although that portion which is above the ground is considered to be somewhat poisonous, having emetic properties. The plant is much cultivated both on account of its textile fiber and of its root. The latter is considered to be thirst-relieving, antifebrile, anti-emetic, and counter-poisonous. It is prescribed in colds, fevers, influenza, dysentery, snake and insect bites, and to counteract the effects of croton oil and other poisonous drugs. Externally, it is applied in dog bites. The seeds, 葛穀 (Ko-ku), are prescribed in adults for dysentery and in alcoholic excess. The flowers are also prescribed in the latter difficulty. The leaves are applied in wounds as a styptic. The shoots are used in insufficient secretion of milk, as an application in incipient boils, and in aphthous sore mouth in children. Every part of the plant is also used in the treatment of skin rashes. The root is made into an arrowroot-like preparation called 葛粉 (Ko-fên).

PÆDERIA FŒTIDA.—女青 (Nü-ch'ing). This plant is also called 雀瓢 (Ch'iao-piao), "sparrow's calabash;" the latter character indicating the shape of the fruit, and the former its small size, which is about that of a jujube. The stem and leaves have an offensive odor. To the root is ascribed remarkable virtues in driving away the *Ku* poison, expelling foul gases, destroying evil demons, and curing ague. It is used in virulent epidemics, and is said to restore to life those who are already in articulo mortis.

PÆONIA ALBIFLORA.—芍藥 (Shao-yao), 143, 1112, 959. Properly speaking this Chinese name is generic; there being two kinds described in the *Pêntsao*: one with white flowers called 金芍藥 (Chin-shao-yao), which is *Pæonia albiflora* and the other with red flowers called 木芍藥 (Mu-shao-yao), which may be *Pæonia officinalis* in some cases, while in others it is confounded with *Pæonia moutan*. The plant is found growing wild in Anhui and Honan, as well as in Szechuan. It is also cultivated in Kiangsu for its root, which is used in medicine. It is a drug much prized by Chinese doctors, who use it as a tonic, alterative, astringent, and general remedy in diseases of women. As found in the shops, it is in hard, heavy pieces, tapering, of the size of the thumb or middle finger, and from four to six inches long. It is of a pinkish-white color on the outside, and marked with scars and tubercles, and is whitish, or brownish, and semitranslucent in the interior. It is said to be anodyne, diuretic, and carminative. It is specially recommended in the diseases of pregnancy and all forms of puerperal difficulty. It has also special action upon the spleen, liver, stomach, and intestines, and is prescribed in nosebleed, wounds, and other hemorrhages.

PÆONIA MOUTAN.—牡丹 (Mou-tan). This is known as the *tree pæony*, and is also called 花王 (Hua-wang), "the king of flowers," and 百兩金 (Pai-liang-chin), "a hundred ounces of gold." This latter name is given on account of the value in which the Chinese hold this exceedingly popular flower. It is a plant which is always discussed at length in all Chinese works on botany; more than thirty varieties being described. By long care, the plant has been rendered suffructicose. It is grown in Szechuan, where it seems to have been indigenous, but it has been cultivated for such a long period that the wild variety is no longer valued. During the Han dynasty, Lo-yang in Honan was famous for its *moutan* flowers. The bark of the root, 857, 1245, is the part used in medicine, and is met with in quills three or four inches long, dark brown on the outside, and of a purplish color on the inside and on the broken surface. It has a warm flavor and but little smell. It is prescribed in fevers, colds, nervous disorders, hemorrhages, head-

aches, and menstrual difficulties. Its prolonged use is supposed to give vigor to the body and to lengthen life. The root of this pæony, 丹根 (Tan-kên), 1242, and the small rootlets, 丹鬚 (Tan-hsü), 1241, are mentioned in the Customs list, but do not appear in the *Péntsao*.

PALIURUS RAMOSISSIMUS.—白棘 (Pai-chi). This is a rhamnaceous shrub, found in the south of China growing to the height of three or four feet. The wood of its stem is very white, which distinguishes it from the jujube tree. It has rather long, straight spines, and the branches and leaves are more or less tomentose. The drug seems to consist of the spines, and for this reason they are by some said to be the spines of the jujube tree, and it may well be that these are sometimes substituted. They are prescribed in spontaneous pains, neuralgias, "stitch in the side," and the like. They are also said to increase virility in married men and to benefit the genito-urinary system. The ashes of the twigs, mixed with oil, are used to cleanse filthy hair. Here the Chinese came very near to making soap. The flowers are used as an application to discharging wounds. The fruits are said to be cooling and diuretic. The leaves are applied in chronic ulcer of the leg.

PANAX GINSENG.—人參 (Jên-shên), 554, 神草 (Shên-ts'ao). This, with the Chinese, is the medicine *par excellence*; the *dernier ressort* when all other drugs fail; reserved for the use of the Emperor and his household, and conferred by Imperial favor upon high and useful officials whenever they have a serious breakdown that does not yield to ordinary treatment, and which threatens to put a period to their lives and usefulness. The principal Chinese name is derived from a fancied resemblance of the root to the human form, and to certain astral influences said to be derived from the constellation of Orion. It is related that during the reign of Wenti, of the Sui dynasty (581 to 601 A. D.), at Shangtang in Shensi, at the back of a certain person's house, was heard each night the imploring voice of a man, and when search was made for the source of this sound, at the distance of about a *li* there was seen a remarkable ginseng plant. Upon digging into the

earth to the depth of five feet the root was secured, having the shape of a man, with four extremities perfect and complete; and it was this that had been calling out in the night with a man's voice. It was therefore called 土精 (T'u-ching), "spirit of the ground." It is said that the best ginseng formerly came from this Shangtang, but at present no true ginseng is produced in that part of Shansi; on the contrary, the place is famous for its production of "bastard ginseng" from *Adenophora* (which article see) and other campanulaceous plants. The ginseng which is considered to be the best is the wild growing variety of Manchuria, and the next in repute is that coming from Korea. The former is practically all reserved for Imperial use, while the ordinary qualities of the latter are the best that appear on the general market. Japanese and American ginseng are also found in quantities, but these, especially the latter, are considered to be much inferior to the Korean kind. American ginseng is considered by Western physicians to have no medicinal virtues worth mentioning, and is thought to be a superfluous member of the Pharmacopœia. But entirely apart from ideas of its astral relations, true Chinese ginseng is persistently held by the Chinese to have stimulant, tonic, and restorative properties, which give it its high place in their pharmacology. It is probable that the Manchurian drug has not been carefully studied by any European observer on account of its scarcity, the Imperial monopoly, and its exceeding high price; this best quality being valued at Taels 6,400 a picul, and the superior sort costing as much as 250 times its weight in silver. For these reasons also only two or three complete herbarium specimens of the Manchurian wild ginseng plant are to be found in the museums of Europe. The ordinary ginseng of the markets has been studied and has not been found to possess any important medicinal properties. But the Chinese describe cases in which the sick have been practically in articulo mortis, when upon the administration of ginseng they were sufficiently restored to transact final items of business. Much of the ginseng on the market consists of campanulaceous roots, substituted for those of the araliaceous *Panax*. The former roots, while in a general way resembling those of the true ginseng, are more or

less hard and woody, and free from worms; while the latter is succulent and very liable to be attacked by insects. That prepared for Imperial use is carefully cleansed and dried, wrapped in paper and sealed up to preserve it from dampness and worms. It is said to have an aromatic, sweet taste, with a spice of bitterness. It may contain, therefore, in its fresh state an essential oil and a small amount of alkaloidal or other principle. The Chinese count five kinds of ginseng, viz., the one under consideration, which they consider to be the true ginseng, acting on the spleen, which to them is the center of life; the 沙參 (Sha-shên), *Adenophora*, which operates upon the lungs; 玄參 (Hsüan-shên), *Scrophularia*, which acts upon the kidneys; 牡蒙 (Mou-mêng), *Polygonum bistorta*, which operates on the liver; and 丹參 (Tan-shên), *Salvia multiorrhiza*, which acts on the heart. Each of these is described under its appropriate title. The true ginseng plant has five parted, palmate leaves, bears minute flowers in an umbellate form, and has red, berry-like fruits. It somewhat resembles the American *Aralia quinquefolia*, but is not the same. In Manchuria and Korea it is usually found growing in the shade of trees, notably that of the 椴 (Kia) *Tilia* (?) or *Paulownia* (?). This tree and the ginseng plant are thought to have mutual sympathy, and whoever would find the latter must look for the tree. The root is dug up both in the spring and the autumn. It is said that in order to test for true ginseng two persons walk together, one with a piece of the drug in his mouth and the other with his mouth empty. If at the end of three to five *li* the one with the ginseng in his mouth does not feel himself tired, while the other is out of breath, the drug is true. The Manchurian root is carefully searched for by the natives, who boast that the weeds of their country are the choice drugs of the Chinese. The drug is yellowish, semitransparent, firm, somewhat brittle, and has a sweet, mucilaginous taste, accompanied with a slight bitterness. It is usually prepared by steaming and drying in still air, so as to make its appearance approximate the accepted standard of clearness. Fabulous stories, similar to that above given, are told of the finding of special deposits of this root, associated with guiding voices, stars, and other good omens. The drug is sometimes prepared for use as an extract,

or as a decoction, silver vessels usually being employed for this purpose. Medicinally, the Chinese claim it to be "a tonic to the five viscera, quieting the animal spirits (精神), establishing the soul (魂魄), allaying fear, expelling evil effluvia, brightening the eye, opening up the heart, benefiting the understanding, and if taken for some time it will invigorate the body and prolong life." Alterative, tonic, stimulant, carminative, and demulcent properties are the ones principally ascribed to it, and it is prescribed in nearly every kind of disease of a severe character, with few exceptions, but with many reservations as to the stage of the disease in which it may be administered with the greatest benefit and safety. All forms of debility, spermatorrhœa, the asthenic hemorrhages, the various forms of severe dyspepsia, the persistent vomiting of pregnant women, chronic malaria, continued fevers, exhausting discharges, old coughs, and polyuria are treated with this drug in confidence of relief and cure. The leaves, 參蘆 (Shên-lu), are sold in bundles of the green, fragrant, excellently preserved foliage of the shrub. They are used as an emetic and expectorant remedy.

PANAX REPENS.—土參 (T'u-shên), 1380. This is given in the Customs lists as an article of commerce, but it is not mentioned in the *Pentsao*. The Chinese term may also be applied to native ginseng, referring to that produced within China proper, as distinguished from that brought from other places. In Szechuan wild *Panax repens* is known by the name 三七 (San-ch'i), 1059, but in other parts of China *San-ch'i* is *Gynura pinnatifida*.

PANICUM CRUS CORVI, *Panicum crus galli*.—稗 (Pai), 烏禾 (Wu-ho), 水稗 (Shui-pai), 旱稗 (Han-pai). This *panic grass* takes the place in China of *tares* and *cheats* in western countries. It grows plentifully in a wild state almost everywhere, and is found in fields of millet, wheat, and rice. The seed is said to be found in thrashed millet sometimes to the amount of three-tenths of the total bulk. The grain, although somewhat bitter in taste, is edible, and indeed is sometimes used in times of scarcity as a substitute for other

cereals. Its use is said to benefit the breath and to act on the spleen. The shoots and roots are used bruised as an application to wounds to check hemorrhage.

PANICUM FRUMENTACEUM.—稷子 (Shan-tzū). It is not certain that this is not *Eleusine indica*, the “raggi” of India. Both were found by Staunton in Shantung, the former cultivated and the latter wild. It is also called 龍爪粟 (Lung-chao-su), “dragon’s-claw-millet,” and 鴨爪稗 (Ya-chao-pai), “duck’s-claw-tare,” on account of the shape of its head. It grows in moist ground, and somewhat resembles *Panicum crus corvi*, having a grain like *Panicum miliaceum*, but smaller. It is cultivated in Shantung and Honan. The grain is red, and has a rough taste when prepared as food. It has no particular medicinal uses, but is considered to be tonic, nutritious, and strengthening, preserving health and warding off disease.

PANICUM MILIACEUM.—稷 (Chi) seems to be a general name for the species while 稌 (Ch’i) seems to refer more properly to the non-glutinous variety. 黍 (Shu) is the term for the glutinous variety. 粢 (Tzū) is another common name for the *panicked millet*. This comprises two of the 五穀 (Wu-ku) of Shênnung, the others being rice, wheat and barley, and the soy bean. Of the six grains of the *Chouli*, it also forms two, the others being rice, *Setaria italica*, wheat, and *Hydrophyrum*; and of the nine grains enumerated in another part of the *Chouli*, it again forms two, the others being *Setaria italica glutinosa*, rice, hemp, soy bean, *Phascolus* beans, barley, and wheat. Both varieties have been known and cultivated in China from the earliest times, and are probably indigenous, the characters being exceedingly ancient. The first character refers to the necessity of careful plowing for the grain (稷 and 禾), the second to a grain suitable for sacrifice (禾 and 祭), while the third is a grain for the manufacture of spirits by fermentation (禾入水). The fact that the Chinese distinguish so clearly between these two varieties of panicked millet has led Legge, Biot, and other translators of the classics to translate 稷 by “rice,” “sorghum,” and other similar

attempts at keeping the translation of this character and 黍 distinct. At Peking the non-glutinous millet is commonly called 糜子 (Mi-tzü). This character is also written 糜. 黄米 (Huang-mi) is another common name. There are several sub-varieties, producing red, white, yellow, and dark colored grains. This is considered the chief of grains, and as the chiefest and best should be offered in sacrifice, it is the proper sacrificial grain (稌). If eaten exclusively it is said to predispose to the twenty-six "cold" diseases (including marasmus, ague, paralyzes, and the like). Its use is considered strengthening and nourishing. It is cooling, and antidotal to the poisoning by cinnabar or *Momordica charantia*. Its action upon the stomach is considered to be demulcent and beneficial. It should be eaten with mutton. The cooked mass also makes an excellent poultice for boils and abscesses. The root of the plant is used in decoction for pyrosis and difficult labor.

The glutinous variety (黍) has also several sub-varieties. The red is called 粳 (Mên) also written 糜; the white 芑 (Ch'i); the dark colored 秬 (Chü); and a kind said to contain two seeds within one glume is called 秠 (P'ei). Prolonged use of this millet as food is said to cause fever and discomfort, to produce in children and animals which eat it continuously incoördination of voluntary motion, and to predispose to infection with pin worms. The former condition is probably due to the presence of some parasitic growth upon the grain, and the latter is probably a co-incidence, nematode infection being exceedingly common in China. Its ordinary use as food is considered to be nutritious and strengthening. If incinerated, mixed with oil and applied to venereal sores, they will heal without a scar. If chewed and the juice applied to gaping sores of children, it is considered to be a sovereign remedy. The red variety is especially recommended in coughs, fevers, fluxes, to restore the *yin* principle in males, and to prevent jealousy in females. The stalks and root are considered to be slightly deleterious. A decoction is prescribed in *Momordica* poisoning, and is used in the bath for prickly heat and skin eruptions. When taken with *Phaseolus* beans, it is diuretic. It is also administered in the hematuria of pregnant women, and in sprains it is used as a fomentation.

PAPAVER RHŒAS.—麗春草 (Li-ch'un-ts'ao). It is probable that 虞美人 (Yü-mei-jên) is the same, but this is considered to be a species of *Lychnis*. It is also called 仙女蒿 (Hsien-nü-hao), or "fairy artemisia." Its habitat is said to be the mountain valleys south of the Huai river. The flower and root are used in medicine, and are prescribed for jaundice.

PAPAVER SOMNIFERUM.—罌子粟 (Ying-tzū-shu). It has a jar-shaped capsule, and seed like those of *Setaria viridis*; hence the Chinese name. Another name, 御米 (Yü-mi), was derived from the fact that the grain was paid as Imperial taxes. The plant was originally grown on account of its beautiful flowers, and both the young plant and the seeds were used for food. The poppy seed oil is also spoken of, and was used in medicine. The seed was employed in the treatment of nausea and vomiting, fluxes, and fever. The capsule, 1359, was prepared by washing, removing the outer skin, drying in the shade, slicing, and digesting in rice vinegar or honey. It was used in the treatment of diarrhœa, dysentery, prolapse of the rectum, spermatorrhœa, old coughs, and for the relief of spontaneous pains everywhere. It was specially recommended in all kinds of fluxes.

OPIUM.—阿芙蓉 (O-fu-jung), 阿片 (O-p'ien), 鴉片 (Ya-p'ien). The poppy does not seem to have been indigenous to China. Evidence goes to show that it was introduced during the Sung period. But even then the preparation of opium does not seem to have been known. Li Shih-chên mentions its appearance just prior to his time (end of XVI Century), and quotes a contemporary work, which says that it came from 天方國 (T'ien-fang-kuo); for this reason it is also called 阿方 (O-fang). The method of piercing the capsule and scraping off the inspissated juice that oozes out, as practiced at the present time, is described in the *Pên-tsao* as the method introduced from 天方. The author of the Appendix to the *Pên-tsao*, who wrote in the Chienlung period, mentions the prevalence of the opium smoking habit, and describes the manner of preparing and smoking the drug. He speaks of the opium dens, and says that after one has smoked a few times the habit becomes established. As a result of this there

is physical and moral deterioration, insomnia develops, sexual degeneracy supervenes, and there is lack of moral control. The drug is here said to have been brought from 噶喇吧海 (Ko-la-pa-hai), "Arabian sea" (?), and was said to be produced in 咬囉吧 (Chiao-liu-pa) and 呂宋 (Lü-sung), the Philippines. Although it was a prohibited article of commerce, there were those who insisted upon having it, claiming that it increased strength and promoted sleep. As a consequence, consumption was then on the increase. Some had smoked to the extent that they had 破家喪身 (P'o-chia-shang-shên), "broken up the home and destroyed the body." The confirmed opium smoker is described as black-faced, weak-voiced, watery-eyed, with prolapse of the bowels, and prospect of an early death.

The Chinese names at the head of this article are all intended to imitate the Arabian name, *afioum*, or the Persian *afioun*. It is said that the resemblance of the flower of the poppy to that of the *Hibiscus*, 芙蓉 (Fu-jung), gives cause for the use of these two characters in transliterating. The drug seems to have first come from Arabia or Persia, probably at the beginning by overland route through India. The extension of its use seems to have been more or less gradual. In the Ming dynasty it came into general use in medicine. It was then given as an astringent and sedative in dysentery, diarrhœa, rheumatism, catarrh, coughs, leucorrhœa, dysmenorrhœa, and spermatorrhœa, but generally in combination with other drugs. At the present time this practice has largely ceased, and the drug is branded with all the infamy and illegality which belong to the habits of opium-smoking and opium-eating. From the researches of Mr. Hobson, made in the sixth decade of the last century, it appears that opium was a recognized product of the prefecture of Yungchang, in the west of the province of Yunnan, in the year 1736, the beginning of the reign of Chienlung. Growing the poppy for the production of opium in the central provinces did not take place until about the middle of the XIX Century, and the popular story in Szechuan is that it was introduced there from India and Thibet towards the end of Chienlung's reign (say about 1780). Fully one-half of the best arable land in Szechuan is believed by Mr. Hobson to have been given up

to the bearing of an annual crop of poppy. And he found that probably seven-tenths of the dwellers in towns in Szechuan were habitual opium-smokers, and that more than one-half of the country-people had fallen victims to this seductive and injurious habit.

Foreign opium has a number of names, the principal of which are 公烟 (Kung-yên), 公膏 (Kung-kao), 公土 (Kung-t'u) or 公班土 (Kung-pan-t'u), from the Chinese name for the East India Company, 公班衙 (Kung-pan-ya). These terms are also used for Patna opium and for the "first-class" quality. Another name for Patna opium is 大土 (Ta-t'u), while the Malwa is known as 小土 (Hsiao-t'u). 烟土 (Yên-t'u), 洋土 (Yang-t'u), and 廣土 (Kuang-t'u), "Canton-earth," are common names for opium, while 黑土 (Hei-t'u), "black-earth," is a slang term for it. The commonest colloquial-term of all, however, is 洋烟 (Yang-yên), "foreign-smoke." The foreign drug is still considered the best, and is not noticeably replaced by the native article, although this latter is considerably cheaper than the other. The increase in the opium trade is explained by the wider prevalence of the habit and the ever increasing consumption on the part of each individual smoker. Hence, although there has been a greatly increased production of the native drug, there has also been a substantial increase in the foreign importations. In the light of this increased consumption, it is small wonder that the Chinese government and people are anxious to prohibit the production of the native drug and to get rid of the traffic in the foreign article. The Szechuan opium is called 川土 (Ch'uan-t'u), and in favorable years can be produced at about half the cost of the Indian drug. It is made to imitate Malwa opium, and Dr. R. A. Jamieson found it to contain 6.94 per cent. of morphia. It is sometimes adulterated with mud, sesamum and hemp seeds, and an extract from the fruit of *Sophora japonica*, but it is probably not tampered with more than is the foreign drug. More extract for smoking is said to be got from Szechuan opium than from the Indian product. Yunnan opium, and that from Kueichou, are called 南土 (Nan-t'u), while that from Kansu, Shensi, and Shansi is called 西土 (Hsi-t'u). These all represent a good quality of the native drug. According to Baron Richtofen, a

large quantity of opium, some of it of a very inferior kind, is produced in Honan province, and is, for the most part, consumed locally. Other provinces, including Manchuria, have produced smaller quantities of the drug. In fact, no part of the empire has been entirely free from the scourge of its growth.

The prepared drug is called 烟膏 (Yên-kaò) or 熟烟 (Shu-yên), and is prepared on a large scale by mixing the ashes from opium-pipes with the raw opium, which facilitates the making of the watery infusion. This is further filtered and evaporated to the consistence of a thin extract, which is combustible in the opium-pipe when held in the flame of a small lamp. Water dissolves from one-half to three-fourths of ordinary opium, but nothing is lost by the Chinese practised manipulator. The extract is usually made by the keepers of the opium-joints, but rich people and Buddhist priests usually make their own extract. The burning of this extract in an incomplete manner, as is practiced by the Chinese, yields a smoke containing sundry empyreumatic compounds unknown to the chemist, but producing by absorption into the pulmonary vessels a stimulant, or some perfectly indescribable effect, unknown to all but the actual smoker. Of the effects of this habit one has heard all but too much. The positive necessity of improving, or increasing the quantity of, the extract used, leads to the loss of the volitional, digestive, and sexual powers, or in other words, to the gradual degradation of the man. That the habit may be suddenly and permanently broken off is a fact of frequent experience. But the failures are far more frequent than the cures, from the fact that it requires great will power on the part of a weakened and enslaved will. The use of tonics and stimulants, under careful supervision, combined with the provision of good food for body and mind, with restraint and disciplinary measures in certain cases, will greatly aid in curing the habit. The substitution of decreasing doses of morphia may also be practiced, but should only be done under the supervision of a competent and conscientious physician or dispenser, lest a morphia-eating habit be substituted for that of opium-smoking. The indiscriminate sale or distribution of anti-opium pills, most of which contain morphia, is reprehensible, not to use a more severe term.

PARDANTHUS CHINENSIS.—射干 (Shê-kan), 1120. Other names for this are *Belamcanda chinensis*, *Ixia chinensis*, and *Moræa chinensis*. It is one of the Iridaceæ, and is grown in gardens. It resembles *Iris tectorum* in its leaves, grows two to three feet high, has orange flowers, and black, berry-like fruits. It has a number of other names; a common one being 扁竹 (P'ien-chu). It grows wild in the Peking mountains, but the wild variety bears white flowers (*Pardanthus dichotomus*). The rhizomes are used in medicine, and as found in the shops they are very hard, bristled with rootlets, and of a chrome-yellow in the interior. The taste is acid in the fresh state, and the drug is considered by the Chinese to be deleterious. It is described as having expectorant, deobstruent, carminative, and diuretic properties, and seems to have some special popularity in diseases of the throat. It is prescribed in amenorrhœa, malaria, dropsy, cancer of the breast, arrow poison, and a number of dissimilar difficulties.

PARIS POLYPHYLLA.—蚤休 (Tsao-hsiu). This plant has a solitary stem, bearing at the top two or three whorls of 7 or 8 leaves each, with yellow and purple flowers. The leaves are of a reddish-yellow color, and run out into gold-colored, drooping filaments. The fruit is red, and the root has a purplish-red skin and white flesh. The plant is likened to *Euphorbia sieboldiana*, and is somewhat confounded with it. The root is bitter and poisonous. It is prescribed in nervous affections, epilepsy, chorea, mania, puerperal eclampsia, and ague. It is also a counter poison against snake, insect, and rat bites. It is administered in the form of an aqueous extract.

PARIS QUADRIFOLIA.—王孫 (Wang-sun). This grows in the river valleys of Kiangsu. It is similar to the last, but the whorls have only four leaves. The root resembles that of *Nelumbium speciosum*, and is bitter, but not poisonous. It is prescribed in rheumatism, and is considered as a sort of general prophylactic and preservative of life and black hair.

PARMELIA Sp.—石耳 (Shih-êrh), 1146. Faber is authority for the identification of this gymnocarpous lichen. Another observer calls it *Leptogium fuliginosum*. The plant

is not described in the books, and without observation in its habitat nothing more definite can be said. For its medical uses, see the article on *Mushrooms*.

PATRINIA SCABIOSÆFOLIA.—敗醬 (Pai-chiang.)

Faber also gives 苦蕒 (K'u-chih), but this term is also applied to *Physalis angulata* and to *Sophora flavescens*. The root of the plant smells like spoiled soy, hence the Chinese name. The plant is quite common, and is sometimes called 苦茶 (K'u-t'u), because the aborigines eat it. In the spring, when the plant first comes up, the leaves lie on the ground. They appear four in a whorl. The stem attains to the height of two or three feet, and is jointed. The white flowers appear on the top of the stem in an umbel. The root is the part used in medicine, and its properties are considered to be counter poison, resolvent, anodyne, and astringent. It is prescribed in abscesses, post-partum pain and other puerperal difficulties, various poisons, and parasitic skin diseases.

PAULOWNIA IMPERIALIS.—桐 (T'ung). This is also known as 白桐 (Pai-t'ung), 黃桐 (Huang-t'ung), 泡桐 (P'ao-t'ung), 椅桐 (I-t'ung), and 榮桐 (Jung-t'ung). Li Shih-chên gives the following description of the tree: "It has very large leaves, of various shapes. The bark is of a dirty white color, and the wood is light and not attacked by insects. It is used in making various utensils, and is also very good for posts and beams in building houses. It bears flowers in the second month, resembling those of *Ipomœa hederacea*, of a white or purple color. The fruit is more than an inch long and as large as a jujube. Within the capsule are the seeds, which are light, flattened, and winged like the seeds of the elm tree. When ripe, the capsule bursts, and the seeds are carried away by the wind." The leaves are used in decoction as a wash for foul sores, and to promote the growth of the hair and to restore its color. The wood and bark are used as an astringent and vermicide, in ulcers, in falling of the hair, and are administered in the delirium of typhoid fever. The flowers are considered to be a good remedy for skin diseases of swine, and if fed to these animals will fatten them three-fold. They are

also given to those who are suffering from hallucinations, which would indicate that the fattening of the pigs could not be a hallucination!

PEDICULARIS RESUPINATA.—馬先蒿 (Ma-hsien-hao); properly 馬矢蒿 (Ma-shih-hao), because the herbage has the odor of horse excrement. It bears a reddish tinted, white flower. The herbage is gathered in the second and eighth moons and dried for medicine. It is used in fevers, rheumatism, leucorrhœa, sterility, urinary difficulties, and in decoction as a wash to foul sores. This plant is confounded with *Artemisia japonica* and *Incarvillea sinensis*.

PEDICULARIS SCEPTRUM CAROLINUM.—蘼蒿 (Lin-hao), 莪蒿 (O-hao). This is a Japanese identification, and somewhat uncertain as to the Chinese plant. It grows in swampy places, and can be eaten raw or cooked. It is fragrant. Its properties are considered to be resolvent and carminative.

PERILLA OCIMOIDES.—紫蘇 (Tzŭ-su), 1417. Li Shih-chên distinguishes two varieties of this plant, the purple and the white, 白蘇 (Pai-su), according to the color of the leaves. The young leaves are eaten as a vegetable, also pickled with plums. They are used to prepare a fragrant beverage. The seeds, 1202, grow in capsules, and are about as large as mustard seeds, and an oil is expressed from them called 蘇子油 (Su-tzŭ-yu). The seeds are also fed to ducks under the name of 桂荏 (Kuei-jên). The stalk and the leaves, 1203, are used for driving away colds, as a stomachic and tonic, in cholera, and to benefit the alimentary canal. They are considered to be diaphoretic and pectoral, and antidotal to fish and flesh poison. The seeds have similar properties and uses, and are also thought to be highly nutritious. They are also prescribed in rheumatism, seminal losses, asthma, and obstinate coughs.

PERSEA NANMU.—楠 (Nan). The character is more commonly written 柟. This is a large tree found in the province of Szechuan, and furnishes the highly esteemed *nanmu*, a tough wood which does not easily rot, and which

for this reason is much used for buildings and furniture. The tree has reddish-yellow flowers, and a fruit resembling cloves, green in color, but which is not edible. The tree grows to the height of more than a hundred feet, and the wood is red in color in the best varieties. The white wood is more brittle than the red. The root is called 榿柏楠 (T'ou-pai-nan), and is used for making utensils. The twigs of the tree are used in decoction for the treatment of choleraic difficulties, and as a fomentation in sprains and swellings. The bark is similarly used, as well as in infants that vomit up their milk.

PEUCEDANUM DECURSIVUM.—獨活 (Tu-huo), 1364. Faber also gives 前胡 (Ch'ien-hu), but this is *Angelica refracta* (which see). The Chinese name is derived from the belief that the plant is not moved by the wind, but that it is self-moving when there is no wind. For this reason it is also called 獨搖草 (Tu-yao-ts'ao). Another name is 羌活 (Ch'iang-huo), 81, but this is said to indicate another species or variety. As this latter name indicates, the plant is found in Thibet, Kokonor, Kansu, and now in Szechuan; that from the latter place being more distinctively known as *Tu-huo*. There is a difference in the appearance of the drug between these two kinds, the *Tu-huo* coming in long, twisted pieces, deeply marked both lengthwise and crosswise with ribs or striæ, with portions of the crowning leaves of the root-stock sometimes still attached. The exterior surface is of a dark or yellowish brown color, and the interior is open in texture and is of a dirty-white. The *Ch'iang-huo* is much darker in color, and is marked off into short internodes of nearly three quarters of an inch in length, by rings or ridges of tissue which indicate joints. This is less apparent in some samples, which are probably mixed. The interior, yellow, woody tissue is very brittle, and loosely arranged in wedge-shaped masses, a thickness of red cortical fibers intervening between the vascular bundles and the epidermis. Both drugs are similarly prescribed as stimulant, arthritic, antispasmodic, and derivative remedies. They are administered in catarrh, colds, rheumatism, apoplexy, leprosy, post-partum difficulties, dropsy of pregnancy and other dropsies, and in headache.

PEUCEDANUM JAPONICUM.—防 葵 (Fang-k'uei). The root and leaves are like those of *Malva*, and the flowers, seeds, and the odor and taste of the root are like 防 風 (Fang-fêng) (see the next article), hence the name. The plant has palmately three-divided leaves, and an umbelliferous flower head with white flowers. The drug, which is the root, easily decays. It is tested in water; if it sinks it is good, but if it floats it is decayed. Most observers regard the root as non-poisonous, but by some it is considered to be slightly deleterious. Its properties are represented as eliminative, diuretic, tussic, nerve sedative, and if taken for some time is thought to benefit the marrow, increase the vitality, and give activity to the body. It is prescribed in constipation, suppression of urine, various mental and epileptoid affections, delirium and hallucinations, nocturnal polyuria, malaria, and typhoid fever.

PEUCEDANUM RIGIDUM, *Peucedanum terebintha-ceum*.—防 風 (Fang-fêng), 292. At Peking this Chinese name is sometimes applied to the former species, and in the mountains of Hupeh it represents the latter. But it properly refers to *Siler divaricatum* (which see).

PHARBITIS HEDERACEA.—See *Ipomœa hederacea*.

PHASEOLUS MUNGO.—綠 荳 (Lu-tou). *Vicia sativa* is known by this Chinese name in Hupeh. This is a small bunch-bean, the stalk growing to the height of a foot or more, and having small, roundish, hairy leaves. It is grown extensively for food, the bean being made into a congee, or only cooked soft. It is also ground into a meal and used as a porridge or pancake, and it is used for distilling into spirit. It is also sprouted and the sprouts used as food. The beans are largely fed to horses and cattle. Prolonged use of these beans as food is thought to produce billiousness. The bean is recommended to be used together with its tegmen, and is considered to be a resolvent, carminative, antifebrile, and counter-poisonous remedy. It is prescribed in the sequelæ to smallpox, obstinate dysentery, bladder difficulties in the aged, and all sorts of poisons. The bean meal, 778, is similarly

used, and is highly esteemed as a poultice in boils and abscesses. It is also regarded as an antivenous remedy. The tegmen, 781, alone is considered as an antifebrile, and is used in opacity of the cornea. The pods are used in obstinate dysentery, the flowers to counteract the effects of wine, the sprouts are considered to be countervinous and antifebrile, and the leaves are steeped in vinegar and used in cholera.

PHASEOLUS RADIATUS.—赤小豆 (Ch'ih-hsiao-tou), 141, 紅豆 (Hung-tou). The leaves are called 藿 (Huo). On account of the second name, the Chinese sometimes confound *Abrus precatorius* with this, and Tatarinov and other western botanists have fallen into the same error. This bean is largely cultivated north of the Yangtse. The plant, in its character and growth, is very similar to *Phaseolus mungo*, of which it is sometimes considered to be a variety. It is considered to be good food for donkeys, but is too heavy and heating for mankind. Medicinally, it drives away dropsy and scatters carcinomatous and purulent swellings. Otherwise, its properties are similar to those of *Phaseolus mungo*, and it is prescribed in even a larger number of similar difficulties than is this latter. Threatened abortion, menstruation during pregnancy, difficult labor, retained placenta, post-partum troubles, and non-secretion of milk constitute a series of obstetrical difficulties for which its use is recommended. The leaves are recommended in fever and urinary difficulties, and the sprouts in threatened abortion whether from an abortive tendency or from injury.

PHELLODENDRON AMURENSE.—藥木 (Po-mu), 黃蘗 (Huang-po). This last is also wrongly written 黃蘗 (Huang-po), 518. Loureiro calls this *Pterocarpus flavus*, and Faber calls it *Pterocarpus indicus*. But Henry has shown the identification at the head of this article to be the correct one. The root is said to be called 檀栢 (T'an-huan), and it is covered with nodular masses resembling *Pachyma cocos*, which are probably fungoid. The tree grows to the height of thirty or forty feet, having a whitish outer bark and an inner yellow one. The latter is used in dyeing silk yellow, as well as in medicine. The drug, as it appears in the market, is in square

or rectangular pieces, from three to five inches long, rough on the outer surface, and smooth, or striated longitudinally, on the inner surface. The interior is of a deep yellow color, and the taste is very bitter. It varies a good deal in thickness, that from Hupeh province being the thinnest. It is regarded as tonic, diuretic, alterative, aphrodisiac, and antirheumatic. It is prescribed in jaundice, hemorrhoids, fluxes, menstrual difficulties, chancre, sexual incompetence, intestinal worms, nosebleed, dysuria, and favus. This list only includes types of difficulties for which it is prescribed. To see the complete list as given in the Chinese books, one would be led to think that it was a universal panacea. The root is said to be taken for medicinal uses only when one hundred years old. The therapeutic virtues ascribed to it seem to depend upon some mysterious power connected with age and geomantic aspect. It is said to relieve the hundred diseases of the heart and abdomen, to quiet the soul, to relieve hunger and thirst, and if taken for a long time to prolong life and permeate the spirit.

PHOTINIA GLABRA.—醋林子 (Ts'u-lin-tzū). This evergreen tree, with its luxuriant foliage, is said to grow on the hills of Szechuan. It bears white flowers in early summer, and in the winter becomes covered with bunches of red berries, much resembling cherries in appearance. These are dried in the shade, or are pickled by the natives for food. The leaves are sour in taste, and are pickled and eaten with fish. The fruits are recommended in obstinate dysentery, piles, intestinal worms, and jaundice. The pickled fruits are said to be appetizing and peptic, but if taken in excess will make the mouth and tongue rough and crack open.

PHRAGMITES COMMUNIS.—蘆 (Lu), 葦 (Wei), 葭 (Chia), also known as *Arundo phragmites* and *Phragmites roxburghii*. The flowers are called 蓬蘽 (P'êng-nung), and the shoot 蘆 (Ch'üan). Of the names given at the beginning of this article the third is said to indicate the young plant, and is explained by 嘉美 "excellent;" the first refers to the stage before blooming, and is explained by 盧, "black," denoting its color; the second refers to the reed when it is fully grown,

and is explained by 偉 "strong, fine-looking." This plant, next to the bamboo, is one of the most useful plants in China. Indeed, north of the Yangtse it in a large measure takes the place occupied by the bamboo in the southern provinces. The shoots are eaten like bamboo shoots; the stalks are used for building the hovels of the poor, for wattled fences, for mats, screens, and blinds, and as the principal kitchen fuel of the Yangtse, under which circumstances it is known as 蘆柴 (Lu-ch'ai); the large, long leaves are used as wrappings for the glutinous rice dumplings so largely consumed at the Fifth Moon Feast, and the broken leaves and autumnal sweepings are used for bedding; and lastly, these leaves and tops, when boiled in water and the water afterwards evaporated, yield a dark, glutinous, sweet substance, used as a substitute for sugar. The whole plant is used as fodder for cattle, and the stalk, roots, leaves, tops, old house and fence wattles, broken screens and blinds, and the rakings of the reed fields and cattle yards, are all added to the pile of kitchen fuel. The portion of the root growing in the mud is also in times of scarcity used as food; that above the ground being bitter and unpalatable. The plant grows in river valleys at flood water, and in marshes. It is almost the only thing one sees sailing up the lower Yangtse in August. Medicinally, the root, 768, is regarded as cooling and diuretic. It is administered in nausea and vomiting, "internal" fevers including typhoid fever, hiccough, and fluxes. The shoot is slightly bitter, and is considered cooling and counter poison, and is highly recommended for choleraic difficulties and various kinds of flesh and medicinal poisons. The stalks and leaves are used in cholera and fetid bronchitis, and the ash is applied to foul sores, unhealthy granulations, and the like. The use of the plant which grows in the waters of the Yangtse by married couples is supposed to conduce to harmony in their sexual relations. The flowers are made into a strong decoction in water, and administered as a very efficacious remedy in cholera, fish and shrimp poisoning, and the ashes are used for checking hemorrhage.

PHYLLANTHUS URINARIA.—珍珠草 (Chên-chu-t's'ao), 37. See *Lysimachia eleutheroides*, also *Spondias amara*.

PHYLLOSTACHYS.—紫竹 (Tzū-chu), 水竹 (Shui-chu). See *Bambusa*.

PHYSALIS ALKEKENGI.—酸醬 (Suan-chiang). This is a common plant, its habitat being the provinces of Hukuang; but it is also grown in fields and gardens in other parts of the empire. The plant resembles *Solanum nigrum*, bears small white flowers, and a reddish-yellow, cherry-like fruit, enclosed in an inflated calyx. On account of this bladder-like calyx, the plant is called 燈籠草 (Têng-lêng-ts'ao), "lantern plant". The fruit is edible, but does not have much taste. The seeds are sour and the shoot is bitter. A smaller kind is called 苦蕒 (K'u-chih). This is *Physalis angulata*. The shoot, leaves, stalk, and root are used in medicine, and are considered to be antifebrile, diuretic, and expectorant. They are prescribed in a number of feverish conditions, especially those of children. The seeds are also used, and besides the properties ascribed to the other parts, they are said to promote easy labor, and to specially benefit children.

PHYTOLACCA ACINOSA.—商陸 (Shang-lu), 1111. This term also evidently includes *Phytolacca decandra*. Two kinds are described; one with white flowers and a white root which is edible when cooked, and the other with reddish-purple flowers and a purple root which is poisonous. The former is cultivated in some parts of the empire for food. The toxic action of the drug is said to manifest itself in bloody stools and hallucinations. It is prescribed in dropsy and as a counter-poison, especially in abdominal parasites. Externally it is used in foul sores of all kinds. The flowers, called 葎花 (Ch'ang-hua), are prescribed in apoplexy.

PICRIS REPENS.—胡黃連 (Hu-huang-lien). See *Barkhausia repens*.

PIERIS OVALIFOLIA.—緜木 (Li-mu). No description is given of this tree, except that its wood is veined in dark green, from which fact it receives its name. A tincture (of

what part is not mentioned) is recommended in wasting, and is said to benefit the male principle and to act as a tonic to the loins and legs.

PILEA.—水英 (Shui-ying). There is not much description of this plant, and it is confounded with *Cenante stolonifera*. It grows in Szechuan, and is there used for the treatment of the form of rheumatism known as 骨風 (Ku-fêng).

PILLS.—This is a favorite method of exhibiting drugs among the Chinese. But the remarkable difference between the Chinese and western practice in the use of these, is that the former never use this form of preparation for the exhibition of cathartics. A pill with the Chinese usually means a tonic or astringent remedy. The general term for these is 丸 (Wan), although 丹 (Tan) nearly always refers to a similar preparation, while 膏 (Kao) frequently refers to a pill-mass, rather than to a medicinal extract. In regard to the character 丹 (Tan), it refers to what is considered to be an efficacious drug compound, usually exhibited in the form of pill or pill mass, and almost seems sometimes to have been miswritten for 丸 (Wan). Pills are usually made up with honey as an excipient, but if they are to be eaten fresh, they are prepared with rice-flour or wheat-flour paste. Those which are not desired to dissolve at once in the stomach are usually made small and coated with wax. Pills are made of all sizes, from that of a millet seed to that of a pigeon's egg, and are most frequently not swallowed whole, but are chewed up in the mouth and swallowed with some approved decoction, with spirits, or with meat broth. This explains why patients in mission hospitals are sometimes seen to chew up the sugar or gelatine coated pills given them by the dispenser. Sometimes the pill mass is not made up into pills or boluses, but the patient simply helps himself to a piece as large as he likes, and eats it as he would confectionery. There is a very large number of formulæ extant, and we give below the most famous of these.

Accumulation Pill; 交加丸 (Chiao-chia-wan). *Atractylis sinensis*, *Zanthoxylum*, *Psoralea corylifolia*, *Phellodendron amurense*, fennel, and honey. This causes water to ascend and fire to

descend in the body, and therefore is a good remedy in almost any disease.

Anti-dysentery Pills; 治痢香連丸 (Chih-li-hsiang-lien-wan). *Aristolochia recurvilabra*, *Coptis teeta*, and honey.

Aphrodisiac Pills; 交感丹 (Chiao-kan-tan). *Cyperus rotundus*, *Pachyma cocos* (the kind that encircles the root), and honey. For impotence in middle age, and to prolong virility into old age (fifty-one to eighty). Another formula is as follows: *Atractylis sinensis*, *Zanthoxylum*, fennel, and paste. Tonic and strengthening to the virile powers, producing fertility.

Apricot-gold Pills; 杏金丹 (Hsing-chin-tan). The formula of this pill reminds one of those of the old alchemists. It is made entirely of the kernels of apricot seeds, but there is a long process of preparation, extending to the selection during the winter of a tree having auspicious surroundings, the use of geomantic influences, the combination of the various elements, water, fire, earth, and frost, the collection of the kernels, giving preference to those seeds containing double kernels, the use of south-flowing water for the digestion of the kernels, followed by a process of fermentation, decoction, and mixing with the pulp of dates to form the pill-mass. It is said that Chaos (渾皇) took these pills and for long ages did not die. Hsia-chi (夏姬) took them and attained to the age of seven hundred years, and afterwards became an immortal. "The people of the world will not believe this, but their unbelief is due to their unwillingness to purify their hearts."

Atractylis Pills; 蒼朮丸 (Tsang-shu-wan). These consist of *Atractylis sinensis* and black sesamum seeds. The former is prepared in a special manner, mixed with the latter and made into pills with flour-paste. For rheumatism and malaria. There is another formula, into the composition of which *Atractylis sinensis*, *Zanthoxylum*, fennel, *Psoralea corylifolia*, and *Ipomœa hederacea* enter. These are said to give strength to the eyesight.

Azure-excellent Pills; 青娥丸 (Ch'ing-ô-wan). These are composed of *Psoralea corylifolia*, walnuts, and licorice, and are regarded as tonic, reconstructive, and diuretic.

Barkhausia Closing-passages Pills; 黃連閉管丸 (Huang-lien-pi-kuan-wan). *Barkhausia repens*, pangolin scales, *Cassia*

occidentalis, 通血香 (T'ung-hsüeh-hsiang), and flowers of *Sophora japonica*. These are for the cure of excessive discharges of all kinds.

Beating Age Pills; 打老兒丸 (Ta-lao-êrh-wan). Cotton seeds, walnut kernels, and congee paste. Said to be preservative and rejuvenating.

Black and White Pills; 黑白丸 (Hei-pai-wan). Volunteer (wild) black beans and white *Tribulus terrestris*. Peptic and digestive.

Cannabis Kernel Pills; 麻子仁丸 (Ma-tzŭ-jên-wan). Kernels of *Cannabis* seeds, *Pæonia albiflora*, *Magnolia hypoleuca*, rhubarb, *Citrus fusca*, apricot kernels, and honey. Used in constipation and profuse urination.

Checking Ague Pills; 截瘧丸 (Chieh-nio-wan). There are a number of formulæ for these, the principal ingredient in all, and the only active one in some, being *Orixa japonica*. For ague in all stages.

Cinnabar Five Odor Pills; 辰砂五香丸 (Ch'ên-sha-wu-hsiang-wan). These are made of cinnabar from Chenchou in Hunan, dragon's blood, olibanum, myrrh, *Corydalis ambigua*, Huachou orange flowers, and honey. They are carminative, anti-spasmodic, and anti-emetic.

Citrus-Atractylis Pills; 枳朮丸 (Chih-shu-wan). *Citrus fusca*, *Atractylis ovata*, *Pterocarpus indicus*, and honey. Peptic and digestive.

Controlling Saliva Pills; 控涎丹 (K'ung-hsien-tan). *Euphorbia pekinensis*, *Euphorbia sieboldiana*, white mustard seed, ginger juice, and paste. These check phlegm and salivation, and relieve rheumatic and sciatic pains.

Cotton Seed Pills; 棉花子丸 (Mien-hua-tzŭ-wan). Cotton seed, *Eucommia ulmoides*, ginger juice, *Lycium sinense*, *Cuscuta chinensis*, and honey. Tonic and constructive.

Cutting-away Pills; 坎離丸 (K'an-li-wan). *Atractylis ovata*, *Zanthoxylum*, *Psoralea corylifolia*, *Schizandra sinensis*, *Conioselinum univittatum*, *Pterocarpus indicus*, and honey. Considered to be peptic, digestive, and antirheumatic.

Date and Ginseng Pills; 棗參丸 (Tsao-shên-wan). These are made of large southern dates and ginseng. They are strengthening to the respiratory organs.

Diagnostic Pills; 分清丸 (Fên-ch'ing-wan). Euryale ferox, Pachyma cocos, yellow wax and honey. For gonorrhœa.

Dissolving-poison Protecting-infant Pills; 消毒保嬰丹 (Hsiao-tu-pao-ying-tan). The vine of a creeping bean with its beans, both the red and the discolored, the flesh of Cratægus fruits, Cimicifuga davurica, Rehmannia glutinosa, Salvia plebia, Siler divaricatum, Peucedanum decursivum, licorice, Pæonia albiflora, Cryptotænia canadensis, Forsythia suspensa, Coptis teeta, Platycodon grandiflorum, Arctium lappa, vermilion, and Momordica charantia. These pills are intended as a preventive of smallpox when it is epidemic. They are considered not only to prevent the disease, but to make it lighter in those who have already become infected.

Driving away Boils and Saving-life Pills; 退疔奪命丹 (T'ui-ting-t'ao-ming-tan). Siler divaricatum, green orange peel, Peucedanum decursivum, Coptis teeta, red Pæonia, Asarum sieboldi, silk worms, cicada exuvia, Eupatorium flowers, Lonicera chinensis, licorice root, Diphylleia, Paris polyphylla, and ginger juice. These are only used in the treatment of boils, abscesses, and carbuncles.

Everlasting Spring Pills; 長春丸 (Ch'ang-ch'un-wan). Fish-glue, powdered oyster shell, cotton seed, lotus stamens, Rosa lævigata, Dendrobium nobile, Tribulus terrestris, Lycium sinense, deer's horn, and honey. Tonic, diuretic, and cooling.

Eye Medicine Pills; 眼藥丸 (Yên-yao-wan). Volunteer (wild) beans, cicada exuvia, Equisetum hiemale, Cuscuta chinensis, Anthemis, white Tribulus terrestris, and honey. To be used in eye diseases.

Fairy Flat-peach Pills; 仙傳蟠桃丸 (Hsien-ch'uan-p'ant'ao-wan). Cotton seed, red dates, Achrysanthes bidentata, Lycium sinense, Orobanche ammophila, Cornus officinalis, Cuscuta chinensis, isinglass, Pachyma cocos, and woman's milk. For all sorts of weaknesses and injuries.

Firm-true Pills; 固真丹 (Ku-chên-tan). The two characters probably refer to the name of one of the ingredients. Atractylis sinensis, Zanthoxylum, Melia azedarach, fennel, Psoralea corylifolia, and paste. Antirheumatic and digestive.

First Quality Pure Pills; 上清丸 (Shang-ch'ing-wan). Soochow peppermint, white borax, black plums, Fritillaria roylei, Terminalia chebula, mixed with honey, for the treatment of syphilis.

Five Tiger Pills; 五虎丹 (Wu-hu-tan). Aconite, ginger juice, wild sesamum seeds, dragon's blood, flowers of sulphur, and scaly ant eater skin. For wounds, boils, and colds.

Four Essences Pills; 四精丸 (Ssü-ching-wan). Urea, Pachyma cocos, Euryale ferox, and lotus root. Anaphrodisiac, and used in polyuria and spermatorrhœa.

Four-precious Great-spirit Pills; 四寶大神丹 (Ssü-pao-ta-shên-tan). Volunteer (wild) beans boiled in the bath water from a public bath house (混堂), Astragalus hoangtchy cooked in woman's milk, Cryptotænia canadensis washed in spirits, and Rosa lævigata soaked in child's urine. These are said to be tonic, and to one who is able to swallow them they should prove to be so.

Four Spirit Pills; 四神丸 (Ssü-shên-wan). Lycium sinense, spirits, Zanthoxylum, fennel seed, sesamum seed, Melia azedarach, Rehmannia glutinosa, Atractylis ovata, Pachyma cocos, and honey. For kidney and eye troubles, as a tonic.

Gastrodia Pills; 天麻丸 (T'ien-ma-wan). Gastrodia elata, Conioselinum univittatum, and honey. Tonic and constructive.

Helping the Yin and Bringing back the Soul Pills; 濟陰返魂丹 (Chi-yin-fan-hun-tan). These are made of the whole plant of Leonurus sibirica, dried, powdered, and mixed with honey. They are said to have preserved the lives of many, and are specially recommended in the difficulties of pregnancy and of the puerperal state.

Hundred Felicities Pill; 百祥膏 (Pai-hsiang-ka). These are simply the red sprouted Euphorbia lasiocaula, thoroughly cooked in starch water, and made into a pill mass, or rolled into pills the size of millet grains. They are used in coughs, nausea, and smallpox of an irregular type.

Hypoxis Pills; 仙茅丸 (Hsien-mao-wan). Hypoxis aurea, glutinous rice, Atractylis sinensis, Lycium sinense, Plantago major, Pachyma cocos, fennel, kernels of Thuja

orientalis, *Rehmannia glutinosa*, spirits, and paste. These are a tonic, reconstructive, and aphrodisiac remedy.

Jade-lock Pills; 玉鎖丹 (Yü-so-tan). The joints of lotus root, stamens of the lotus flower, lotus arrowroot, *Euryale ferox*, *Dioscorea quinqueloba*, both kinds of *Pachyma cocos*, *Rosa lævigata*, and flour. This a famous prescription for seminal losses and gonorrhœa. It is aphrodisiac and strengthening to virility.

Long-life Pills; 靈芝丸 (Ling-chih-wan). *Atractylis sinensis* made into a pill mass with date pulp. These give virility and strength.

Lung-tonic Pills; 補肺丸 (Pu-fei-wan). These consist of apricot kernels soaked in child's urine in summer seven days, in winter twenty-seven days, and then decocted until soft. They are used for coughs.

Man-red Pills; 人紅丸 (Jên-hung-wan). That which is called 人龍, "man dragon," which is nothing more nor less than a tape-worm, is washed in child's urine, pulverized, and mixed with red dates, radish seeds, *Rehmannia glutinosa*, lotus arrowroot, and *Melia azedarach*. These are used for marasmus in children.

Magnolia Decoction Pills; 厚朴煎丸 (Hou-pu-chien-wan). Decoct the bark of *Magnolia hypoleuca* with ginger and licorice to dryness. Mix the extract with dates and make into pills. These are carminative, stomachic, and astringent.

Moistening the Passages Pills; 潤下丸 (Jun-hsia-wan). Ripe orange peel, licorice, and honey. They dissolve phlegm and cool fever.

Most Virtuous Pills; 至聖丹 (Chih-shêng-tan). Formerly croton beans were used under this title, but they were found to be too drastic, especially in cases in which the patient's physical strength was very much reduced. Latterly, the seeds of *Sophora krongi* have been substituted, and are considered to be equally efficacious and less dangerous. They are used in chronic dysentery and chronic intestinal discharges of all kinds. Diuretic properties are also ascribed to them.

Myriad Diseases Pills; 萬病丸 (Wan-ping-wan). One has heard of nostrums regarded as panaceas for all ills, and here we have one of these. It is composed of the kernels of

apricot seeds boiled in child's urine until soft, mixed with honey, and again steamed in child's urine until of a pill mass. This may be eaten *ad libitum* by those suffering from any disease.

Myriad Harmonies Pills; 萬應丹 (Wan-ying-tan). Human urine sediment, spirit leaven, white grapes, withered carrot root, lign aloes, and honey. Used for jaundice and all billious difficulties.

Nine Dragons Pills; 九龍丹 (Chiu-lung-tan). Lycium sinense, Rosa lævigata, flesh of Cratægus fruits, stone lotus, lotus stamens, Rehmannia glutinosa, Euryale ferox, Pachyma cocos, Cryptotænia canadensis, and honey. For the treatment of venereal diseases and as an anaphrodisiac.

Nine Fairies Life-saving Pills; 九仙奪命丹 (Chiu-hsien-t'ao-ming-tan). Cinnabar, flowers of sulphur, olibanum, myrrh, Baroos camphor, dragon's blood, sulphate of copper, copperas, musk, burnt alum, bear's gall, yellow lead, centipedes, earth worms, silk worms, plum flowers, cow bezoar, toad spittle, white jade dust, borax, tree grubs, and snails. For the treatment of all sorts of infected sores and boils.

One Grain of Gold Pills; 一粒金丹 (I-li-chin-tan). These are made of opium and glutinous rice, and are for the relief of pain and for the purpose of checking discharges. They are taken with a variety of teas and congees for various purposes.

One Sort Pills; 一品丸 (I-p'in-wan). Cyperus rotundus is boiled, dried, powdered, mixed with honey and made into pills. For the treatment of hemicrania and other headaches.

Penetrating-bones Pills; 透骨丹 (T'ou-ku-tan). Azalea sinensis, distilled spirit, child's urine, olibanum, myrrh, musk, and dragon's blood. Broken bones, rheumatic pains, diseases of bones, and the like, are treated with this remedy.

Pepper-red Pills; 椒紅丸 (Chiao-hung-wan). Zanthoxylum pods and Rehmannia glutinosa. Injuries to the viscera, eyes, and ears are treated with these. They enable one to do without sleep, and still preserve his health and strength.

Physalis alkekengi Pills; 酸漿實丸 (Suan-chiang-shih-wan). Fruits of Physalis alkekengi, of Amaranthus blitum, Valeriana villosa, white elm bark, Bupleureum falcatum,

Scutellaria macrantha, Tricosanthes multiloba, Euphorbia lathyris, and honey. As an antifebrile remedy, and in difficult labor.

Plum-flower Pills; 梅桃丹 (Mei-t'ao-tan). Plum flowers, peach kernels, cinnabar, licorice, and Luffa cylindrica pulp. To bring out the eruption in smallpox.

Plum-flower Lozenge Pills; 梅花點舌丹 (Mei-hua-tien-shê-tan). Olibanum, pearl bean flowers, woman's milk, and toad spittle. These are both swallowed and allowed to dissolve under the tongue, for all sorts of sores and abscesses, especially those in the mouth.

Preserving Youth Pills; 不老丹 (Pu-lao-tan). Atractylis chinensis, Zanthoxylum, Polygonum multiflorum, black beans, red dates, Lycium sinense, mulberries, and honey. Benefits the spleen and kidneys. Those taking these pills will retain their youthful appearance until seventy.

Prophet's Fruit Pills; 預知子丸 (Yü-chih-tzŭ-wan). These are made of the kernels of an unknown plant called 預知子, Pachyma cocos, Lycium sinense, Acorus calamus, kernels of Thuja orientalis, ginseng, Polygala sibirica, Dioscorea, Polygonatum multiflorum, and honey. They are used in nervous affections, insomnia, mania, physical debility, and the like.

Protecting the True Pills; 保真丸 (Pao-chên-wan). Rosa rugosa, Psoralea corylifolia, Atractylis ovata, Astragalus hoangtchy, Scutellaria macrantha, Cuscuta japonica, Coniioselinum univittatum, Cryptotænia canadensis, Pæonia albiflora, Rehmannia glutinosa, walnut kernels, Eucommia ulmoides, Allium odorum, and honey. These are a blood remedy, and are prescribed in all diseases of the blood vessels, hemorrhages, and the like.

Protecting Pregnancy Pills; 保胎丸 (Pao-t'ai-wan). Pachyma cocos, Atractylis ovata, Hibiscus rosa sinensis, myrrh, Cyperus rotundus, coriander, Leonurus sibiricus, and honey. These are to prevent threatened abortion and to render labor easy.

Protecting Health Pills; 保元丹 (Pao-yüan-tan). Polygonatum multiflorum, Lycium sinense, must, yellow spirits, decocted together. This decoction is to be drunk by the

cupful, and pills made of the lees by adding walnut kernels, large black dates, and dried persimmons. For colds, seminal losses, gonorrhœa, difficult labor, and failure of smallpox eruption to appear.

Psoralea Pills; 補骨脂丸 (Pu-ku-chih-wan). *Psoralea corylifolia*, dodder seeds, walnut meats, olibanum, myrrh, lign aloes, and honey. Tonic, and healing to wounds and injuries.

Purple Clavaria Pills; 紫芝丸 (Tzū-chih-wan). Purple *Clavaria*, *Dioscorea quinqueloba*, *Aconitum fischeri*, kernels of *Thuja orientalis*, *Polygala reinii*, *Pachyma cocos*, *Citrus fusca*, *Rehmannia glutinosa*, *Ophiopogon spicatus*, *Schizandra chinensis*, *Pinelia tuberifera*, *Aconitum variegatum*, *Pæonia moutan*, ginseng, *Polygala sibirica*, fruits of *Polygonum hydropiper*, *Alisma plantago*, kernels of melon seeds, and honey. This remarkable array of drugs, all of which the Chinese regard as being tonic, and especially since the plant of felicity is included as the principal ingredient, can only be regarded as a most wonderful tonic and reconstructive remedy in all wasting diseases.

Purple-gold-creeper Pills; 紫金藤丸 (Tzū-chin-t'êng-wan). The principal ingredient in this pill is the bark of an unknown creeper called 紫金藤 and 山甘草. The others are *Polygala reinii*, *Boymia rutacarpa*, galangal root, cinnamon, salt, and paste. Its virtues are highly extolled as a strengthening remedy in "cold" uterus, menstrual difficulties, and deficiency in the vital and virile elements.

Purple-gold Pill Mass; 紫金錠 (Tzū-chin-ting). Vermilion, *Euphorbia lasiocaula*, *Sagittaria sagittifolia*, 千金霜, powdered oyster shell, *Paris polyphylla*, pearls, amber, flowers of sulphur, Baroos camphor, best quality India ink, plum-flower stamens, ox gall, musk, and rice flour paste. This pill is for tuberculosis and tuberculous like sores.

Reducing the Yang Pills; 少陽丹 (Shao-yang-tan). *Atractylis ovata*, *Lycium chinense*, mulberries, and honey. Taken according to directions for one year, grey hair or whiskers will turn black, and if taken for three years the countenance will become rubicund like that of a youth.

Preventing Epidemics Pills; 辟瘟丹 (Pi-wên-tan). Red dates, *Artemisia capillaris*, rhubarb, and benzoin. This is

beaten into a pill mass or confection, and eaten when epidemics threaten.

Relieving the Centers Pills; 寬中丸 (K'uan-chung-wan). Orange peel, *Atractylis ovata*, spirits, and paste. Warming and carminative.

Returning Youth Pills; 還少丹 (Huan-shao-tan). Plantago major and *Cyperus rotundus*, prepared by a complicated process described in the *P'entsao*. Marvelous properties are ascribed to these. If the aged (80 years) use them, the hair and whiskers will again turn black, and the teeth, if they have fallen out, will be renewed. If the young use them, their strength and virility will be preserved to old age.

Rhinoceros Pills; 牛犀丸 (Niu-hsi-wan). *Conioselinum univittatum* soaked in millet congee for two days, dried, powdered, and mixed with the brain of the musk-ox and rhinoceros skin, and boiled in honey to the consistence to make pills. These are considered to be depurative and digestive.

Rice Crust Pills; 鍋焦丸 (Kuo-chiao-wan). The rice that is baked on the pot in the process of cooking is called 鍋焦. This is taken and mixed with cardamoms, chrysanthemums, the flesh of *Cratægus* fruits, lotus seeds, chicken skin, sugar, and ground rice, boiled together, and made into cakes. They are considered to be very good for children who are weakly or ill nourished.

Rose-maloes Pills; 蘇合香丸 (Su-ho-hsiang-wan). Rose maloes, benzoin, *Atractylis ovata*, *Cyperus rotundus*, *Aristolochia recurvilabra*, sandalwood, lign aloes, cloves, musk, *Ficus religiosa*, *Terminalia chebula*, rhinoceros horn, Baroos camphor, olibanum, and honey. An antispasmodic in all nervous affections, ague, cholera, and obstinate dysentery.

Seven-precious Handsome-whiskers Pills; 七寶美髯丹 (Ch'i-pao-mei-jau-tan). *Polygonum multiflorum*, black beans, *Pachyma cocos*, lign aloes, woman's milk, *Achryanthus bidentata*, *Cryptotænia canadensis*, *Lycium chinense* seeds, *Cuscuta chinensis*, *Psoralea corylifolia*, black sesamum seeds, and honey. Tonic, constructive, preserving life and youthfulness, which last is marked by the flourishing state of the health and dark color of the whiskers and hair.

Siegsbeckia-Dryandra Pills; 豨桐丸 (Hsi-t'ung-wan). These two substances are powdered and mixed with honey, made into pills, and used for rheumatic affections.

Skimmia Pills; 茵芋丸 (Yin-yü-wan). Leaves of *Skimmia japonica*, *Coix lachryma*, *Prunus japonica* kernels, *Ipomœa triloba* seeds, and honey. For colds and constipation.

Strengthening the Vitality Pills; 固元丹 (Ku-yüan-tan). *Atractylis sinensis*, fennel, salt, *Zanthoxylum*, *Psoralea corylifolia*, aconite, *Melia azedarach*, alcohol, vinegar, paste. For all sorts of wasting difficulties, especially those of sexual origin.

Ten-parts Perfect Pills; 十全丸 (Shih-ch'üen-wan). Musk, *Aplotaxis auriculata*, dragon's blood, flowers of sulphur, sesamum seeds, *Strychnos nux vomica*, maggots, centipedes, and honey. This is for the curing of wounds, of cancerous sores, and as a tonic.

The Tartar General Resumes the Battle Pills; 將軍復戰丹 (Chiang-chüen-fu-chau-tan). Soak wild sesamum seeds in child's urine for four times and in distilled spirit for three times. Dry and add olibanum, myrrh, and dragon's blood. This is for wounds and broken bones.

Thousand-li-plum-flower Pills; 千里梅花丸 (Ch'ien-li-mei-hua-wan). *Eriobotrya* leaves, *Pachyrhizus angulatus*, black plum flesh, wax plum flowers, licorice, and honey. To be used by travellers, but for what is not stated.

Three Flowers Pills; 三花丹 (San-hua-tan). Plum flowers, peach flowers, and pear flowers, made into a pill and coated with flowers of sulphur, is taken in a congee of *Phaseolus* and black *Hispidia* beans for smallpox.

Three Tonic Pills; 三補丸 (San-pu-wan). *Coptis teeta* and *Pterocarpus indicus*, mixed with honey. Tonic and febrifuge.

Three Yellow Pills; 三黃丸 (San-huang-wan). *Scutellaria macrantha*, rhubarb, and *Coptis teeta*, mixed with honey. Tonic and corrective in men and women.

Twenty Pearls Pills; 念珠丸 (Nien-chu-wan). Benzoin, seeds of *Nephelium longana*, and yellow wax. For hernia, orchitis, and the like.

Two Auræ Pills; 二氣丸 (Êrh-ch'ü-wan). An umbilical cord is said to represent the aura of the abyss, while

the plum flower represents that of nature. These two things are therefore combined in this pill, which is used as a prophylactic of smallpox.

Uniting the Viscera Pills; 臟連丸 (Tsang-lien-wan). Take *Barkhausia repens* and 通血香, place in a pig's large intestine, cook, and put through the process described in the *Péntsao*. For hemorrhoids of all kinds, prolapse of the rectum, and the like.

Universal Counterpoison Pills; 萬病解毒丸 (Wan-ping-chieh-tu-wan). *Oritlia edulis*, *Galla sinensis*, two *Euphorbia* products, *Potentilla cryptotænia*, and musk. Geomantic influences and auspicious days are observed in the preparation of this pill, and many details and conditions are regarded as necessary in its administration.

Vegetable Resurrection Pills; 草還丹 (Ts'ao-huan-tan). *Cornus officinalis*, *Psoralea corylifolia*, *Cryptotænia canadensis*, musk, and honey. This acts on the foundations (元) of health and life, and is tonic and restorative.

Walnut Pills; 胡桃丸 (Hu-t'ao-wan). Walnut kernels, *Psoralea corylifolia*, *Eucommia ulmoides*, *Dioscorea sativa*, mixed and made into a pill mass. Tonic to the blood, ligaments, bones, muscles, and preventive of fever.

PIMPINELLA ANISUM.— 蘘香 (Huai-hsiang), 茴香 (Huei-hsiang), 八月珠 (Pa-yüeh-chu). The Chinese confound aniseed, fennel, and star-anise. But what is described in the *Péntsao* is an umbelliferous plant, and since fennel is distinctly described in another place, and as the odor of this is said to be similar to that of star anise, it is entirely probable that aniseed is referred to under this title. The leaves and seeds are likened to coriander. The plant bears umbels of yellowish white flowers, followed by the fruits. It is cultivated in gardens for the seeds, which are used as a condiment. The stalks and leaves are also eaten in Szechuan. The plant is said to grow wild in Kansu. The seeds are considered to be warming and stimulant, being prescribed in choleraic affections and flatulence. They are thought to be a stimulant to the kidneys and warming to the pubic region. Some anodyne properties are ascribed to them, and it is probable that in the

description of their medicinal uses they are not discriminated from star aniseed. The stalks and leaves when eaten are considered to be chiefly carminative, relieving flatulence and griping in the bowels.

PINELLIA TUBERIFERA. 一半夏 (Pan-hsia), 975. This aroid plant is found in the northern provinces, notably Shensi, Shantung, and Kiangsu. It is cultivated in Szechuan and Hupeh. The plant has tripartite leaves of a light green color. In preparing for medicinal use, the tubers are soaked for seven days in warm water and dried. After slicing, 978, they are mixed with ginger juice and kept for use, or else powdered, 977, and mixed with ginger juice, dried, and repowdered. This last is called 半夏粉 (Pan-hsia-fên). Or this is made into cakes, 半夏餅 (Pan-hsia-ping), or the powder mixed with ginger juice and alum, made into cakes, wrapped in paper mulberry leaves, and preserved in salt, is called 半夏齏 (Pan-hsia-ch'ü), 976. There are a number of other methods of preparation, in which it is mixed with other substances besides ginger, and these are more or less carefully distinguished from each other as to their uses in medicine. The simple prepared drug is called 法半夏 (Fa-pan-hsia), 978. The drug, as met with in the market, consists of the tubers in the form of small spherical bodies, either flattened on one side, pyriform, or ovoid, which are from three-tenths to six-tenths of an inch in diameter. The surface is white, or yellowish-white, and for the greater part of the tuber is dotted over with little, dark pits, and these are more especially found around the umbilicated depression which marks the flat surface. The interior of the tubers is white, dense, and amylaceous. In the prepared state they have little smell or taste; but in the fresh state they are said to be bitter, acrid, and poisonous, producing vomiting and diaphoresis. The prepared drug is said to be antifebrile, tussic, counter-emetic, ecboic, antimalarial, astringent, and slightly laxative. It is administered in fevers, influenza, jaundice, coughs, constipation, gonorrhœa, leucorrhœa, and seminal losses. All diseases attended by "phlegm" (痰) are particularly its therapeutic field. The number of difficulties for which it is recommended is very large, and

includes a great variety of very dissimilar troubles. That the prepared drug is comparatively innocuous is proven by the fact that in some mission hospitals it has been substituted for sulphate of potash in the preparation of Dover's powder. The viscid sap of the stalk of the plant is said to restore fallen hair and whiskers.

PINUS SINENSIS.—松 (Sung). This character includes *Pinus*, *Abies*, and *Larix*, but refers most specifically to this species, which is the same as *Pinus massoniana*. Other species, some of which are mentioned in the *Pêntsao*, are 白松 (Pai-sung), *Pinus bungeana*; 黑松 (Hei-sung), *Pinus thunbergii*; 赤松 (Ch'ih-sung), *Pinus densiflora*; and 海松 (Hai-sung), *Pinus koraiensis*. This last bears large seeds, called 海松子 (Hai-sung-tzũ), 1214, which are included among the edible nuts. They are also called 新羅松子 (Hsin-lo-sung-tzũ), as they come from the country of Hsinlo (southern Korea), although they are also brought from Yunnan. They are like the ordinary pine-nuts found in other countries, three-cornered, and containing a rich, aromatic, meaty kernel. They are considered to be very nutritious, improving the flesh, prolonging life, curing constipation and coughs. Of the other species of *Pinus* a number of products are mentioned, the first of which is 松脂 (Sung-chih), resin, also called 松膏 (Sung-kaò), 松肪 (Sung-fang), 松膠 (Sung-chiao), and most commonly 松香 (Sung-hsiang), 1211. This, if it lies in the ground for a thousand years, becomes changed into amber. It is administered internally, and is said to be carminative and antifebrile. But it is used for the most part externally in various skin eruptions, old ulcers, and indolent wounds. It is considered to be beneficial to the tendons, eyes, and ears. It is administered in pill in leucorrhœa. The joints of pine twigs, called 松節 (Sung-chieh), 1210, form another product used in medicine. They are prescribed principally in decoction, in colds, rheumatism, toothache, and vomiting. 松鬚 (Sung-i) is an extract prepared by roasting the twigs of the pine (turpentine?). There is no description of the process, and the product is employed in ulcers, itch, and the skin diseases of horses and cattle. The pine needles are also used in medicine; decocted, or chopped

fine and mixed with meal, they are administered in rheumatism, evil diseases, and intestinal parasites. The decoction is also used externally. The white bark of the root, 1213, is considered tonic, while the bark of the tree is healing to wounds, astringent, and parasiticide. The flowers, 松花 (Sung-hua), 1212, also called 松黃 (Sung-huang), are considered to have especial action on the heart and lungs, and to be astringent. They are distilled into a sort of "wine," which is used in "fullness in the head" and post-partum fever.

PIPER NIGRUM.—胡椒 (Hu-chiao). This is said to have originally been brought from Magadha, where it was called 昧履支 (Wei-fu-chih), possibly the transliteration of an Indian name. It is now imported from the islands of the East Indian archipelago. Black and white pepper are both used as a condiment by the Chinese, but not so exclusively as in the west. *Capsicum* and *Zanthoxylum* are so plentiful and cheap that they are used rather than the more expensive pepper. It is said that some attempts have been made, though rather unsuccessfully, to domesticate the pepper vine, which grows indigenous on the island of Hainan. Prior to the coming of Europeans, the ground pepper was apparently not known in China; the pepper-corns being either used whole, or crushed as required. Carminative, warming, and eliminative properties are ascribed to the drug, and it is administered in cholera, dysentery, vomiting, summer diarrhœa, and dysuria. It is said to correct fish, flesh, shell-fish, and mushroom poisoning.

PIPER LONGUM.—華菱 (Pi-po), 1008. See *Chavica roxburghii*.

PISTACIA VERA.—阿月渾子 (O-yüeh-chün-tzŭ), 胡榛子 (Hu-chên-tzŭ), 無名子 (Wu-ming-tzŭ.) This is of foreign origin, and the first Chinese name is said to be in imitation of the Persian. There is no description of the tree, although it is said to grow in Lingnan. The kernels of the nuts are said to be good for dysentery, and to be very nutritious, promoting the growth of flesh. The bark of the tree is said to be strengthening to the female principle, and is used in decoction in pruritus of the genitals.

PISUM SATIVUM.—豌豆 (Wan-tou). 戎菽 (Jung-shu), 青小豆 (Ch'ing-hsiao-tou). Peas are of foreign origin, but are now extensively cultivated in China. They are planted in the autumn, and the young stalks are used for food in the spring. The peas, both green and dry, are much relished, and they are also ground into flour and used in this way as a sort of gruel or porridge. Peas are thought to promote flatulence. They are considered cooling, and are recommended in feverish conditions, fluxes from the bowels, nausea, urinary difficulties, to promote the secretion of milk, and to increase the flesh.

PLANTAGO MAJOR.—車前 (Ch'ê-ch'ien), 34. This, the common *plantain*, is as much of a pest in China as it is in other lands. It grows at the roadside and in dooryards, and is exceedingly prolific, springing from both seeds and roots and killing out all other grass. Formerly the plant and the seeds were eaten, and in rare cases this is still done. The seeds, 35, are mucilaginous, and have a sweetish, cooling taste. They are considered to be quieting, diuretic, antirheumatic, and tonic. The drug is good for wasting diseases in male and female, promotes the secretion of the semen, and therefore conduces to fertility. It nourishes the liver, assists in difficult labor, and cures summer diarrhoea. The plant and the root are used as astringents in wounds, nosebleed, hematuria, and other hemorrhages, as a diuretic, in seminal emissions, and in gravel.

PLASTERS.—The character 膏 (Kao) is used for these, as it is also for medicinal extracts, ointments, fats, gelatinous and cereose substances. In order to distinguish plasters from these latter, medical missionaries use 貼膏 (T'ieh-kao) for the former. The Chinese do not have a very large number of these preparations, but they use what they have in season and out. An adhesive plaster pure and simple is practically unknown, unless the common compound of resin and wood-oil can be called such. Even this is not often used uncombined with other drugs. But all sorts of gaping wounds are often plastered over with some of the medicinal plasters. A *Universal Plaster Basis*, called 萬應油 (Wan-ying-yu), is

made in the following manner: Take of fragrant sesamum oil, sixteen ounces; peach twigs, willow twigs, *Sophora japonica* twigs, mulberry twigs, cinnamon twigs, and *Allium fistulosum*, of each one ounce; male hair (? 男髮), four ounces; *Zanthoxylum bungei*, half an ounce; castor oil bean, two ounces; *Strychnos nux vomica* (? 馬前), four ounces; *Clavica roxburghii*, half an ounce; and *Angelica anomala*, two ounces. Soak the drugs in the oil in the winter seven days, in the summer three days, and in the spring or autumn five days. Then boil until the drugs are withered and dry, when the oil should be drained off and boiled until it is reduced to eight-tenths of its volume. It is then ready for use.

Baroos Camphor Plaster; 冰片膏藥 (Ping-p'ien-kaoyao). This is an expensive warm plaster, at present in much repute among the Chinese. Its composition is not given in the books.

Dissolving Abscesses Plaster; 消疽膏 (Hsiao-chü-kaoyao). This is made by crushing nine kernels of the castor oil bean, and beating up with this three-tenths of an ounce each of pine resin, white lead, and finely powdered Luan tea leaves. If it is too dry, a little sesamum oil is added, and it is then spread on a piece of cloth, applied to the abscess and the whole covered with a layer of cotton paper. It is said to heal in seven days.

Four Perfection Plaster or Ointment; 四聖丹 (Ssü-shêng-tan). Incinerate forty-nine peas, three-hundredths of an ounce of hair, and fourteen real pearls. Beat up the ash with oily cosmetic to a paste. This is for vicious smallpox eruption in children, in those cases in which eight or nine out of ten die. Use a hair-piu and press out the bad blood; and then apply a little of the paste to the sore, when it will turn red and healthy in appearance.

Healing Ringworm Plaster; 治癬第一靈丹 (Chih-hsien-ti-i-ling-tan). Crush to a pulp three-hundred day lilies (*Funkia subcordata*), and add cloves, six ounces; lign aloes, four ounces; Baroos camphor and musk, of each three-tenths of an ounce; pulverized city wall brick from Shansi, twelve ounces. Boil all in three and a half cattles of sesamum oil. Mix with charcoal dust, and drop into water to form pellets. Place in a porcelain jar and seal with yellow wax, and then

bury in the ground for twenty-one days. Take out and apply to the ringworm, and this will soon be cured.

Healing Abscess Plaster; 治腫毒膏 (Chih-chung-tu-ka). Mix four ounces of Siamese gamboge with eight ounces of white wax. Boil thoroughly twelve ounces of sesamum oil, and add the above mixture. Keep in a porcelain bottle with a little sesamum oil on top to preserve it. This is to be applied to any sort of abscess or sore.

The Chin Family Plaster; 金氏離洞膏 (Chin-shih-li-tung-ka). To five ounces of Universal Plaster Basis add of Siamese gamboge, one and a half ounces; yellow wax, two ounces. Boil to a dark brown color, spread on cloth and apply. Said to be a sure cure for varicose ulcer.

PLATYCARIA STROBILACEA.—檳香 (Huai-hsiang), 兜婁婆香 (Tou-lo-p'o-hsiang). This is described as a small tree, growing in the mountains of mid-China and used for fuel. It has long, pinnate, green, fragrant leaves, serrated, and resembling thistle leaves. The root resembles that of *Lycium*, but is larger and is very fragrant when burnt. It is used in the bath to give fragrance to the body. The root is used medicinally only in the preparation of an ointment to be applied to sores on the scalp. 栲 (K'ao) is also suggested for *Platycaria*, but it is also used for *Mangrove bark*.

PLATYCODON GRANDIFLORUM.—桔梗 (Chieh-kêng), 89, 94. This is often confounded with *Adenophora*, and the latter is sometimes called 苦桔梗 (K'u-chieh-kêng). The young plant is eaten as a pot-herb, and is considered to have vermifugal properties. The root is of a yellowish-white color, and is about as thick as a little finger. It is one of several roots that are fraudently substituted for true ginseng. Its medicinal properties are given in the article on *Adenophora*. The stem and the leaves, 蘆頭 (Lu-t'ou), are also used in medicine, and are prescribed in decoction in dyspeptic vomiting of mucus.

PODOCARPUS MACROPHYLLA.—羅漢木 (Lo-han-mu), 羅漢松 (Lo-han-sung). The fruit of this tree, which is said to resemble the pine, is given in the Customs Lists

under the term of 羅漢果 (Lo-han-kuo), 749. But there has been no description of the plant, or of its medicinal properties and uses, found in the Chinese books.

PODOPHYLLUM VERSIPELLE.—獨脚蓮 (Tu-chio-lien). According to Ford and Crow, this is the identification at Canton. This Chinese name, however, is used for different plants in different parts of China. For description and medicinal action and uses, see the article on *Diphyllia*.

POGONIA OPHIOGLOSSOIDES.—朱蘭 (Chu-lan). This is not distinguished from *Chloranthus* and other orchidaceous plants.

POLLIA JAPONICA.—杜若 (Tu-jo). Another term given for this is 杜衡 (Tu-hêng), but this properly is *Asarum forbesii* (which see). It is also much confounded with *Alpinia officinarum*, and the descriptions of the plant given in the *Péntsao* are almost inextricably confused with *Alpinia* and other zingiberaceous plants. The root is the part used in medicine, and is considered to be carminative, sedative, stimulant, and tonic. Taken for some time, it benefits the animal spirits, brightens the eye, and strengthens the memory. It is administered as a warming remedy in colds and fluxes, in dizziness, and as an aromatic in foul breath.

POLYGALA REINII.—巴戟天 (Pa-chi-t'ien), 926. This is a polygalaceous *wintergreen*, and is therefore also called 不凋草 (Pu-tiao-ts'ao), and was by Loureiro called *Septas repens*, and by Bentham *Herpestis monniera*. The description in the *Péntsao* is not clear. The root is used in medicine, and is considered to be warming and tonic. It strengthens the bones and sinews, quiets the five viscera, is tonic to the centers, increases the will power, and benefits the breath. It is specially beneficial to males, preventing seminal losses and nocturnal pollutions.

POLYGALA SIBIRICA, *Polygala tenuifolia*.—遠志 (Yüan-chih), 1557. A classical name is 萎繞 (Yao-jao), and a common name is 小草 (Hsiao-ts'ao). There are two kinds,

a large leaved and a small leaved, as indicated by the botanical names given above. There is not much description of the plant; but the drug, which consists of the root, and is called 遠志肉 (Yüan-chih-jou), is brought from the northern provinces, especially from Shensi and Honan, and is found in contorted, quilled pieces, larger than a lead-pencil, marked transversely, and of a brownish-yellow color. It is sometimes quite tubular, the central vascular portion of the root having been removed. The taste is sweetish and somewhat acrid. It is supposed to have special effect upon the will and mental powers, giving strength of character, improving the understanding, strengthening the memory, and increasing the physical powers. It is prescribed in cough, jaundice, hysteria in females, infantile convulsions, mammary abscess, and gonorrhœa. The leaves are also recommended for spermatorrhœa.

POLYGONATUM CANALICULATUM.—黃精 (Huang-ching), 514. This Chinese term is applied in different parts of the empire to *Polygonatum macropodium*, *Polygonatum chinense*, *Polygonatum giganteum*, and *Polygonatum multiflorum*. Tatarinov erroneously identifies it as *Caragana flava*; but the plant is liliaceous, not leguminous. The plant grows in the mountains, and its leaves so much resemble those of the bamboo that it is sometimes called "hare bamboo," or "deer bamboo." The leaves also resemble those of the *Rhus radicans*, and the plants are sometimes confounded, disastrously if the *Rhus* is substituted for this. The root, leaves, flowers, and fruit are all eaten. For medicinal use, the root is steeped in wine, or administered in powder. The Taoists make much of this plant, and call it the food of the immortals. The following legend is found in the *Powuchi* (III Century): "The Emperor Huangti once asked one of his councilors if he knew of a plant which, when eaten, would confer immortality. The reply was that the plant of the great male principle (太陽, the sun) which is called *Huang-ching*, when eaten, would prolong life. On the other hand the plant of the great female principle (太陰, the moon) which is called 鉤吻 (*Rhus*), when it even enters the mouth produces death. The root of the *Huang-*

ching is prepared for food by steaming and drying. In this condition it may be used as a substitute for grains, and is called 米舖 (Mi-pu). The root is the part used medicinally, and is met with in the shops in flat pieces, from one to two and a quarter inches long, having a greenish-yellow color, with a varying degree of translucency and flexibility. The outer surface is marked with small circular cicatrices, tubercles, or transverse lines. The inner surface is paler, and shows signs of having been attached to the stalk. The taste is sweetish and mucilaginous. The drug is regarded as chiefly tonic and constructive in its properties; but it is also regarded as demulcent, arthritic, lenitive, and prophylactic. It is also administered in confirmed leprosy.

POLYGONATUM OFFICINALE.—菱 薹 (Wei-ji), 玉竹 (Yü-chu), 1547. The first character is also written 薹. The leaves resemble bamboo leaves; hence the second name (jade bamboo). The leaves and root are edible. It is a common plant in the mountains of northern China. The drug as found in the shops consists of pale yellow or brown, brittle, semi-translucent, twisted pieces, pretty evenly jointed, and varying a good deal in size, length, and hygrometric state. The taste is sweet and mucilaginous, and the odor something like that of newly baked bread. It is very liable to become mouldy. When macerated in water the roots swell up again to their original dimensions, and are three or four times as thick as in the dry state. Cooling, demulcent, sedative, tonic, antiperiodic, and arthritic qualities are attributed to the rhizome, and it is prescribed as a wash in ophthalmia, to be taken with peppermint, ginger, and honey in *muscæ volitantes*, in other combinations for gravel, the fevers of influenza and caked breast, and in the anæmias of epileptic children.

POLYGONUM AMPHIBIUM.—天 蓼 (T'ien-liao). This is given in the *Péntsao* in a note to the article on *Polygonum orientale*, and the plant is not clearly distinguished from this latter. The root and stalk are bruised, and the juice taken and employed in the treatment of foul sores and rheumatism.

POLYGONUM AVICULARE.—篇蓄 (Pien-hsü). This is the ordinary *knot-grass*, or *goose-grass*, growing by the road-side and spreading out so as to cover the ground. The stem is covered with a white powder, and on this account the plant is called 粉節草 (Fên-chieh-ts'ao). The whole plant is used in medicine and its juice is prescribed in itching affections of the skin, venereal sores, especially in women, and as a diuretic and anthelmintic remedy. Piles is one of the difficulties for which it is specially recommended.

POLYGONUM BISTORTA.—紫參 (Tzū-shên), 拳參 (Ch'üan-shên), 牡蒙 (Mou-mêng). These are not identified with each other in the *Pentsao*. Neither is described in any detail, and all furnish a dark purple or black root. That from the first is considered to be antifebrile, diuretic, and laxative. It is prescribed in hemorrhages, wounds, tumors, anemorrhœa, ague, and fluxes. It stirs up the dual principles. The second is used in dropsy.

POLYGONUM BLUMEI.—馬蓼 (Ma-liao). This is also called 大蓼 (Ta-liao). The second character is generic for *Polygonum*. The plant grows to the height of four or five feet, and the leaves are marked by a black splotch in the center. It is the same as *Polygonum Persicaria*. The stalk and leaves are used in medicine as a vermicide.

POLYGONUM CHINENSE, *Polygonum cymosum*.—赤地利 (Ch'ih-ti-li). This is the 山蕎麥 (Shan-ch'iao-mai), or "hill-buckwheat." It grows in mountain valleys, has a red stem, green leaves, and bears a white flower, followed by greenish seeds. The root resembles that of *Smilax*, has a purplish-red skin and a yellowish-red interior. It is administered in all sorts of fluxes, as an anthelmintic, in insect and scorpion poisoning, for this last both internally and the bruised plant is applied locally.

POLYGONUM CUSPIDATUM.—虎杖 (Hu-chang). The stem of this is covered with spots, and for this reason it is also called 斑杖 (Pan-chang). The plant is some-

what prickly, and its leaves resemble those of the apricot. It grows plentifully in waste places. The root is the part used in medicine. It is recommended in menstrual difficulties, as an antifebrile and diuretic remedy, in post-partum troubles, and to scatter swellings and ecchymoses. It is also used as a prophylactic in epidemics.

POLYGONUM FILIFORME.—金絲草 (Chin-ssü-ts'ao), 金線草 (Chin-hsien-ts'ao). This is confounded with *Cuscuta* and *Hypersicum*. It grows in mountain valleys, and the whole plant is used in hemorrhages and fluxes.

POLYGONUM FLACCIDUM.—水蓼 (Shui-liao). This is also known as 虞蓼 (Yü-liao) and 澤蓼 (Tsê-liao), "marsh, or water, smartweed." It is probably the same as *Polygonum hydropiper*. It grows on the margin of ponds and in other damp places, and has a red stem. One variety is cultivated, and is called 家蓼 (Chia-liao). It is used in the preparation of one sort of leaven (糰). Medicinally, it is used in snake bites, bruised and applied locally; and also in blistered and swollen feet.

POLYGONUM JAPONICUM.—蠶繭草 (Ts'an-chien-ts'ao). This is Faber's identification; but the species is not mentioned in any other works consulted. It grows in wet ground, and has a red stem and white flower. It is bruised and applied to caterpillar stings and to ulcers.

POLYGONUM LAPATHIFOLIUM.—毛蓼 (Mao-liao). This is a hairy-leaved *Polygonum* growing in mountain valleys. The plant is applied to tumors and foul sores, and is considered to be antiseptic and healing. A decoction is also used to wash sore feet.

POLYGONUM MULTIFLORUM.—何首烏 (Ho-shou-wu), 376. The *Pentsao* describes this plant as being dioecious. It grows principally in the Lingnan region. The root, when old, is said to have mysterious properties. At fifty years it is as large as a fist, and is designated "mountain slave" (山奴),

and if taken for a year will preserve the black color of the hair and moustache; that at a hundred years is as large as a bowl, is called "hill-brother" (山哥), and if taken for one year, a rubicund and cheerful countenance will be preserved; that at a hundred and fifty years is as large as a basin, is called "hill uncle" (山伯), and if taken for one year the teeth will fall out and come afresh; that at two hundred years is the size of a one peck ozier basket, is called "hill father" (山翁), and if taken for a year the countenance will become like that of a youth, and the gait will equal that of a running horse; and that at three hundred years is the size of a three peck ozier basket, is called "mountain spirit" (山精), has a pure ethereal substance, and if taken for some time, one becomes an earthly immortal (地仙). Therefore, wonderful restorative and reviving powers are ascribed to the ordinary root, and it is also prescribed in tumors, piles, post-partum and menstrual difficulties, colds, and diarrhœas. Its use is also said to promote fertility. It is commonly sold in flat, oblong or round pieces, often of a very irregular shape and thickness, their outline being for the most part crenated, showing a tendency to the distribution of the vascular tissue into five concentric portions around the central mass. The cuticle is shrivelled, and of a dark, reddish-brown color, and the interior woody structure is of a rufous tint. The taste is rough and bitterish. The stalk and leaves are used in decoction in scabious and itching skin diseases.

Faber also identifies 蛇薺草 (Shê-chien-ts'ao) as *Polygonum multiflorum*, but this cannot be confirmed from other observers. It is described in a different volume of the *Pên-tsao* from the last, is said to have leaves like the *Colocasia*, and red-jointed stems. Snakes are said to avoid the plant. The root and leaves are bruised and applied to snake and scorpion bites. If they are proving efficacious, the wound will discharge a yellow serum.

POLYGONUM ORIENTALE.—薺草 (Hung-ts'ao). There are said to be two kinds of this plant, that growing on dry ground and that growing in water; the latter being called 天蓼 (T'ien-liao). But this is *Polygonum amphibium*. The

leaves are large, pinkish in color, and the plant grows to the height of several feet. The stalk is as thick as a thumb and hairy. The plant bears reddish-black seeds with white kernels, which when steamed or roasted can be eaten. They are said to relieve thirst and fever, brighten the eye, and benefit the breath. They are prescribed in tuberculous swellings and flatulence. The flowers are said to thin the blood, remove obstructions, and ease pain.

POLYGONUM Sp.—蓼 (Liao). In addition to those already given, the *Pêntsao* speaks of others under this title. It is probable that the term more particularly refers to *Polygonum hydropiper*, *Polygonum persicaria*, and *Polygonum bistorta*; but there are others mentioned, such as 青蓼 (Ch'ing-liao), 香蓼 (Hsiang-liao), and 赤蓼 (Ch'ih-liao), including *Polygonum barbatum* and other edible species. They are somewhat pungent in taste, but used for food. The seeds are considered to be stimulant, carminative, and diuretic. They are also used in scalp eruptions in children. The shoots and leaves are carminative, warming, and anthelmintic. They are prescribed in the cramps of liver diseases and cholera, in dysentery in children, and for mad-dog bite.

POLYGONUM TINCTORIUM.—蓼藍 (Liao-lan). This is mentioned in the *Pêntsao* under the article on *Indigofera Sp.* (see that article). No medicinal properties are therefore distinguished from those belonging to the latter.

Another tinctorial plant is mentioned in the *Pêntsao* under the name 蓋草 (Chin-ts'ao). An identification of *Phalaris arundinacea* has been suggested for it, but the plant described in the *Pêntsao* is not *Phalaris*. The description corresponds more to that of the Polygonaceæ. Its common names are 葦蓼 (Lü-ju) and 葦竹 (Lü-chu), and it is used for making a greenish-yellow dye for cloth. It is used medicinally in old coughs, asthma, tremor, itch, tinea, as an insecticide, in fevers of children, and as a wash for foul sores.

POLYPODIUM BAROMETZ.—狗脊 (Kou-chi), 606. This is Loureiro's term, and is the same as *Cibotium barometz* of J. Smith. The plant is found extensively in eastern Asia,

including the whole of China, Annam, Cochin-China, the Philippines, and the islands of the Malaysian Archipelago. The Chinese name, "dog's spine," refers to the form of the root, which suggests the appearance of a cadaverous dog with its spine showing, and especially the kind covered with yellowish root filaments suggesting the ordinary, nearly starved Chinese wouk, with its bristly hair. There is some confusion of this with other kinds of ferns; but not so much as is usually the case. The drug, as it has appeared in the European markets, consists of the stipes of the fern so thickly covered with golden-brown hairs as to suggest the skin of some animal. The native names under which this appeared were *penghawar djambi* and *pakoë kidang*. According to the authors of the Dutch Pharmacopœia, this plant is identical with the so-called *Agnus Scythicus*, or *Scythian lamb*, which in the sixteenth and seventeenth centuries was regarded as a sort of plant-animal, springing from a seed, attached to the earth by a root like a plant, while it had flesh and blood like an animal, and fed upon the herbs which surrounded it until they were all gone, after which it starved to death, because it could not move from its place. Adam and Eve were said to have been astonished on seeing this vegetable lamb in the Garden of Eden.

In Chinese medicine the drug is considered strengthening to the spine, antirheumatic, stimulating to the liver, kidneys, and male generative organs, and is recommended as an old man's remedy. General tonic properties are also ascribed to it. In Europe the hairy filaments from the stipes were recommended as a hemostatic in wounds, and this use is also mentioned in the Appendix to the *Pêntsao*. Their action seems to be purely mechanical.

POLYPODIUM FORTUNEI.—骨碎補 (Ku-sui-pu), 624. The name of this was originally 猴薑 (Hou-chiang), but the Emperor Kaiyuen (713 A.D.), because he considered it capable of mending broken bones, commanded that the former name should be given to it. It grows in the shade of trees, about the roots and on stony ground. The rhizome, 1125, is said to somewhat resemble ginger, and is filamentous. Its taste is bitter and cooling, and it checks hemorrhage and heals wounds.

It is prescribed in wasting diseases, ulcerations, gangrene, toothache, falling of the hair after sickness, and ear difficulties.

POLYPODUM LINGUA.—石韋 (Shih-wei), 1161, 金星草 (Chin-hsing-tsao). The second name applies when the plant is sporulating. It is also called 石皮 (Shih-p'i), on account of its habit of growing on rocks and its leathery leaves. One kind which grows on old brick walls is called 瓦韋 (Wa-wei). This is *Polypodium lineare*. It is useful in the treatment of urinary calculus. The leaves of the *Shih-wei* are gathered in the second moon and dried in the shade. "The best kind is that which grows in places where neither the noise of water nor the human voice is heard." The drug is considered to be diuretic and tonic, and it is prescribed in gravel, urinary difficulties, menorrhagia, hematuria, wounds, and carbuncle.

The *Chin-hsing-ts'ao*, or sporulating plant, shows fronds two or three feet long, with star-shaped spore cases on the back arranged in pairs. The fronds and root are both used medicinally in carbuncle, carcinomatous ulcers, scrofulous glands, brimstone poisoning, and digested in oil as an application to make the hair grow. It cools the blood and promotes the excretion of water.

POPULUS ALBA.—白楊 (Pai-yang). This Chinese name refers to both the *poplar* and *aspen*, the name of the latter being more specifically 柶楊 (I-yang). There is little discrimination between *Populus alba*, *Populus tremula*, and *Populus suaveolens*. The last has a smaller, green leaf, and is called 青楊 (Ch'ing-yang). A name common for this and other species of *Populus*, referring to their moving leaves, is 獨搖 (Tu-yao), "self-moving." The bark of the tree is considered to be antiseptic and astringent, and is prescribed in colds, hemorrhage, fluxes, the bloody stools of pregnant women, and as a local application in goiter. The decoction in water, wine, or vinegar is the preparation usually exhibited. The twigs are used in colic, herpes labialis, enlarged spleen, and to clear the complexion. A decoction of the leaves is used in decayed teeth and necrosis of bone where there is a sinus.

POPULUS BALSAMIFERA.—海桐 (Hai-t'ung). Also called 刺桐 (Tz'ü-t'ung). This is Faber's identification, but the description in the *Pentsao* would rather indicate *Acanthopanax* (see p. 4). It grows in the south near the sea, has leaves as large as a hand arranged ternately, a firm white bark which can be made into ropes that do not rot in water, and bears a red flower. It is possible that two or more genera are confounded under this name. The bark is used as an astringent in cholera, chronic diarrhoea and dysentery, discharging skin diseases, decayed teeth, inflamed eyes, and as an anthelmintic and parasiticide. The flowers are used as a styptic in wounds.

POPULUS TREMULA.—移楊 (I-yang). This is described in the *Pentsao* under the term 扶移 (Fu-i), and the name 唐棣 (T'ang-ti), or more properly 常棣 (Ch'ang-ti), is given as a synonym. In Japan 扶移 (Fu-i) is the Chinese term for *Aronia asiatica*, a small tree of the order Rosaceæ, with white flowers in racemes, and bearing a fruit like the *Prunus japonica*. There seems therefore to be some confounding of names in the *Pentsao*, but the description given evidently refers to a *Populus*. The bark is bitter and considered to be slightly deleterious. It is used for affections of the feet, one of which answers pretty well to the description of gout. It also is regarded as anthelmintic and is highly esteemed in profuse leucorrhœa.

PORPHYRA COCCINEA.—紫菜 (Tzū-ts'ai). This algal plant is a sort of *laver*, which is green when in the fresh state and purple when dry. It grows on the sea shore of south China, and the Fukienese gather it and press it into cakes. It is not poisonous, but when taken in excess produces colicky pains, flatulence, and eructation of mucus. It is recommended in diseases of the throat, especially goitre.

PORTULACCA OLERACEA.—馬齒莧 (Ma-ch'ih-hsien). The *purslanes* and *amaranths* are confounded in China, and very naturally so, since the plants resemble each other in general appearance and habits. 莧 (Hsien) refers for

the most part to *Amarantus*, but in this case it seems to be applied to the common purslane. There is a fairly good description in the *Pên-tsao*. The plant is said to contain mercury. It is eaten as a cheap, cooling, spring vegetable by the Chinese of all classes. Cooling, lenitive, antiscorbutic, alterative, vulnerary, and discutient properties are ascribed to it, and the plant or its juice is recommended to be used in ulcers, tumors, indigestion, leucorrhœa, nausea, gravel, wounds, herpes, anthrax, eczema, colds, dysentery, colic, intestinal worms, and pruritis of the genitals. The seeds are considered to be tonic and constructive, and are prescribed in opacities of the cornea and to benefit the intestines.

POTAMOGETON.—蕹 (Yu). This spadiceous endogen is well described in the *Pên-tsao*. Horses and goats are exceedingly fond of it, and it therefore has names referring to this fact. It has a very foul odor, and the name above given is said to indicate the fact. The *Tsochuan* says: "There is a fragrant herb and a stinking one, and for ten years the stench will remain" (一薰一蕹十年尚猶有臭). The root is used in medicine. It is considered to be tonic, giving brightness to the eye and acuteness to the hearing. It is also considered to be antifebrile and diuretic. Faber gives 眼子菜 (Yên-tzũ-ts'ai) as a term for *Potamogeton polygonifolius*, but this has not been found mentioned in the Chinese works consulted. 馬藻 (Ma-tsao) is usually considered to be *Potamogeton oxyphyllus*, but this is not distinguished in the *Pên-tsao* from *Myriophyllum spicatum*. See *Digitaria sanguinalis*.

POTENTILLA CRYPTOTÆNIA.—狼牙 (Lang-ya). The plant grows in the provinces north of the Yangtse, and the root, which is officinal, is said to resemble the tooth of an animal; hence the name, "wolf's-tooth." It is very poisonous, and is prescribed in some of the 風 (Fêng) diseases, foul sores, and intestinal worms. Venereal and rodent sores, arrow wounds, and snakebites are also treated with it.

POTENTILLA DISCOLOR.—翻白草 (Fan-pai-ts'ao). This grows to the height of seven or eight inches, has a firm, thick, serrate leaf, light colored on the back, rather small, and

lanceolate. It bears a yellow flower, and the root is about the size of a finger, with a red skin and white flesh. The seed is shaped like that of coriander. The root is eaten both raw and cooked, children preferring it in the former condition. Its medicinal properties are those of an astringent, and it is prescribed in hematemesis, hematuria, menorrhagia, malaria, and carbuncle.

POTENTILLA WALLICHIANA.—蛇含 (Shê-han).
See *Geum dryadoides*.

POTERIUM OFFICINALE.—地榆 (Ti-yü). This is the same as *Poterium sanguisorba*, the common burnet. Its leaves slightly resemble those of the elm and spread over the ground, and these facts give rise to the Chinese name, "ground elm." The root is long, tough, wrinkled, and fibrous, brown externally, and of a pink or yellowish color internally. It is astringent and slightly bitter to the taste, and is used as a styptic, astringent, vulnerary, and anodyne remedy. It is prescribed in post-partum difficulties, wounds, ulcers, dysentery, hemorrhages, snake and insect bites, and skin diseases. The leaves are used as a substitute for tea, and are considered to be cooling in fevers.

POWDERS.—The Chinese use a number of these; some for internal medication, some for external use, and one for insufflation into the throat. They nearly all go by the name of 散 (San), and consist of one or more drugs specially prepared, dried, and thoroughly powdered. The following are a few of the more popular.

Amber Powder; 琥珀散 (Hu-p'o-san). It is made as follows: Take of amber, one ounce; turtle shell, one ounce; *Cyperus rotundus*, one ounce; *Corydalis ambigua*, one-half ounce; myrrh, one-half ounce; rhubarb, one-fourth ounce. These are to be all heated together and beaten into a powder. The drug is considered to be styptic and tonic, and it is used after labor with a view to restoring the normal circulation of the blood, in which case the rhubarb is left out.

Atractylis Powder; 蒼朮散 (Tsang-shu-san). *Atractylis ovata* is dried and prepared by a complicated process, the value

of which is not very apparent. The powder is administered in rheumatic difficulties.

Brassica Powder; 雲臺散 (Yün-t'ai-san). Use seeds of *Brassica juncea*, *Cryptotenia canadensis*, cinnamon heart, and *Pæonia albiflora* in equal quantities, and beat into a powder. It is used in indigestion, vicious lochia, and all post-partum difficulties. It is said that the first three days after labor can not safely be passed without using this remedy.

Five Yellows Powder; 五黃散 (Wu-huang-san). Take of rhubarb, brimstone, flowers of sulphur, turmeric, and gamboge equal parts; powder finely and mix with rape seed oil, to be applied to scaly skin diseases. This is really an ointment, but has the name of being a powder.

Four-compound Fairy Atractylis Powder; 四製仙朮散 (Ssū-chih-hsien-shu-san). Use Chekiang *Atractylis sinensis*, four ounces; divide into four parts, and decoct one part together with *Astragalus hoangtchy*; combine one part with hornet's stings (?) and roast dry; bake one part in brau until dry, and combine one part with *Dendrobium*. Mix these four portions together and powder. This is valued in the treatment of profuse perspiration.

Fungus Powder; 木占斯散 (Mu-chau-ssū-san). This contains a substance called 木占斯 (Mu-chan-ssū), which is described as a fungous growth on the camphor tree. Equal quantities of this, of licorice, *Magnolia hypoleuca*, *Asarum sieboldi*, *Tricosanthes multiloba*, *Siler divaricatum*, ginger, ginseng, *Platycodon grandiflorum*, and *Patrinia villosa* are powdered together. It is useful in carbuncles and in all sorts of carcinomatous and infected sores.

Glycine-malt Powder; 大豆蘖散 (Ta-tou-nieh-san). This is made of malted hypsidia beans, roasted and powdered. It is used in marasmus and like difficulties, and is considered to benefit the five viscera, increasing secretion and making pliant the skin.

Gourd Peduncle Powder; 瓜蒂散 (Kua-ti-san). Take gourd peduncles browned to a yellow color, and *Phaseolus radiatus*, equal parts, and powder. This is used for the same purposes for which melon peduncles are recommended.

Green Plum Powder; 青梅散 (Ch'ing-mei-san). Use the kernels of green *Canarium* seed, seven in number, dry and

powder fine without either roasting in fire or washing in water. Also take twenty-one of the jade-butterfly plum flowers, excluding the peduncles. Mix the powdered kernels and the flowers with two teaspoonfuls of white honey into a confection. This given to a child will prevent smallpox, or if already infected there will not come out more than two or three small spots of eruption.

Headache Powder; 頭風摩散 (T'ou-fêng-mo-san). This is for external application, and consists of aconite root, pulverized, mixed with salt, and finely powdered. It is either rubbed directly into the temples, or mixed with oil and made into a pomade for the same purpose.

Insufflation Powder; 吹喉散 (Ch'ui-hou-san). Take large black dates, remove the pits, and put inside a Chinese nutgall, after having removed the worms from the latter. Add Fritillaria bulb, removing the heart, and wrap in a layer of mud, baking until dry. Then powder finely and use as an insufflation powder for all diseases of the throat.

Jade Dragon Powder; 玉龍散 (Yü-lung-san). Use *Funkia subcordata* flowers and snake skin, of each one-fifth ounce; cloves, one-tenth ounce, and powder. This is used in suppression of urine.

Nux vomica Powder; 馬前散 (Ma-ch'ien-san). Take half an ounce of *Nux vomica* seeds, place in an iron vessel and roast in a sand bath until yellow; then beat up in a mortar, and sift out all coarse particles. Also of wild sesamum seeds, removing the husks, a half ounce; olibanum and bamboo leaves roasted dry, a half ounce; powder all finely together. This is for cancerous sores and abscesses, and for the relief of pain. The dose is, of course, very limited in quantity, on account of the poisonous character of the *Nux vomica* seeds.

Permeating the Spirit Powder; 通神散 (T'ung-shên-san). Use *Phaseolus mungo* husks, white chrysanthemum flowers, and *Eriocaulon australe*, of each equal parts. This is to be powdered and boiled together with dried persimmons and millet, and used in the treatment of eye diseases.

Protecting the Heart Powder; 護心散 (Hu-hsin-san). Use *Phaseolus mungo* meal, one ounce; olibanum, one-half ounce; mix together and powder. This is to be taken with a

decoction of licorice in cases of abscess and wasting due to discharging sores.

Rubbing Bright Powder; 磨光散 (Mo-kuang-san). Prepare a powder of the wild water chestnut by a process similar to that used for preparing arrowroot powder. Also take equal parts of Coptis teeta, Pterocarpus indicus, Scutellaria macrantha, sweet chrysanthemum flowers, and peppermint. First steep in water and evaporate the decoction, and then steep in child's urine and evaporate in the same way and mix the two powders; also take a pearl and enclose it in a piece of bean curd and boil, after which powder finely. Take one ounce of the water chestnut powder, one-half ounce of the second preparation, and three-tenths ounce of the pearl powder; mix, powder finely, and put into a porcelain bottle and cork tightly. When about to use, add a little Baroos camphor and drop the powder into the eye. This is considered to be a remarkably efficacious remedy in all forms of opacity of the cornea.

Salvia Powder; 丹參散 (Tan-shên-san). This is simply *Salvia plebia* washed clean, cut in slices, dried, and powdered. The dose is a fifth of an ounce to be taken in warm wine for all menstrual difficulties, whether early or late, too much or too little, or in pregnancy to quiet irritation in the last weeks, or to correct the discharges after delivery. It is also good for all forms of backache and pains in the bones and joints.

Seven Candarin Powder; 七釐散 (Ch'i-li-san). Use dragon bone (龍骨), borax, dragon's blood, catechu, *Cannabis indica*, and *Forsythia suspensa*, of each equal parts; powder finely. The dose is seven candarins, and is used in the treatment of wounds as an anodyne.

Seven Fairies Powder; 七仙丹 (Ch'i-hsien-tan). *Astragalus hoangtchy* two ounces; ginseng, one ounce; licorice, one-half ounce; *Paris polyphylla*, one ounce; plum flowers, one and a half ounces; *Monochasma savatieri*, one ounce; human skull bone (天靈蓋), one piece; all powdered together. This is a remedy for preventing smallpox and for modifying the eruption.

Seven Precious Powder; 七寶散 (Ch'i-pao-san). Use dragon bone, elephant's skin, dragon's blood, ginseng, *Gynura*

pinnatifida, olibanum, myrrh, and laka wood, all powdered together. This is thought to promote healing in wounds, and is a military men's remedy.

Two Flowers Powder; 二花散 (Êrh-hua-san). Take yellow plum flowers in any quantity and peach blossoms dried in the shade; *Cratægus* fruits, remove the seeds, roast, and powder; a small *Luffa cylindrica*, dried in the shade and powdered; orange peel, ginseng, *Astragalus hoangtchyi*, licorice, vermillion, *Paris polyphylla*, *Monochasma savatiera*, scaly ant eater, a human tooth, piece of skull, all powdered together. This is one of the many remedies used in the treatment of smallpox.

PREMNA JAPONICA.—腐婢 (Fu-pei). This term, "worthless slave-girl," is applied to the flower of *Phaseolus mungo*, that of *Pachyrizus thunbergianus*, and to a small tree which grows near the sea-shore. This last has a crooked stem, bears a yellow flower, and has a fetid smell. It is not quite certain which of these three is the drug mentioned in the *Pêntsao*. Flowers are evidently referred to in the discussion of medicinal uses. Ague, fever, fluxes, alcoholism, and hemorrhoids are treated with it.

PRUNELLA VULGARIS.—夏枯草 (Hsia-ku-ts'ao). See *Brunella vulgaris*.

PRUNUS ARMENIACA.—杏 (Hsing), 甜梅 (T'ien-mei.) The apricot is said to have been indigenous in Shansi. It is now cultivated in many parts of the country. There are several varieties, as 金杏 (Chin-hsing), 木杏 (Mu-hsing), 山杏 (Shan-hsing), 白杏 (Pai-hsing), 沙杏 (Sha-hsing), 梅杏 (Mei-hsing), 柰杏 (Lai-hsing), and 肉杏 (Jou-hsing). These are all distinguished from each other in the *Pêntsao*. The fruit is regarded as being somewhat deleterious, and if eaten in excess is thought to harm the bones and sinews, to promote blindness and falling of the hair, including that on the eyebrows and the eye-lashes, to benumb the mental faculties, and to injure parturient women. It is considered to pertain to the heart, and therefore should be used in cases of heart disease. Dried and eaten, it is thirst-relieving and antifebrile. The

kernel of the seed, 466, has been mistaken for the almond. But the fact is that the kernels of the apricot and of the peach are used in China instead of the almond, which is more or less rare. The kernel is considered to be somewhat deleterious, and it is said that a double kernel will kill a man, and may be used to poison a dog. Ordinarily, the calyx of the apricot flower is five-parted, but if a six-parted one is found, the seed will contain a double kernel. Sedative, tussic, antispasmodic, demulcent, pectoral, vulnerary, and anthelmintic properties are ascribed to these kernels, and a number of nostrums are prepared with them, and they are prescribed in a great variety of difficulties. A kind of fatty confection, called 杏酥 (Hsing-su), is made from the kernels, and they are also used together with peach and other kernels in producing a kind of bland oil, called 杏仁油 (Hsing-jên-yu). One form of the confection, in which ginger and licorice are combined with the kernels, is used as a tussic and expectorant remedy, while the other, which is prepared by a process of fermentation, is more especially used as a prophylactic and tonic. A decoction, called 杏仁湯 (Hsing-jên-t'ang), is made by crushing the blanched kernels in boiling water, with the addition of other drugs and flavoring ingredients. This is sold in the streets of some Chinese towns, much as sassafras tea is in European cities, as a kind of ptisan. It is given in coughs, asthma, and catarrhal affections. The juice of apricot kernels is added to rice-congee, and given in hemorrhages, the kernels being sometimes parched beforehand. They are also crushed and made into a paste, which is applied to the eye in inflammations of that organ. Apricot flowers are considered to be tonic and are a woman's remedy, promoting fecundity. They are also used in cosmetic preparations. The leaves are recommended in decoction for plethora, the branches in injuries, and the root is said to be antidotal to the poison of the kernels. This latter illustrates a popular belief of the Chinese doctors, who regard the root of a plant as the polar antagonist of the stem and all that is borne upon it, so that if one is poisonous, the other will furnish the antidote.

PRUNUS COMMUNIS, *Amygdala communis*.—巴旦杏 (Pa-tan-hsing). This is brought from Mohammedan countries,

but is said now to be grown in Kansu and Mongolia. The tree and fruit is fairly well described in the *Péntsao*. The kernel is used in coughs, flatulence, and heartburn.

PRUNUS JAPONICA.—郁李 (Yu-li), 1551, 棠棣 (T'ang-ti), 雀梅 (Ch'iao-mei). The second name is also written 唐棣 (T'ang-ti) and 常棣 (Ch'ang-ti). This is a small tree, six or seven feet in height, growing in the mountain valleys of Kiangsu, bearing a small, red fruit, like a cherry, having a rather harsh, sour taste and edible, but not much used. It is sometimes made into sweetmeats, and for that reason, and for the kernels of the seeds, the tree is cultivated in some parts of China. The kernels are either dried, or put up in a sort of confection with honey, and used in medicine. They have a bitterish-sour taste, and demulcent, diuretic, lenitive, and deobstruent properties are ascribed to them. They are given in dropsy, rheumatism, fevers, cardialgia, indigestion, constipation, and mixed with Baroos camphor are used in ophthalmia. The root of the tree is used in affections of the teeth, constipation, fevers of children, and to destroy pin worms.

PRUNUS MUME.—梅 (Mei). This is said to have been indigenous to Shensi, but is now found in many of the provinces. There are a great many varieties, both wild and cultivated. There are also several kinds of the prepared fruits. If plums are gathered half ripe and smoked, they constitute what is called 烏梅 (Wu-mei), "black-plums;" if the green ones are pickled in brine and then dried, they are called 白梅 (Pai-mei); they are also made into a confection. The ripe plums are put in a press and the juice expressed, to be used as an addition to water for a cooling summer drink. Plums, if taken freely, are not considered to be entirely free from deleterious effects. They are said to injure the teeth, harm the tendons, corrode the spleen and stomach, and inflame the diaphragm. The "black plums" mentioned above are considered to be carminative, antifebrile, and antispasmodic, and they are recommended in fluxes, malaria, choleraic difficulties, nausea, intestinal worms, fish and sulphur poisoning, and poisoning from the bite of a horse. They are soaked

in water and the infusion given in typhoid fever to relieve thirst. The "white plums," also known as "salted plums," are much relished as a savory pickle, and will be found at most Chinese feasts, under the name of 青梅 (Ch'ing-mei). They are crushed and applied locally as a styptic in incised wounds, in cancer of the breast, and are taken internally in epilepsy, fluxes, and choleraic affections, menorrhagia, and the like. The kernels of the seeds are considered strengthening and cooling, and are crushed, mixed with vinegar, and applied to a felon on the finger. The flowers are added to various congees and other preparations, and are thought to improve the strength-giving qualities of these. The leaves are used in fluxes and menorrhagia. The root is prescribed for colds and fluxes, and it is taken, together with that of the peach and of the domestic plum, and decocted in water for a bath for a new born infant, with the result that the infant will remain free from prickly heat and boils.

PRUNUS PERSICA.—桃 (T'ao). The peach is indigenous to China, which is also shown by the character representing it being one of the few ancient, unchanged characters. The wood of the tree is used in fortune telling, and this is indicated by the composition of the character; the right hand part meaning "omen" and the left meaning "wood." It is also suggested that the right side of the character means a million, and that this refers to the prolific character of the tree as to leaves, flowers, and fruit. The varieties of peaches in China are very numerous, and marvelous stories are told in regard to the size of some of the fruits. Also, there is an account of having grafted the peach upon persimmon and plum trees, and producing a modified fruit. In the former case it is called 金桃 (Chin-t'ao), and in the latter 李桃 (Li-t'ao) or 梅桃 (Mei-t'ao). It is said that the fruit is heating and produces fever if taken in excess. It improves the complexion, and as a fruit, belongs to the lungs and should be freely used in diseases of that organ. The late variety, known as 冬桃 (Tung-t'ao), is recommended for the feverishness of work or anxiety. The kernel of the seed, 1257, is often combined with, or substituted for, the kernels of the apricot seed, and it is these which have

been mistaken for almonds. They are recommended for coughs, blood-diseases, rheumatism, amenorrhœa, ague, post-partum hemorrhage, and worms. Crushed and mixed with honey, they make an application for keeping the hands smooth, if applied at night. The hairy pellicle of the skin of the fruit is used in hemorrhages and evil effluvia. The fruit which hangs on the tree all winter and is gathered in the early spring, is called 桃梟 (T'ao-hsiao), 桃奴 (T'ao-nu), and 神桃 (Shên-t'ao). Another name means "demon's skull." These are regarded as slightly deleterious, and have the power of overcoming every kind of demoniac influence and of relieving many sorts of neuralgic and rheumatic pains. Profuse sweating in children, hemorrhage in pregnant women, ague, scald-head, and sickness from the over-ingestion of peaches are all treated with these. The flowers of the peach tree are supposed to have some supernatural power in driving away the demon of ill health, giving a good color to the complexion, and rejoicing the countenance. They are regarded as diuretic, vermifuge, and quieting, and they are applied locally in favus and acne, and as a cosmetic. The leaves, 1259, are regarded as parasiticide, antifebrile, and astringent, and are prescribed in typhoid and other fevers as a diuretic and corrective remedy, and in cholera. The bark of the tree and root, 1258, are both used, but preference is given to the latter, and especially to the bark of that root extending toward the east. Only the white inner bark is employed. It is considered to be prophylactic, parasiticide, and quieting. Extreme jaundice, epidemics, and dropsy are special indications for its use. The peach gum (桃膠, T'ao-chiao) is also used as a sedative, alterative, astringent, and demulcent remedy. Peach-wood slips, 桃符 (T'ao-fu), are used as charms against evil spirits. These are sometimes affixed to the lintels of the door, or the lintel is made of peach wood. Posts of peach-wood, called 桃樑 (T'ao-chüeh), are also set out about the house for the same purpose. The epiphyte growing on the peach tree, 桃寄生 (T'ao-chi-shêng), is said to partake of the medicinal properties of the tree, as do also the grubs, 桃蠹 (T'ao-tu), which infest the wood. The 油桃 (Yu-t'ao) is the nectarine, and 餅桃 (Ping-t'ao) and 盒桃 (Ho-t'ao) are the names of a flat

variety, of excellent flavor and of foreign origin. The peaches of Honan province are especially of fine quality and flavor. The difficulty is that the Chinese almost never allow the fruit to ripen on the tree, but pluck and eat it quite green. Formerly a sort of vinegar was made from the pulp of ripe peaches.

PRUNUS PSEUDO-CERASUS.—櫻桃 (Ying-t'ao). This, the Chinese or bastard-cherry, is very similar to the European kind, but differs from it in having its flowers grow in racemes, instead of in fascicles, and in the stems being hairy. The classical name is 含桃 (Han-t'ao). The large, sweet cherries are called 崖蜜 (Yai-mi). The fruit is said to harmonize the centers, to benefit the disposition, and to give a good complexion and a hopeful will. It prevents the loss of virility and checks fluxes. The leaves of the tree are bruised and applied in snake bite. The root on the east side of the tree is good in pin worms. The twigs are rubbed together with *Salvinia natans*, *Gleditschia officinalis*, and pickled plums (白梅), and used as an application for freckles. The flowers are also used as a cosmetic. The fruit of the cherry is often preserved with honey and used as a sweet-meat.

PRUNUS SPINULOSA.—檮木 (Lin-mu). This is an identification of Faber's; but upon what authority he does not state. The *Péntsao* gives little description of the tree, except to say that it is a large tree growing in the mountainous districts of Central China, that it bears a white flower, and that its wood is used in dyeing brown, and the leaves are sometimes distilled with spirits. Rice is cooked with the lye from the ashes of this tree, and eaten to cure dyspepsia and intestinal worms.

PRUNUS TOMENTOSA.—山櫻桃 (Shan-ying-t'ao), 朱桃 (Chu-t'ao), 李桃 (Li-t'ao), 梅桃 (Mei-t'ao). This cherry does not have a good taste, so it is not much eaten. It has the same qualities and medicinal uses as the ordinary cherry.

PRUNUS TRIFLORA, *Prunus domestica*.—李 (Li), 嘉慶子 (Chia-ch'ing-tzú). Although the character for this plum is very old, the tree is not mentioned as being indigenous to China; but on the other hand the equivalent Sanscrit name of

居陵迦 (Chü-ling-chia) is given, indicating that it may have been introduced from India or Persia. There are very many varieties of these plums in China (Li Shih-chên says nearly a hundred) varying in size, color, shape, and flavor. Most of the finest varieties are found in the northern provinces. Those plums which do not sink in water are considered deleterious, and should not be eaten. If eaten in excess, they are thought to cause dropsical swelling. There is also some suggestion of them causing choleraic difficulties. When eaten dried, they are thought to drive away chronic disease and harmonise the centers. They pertain to the liver, and should be eaten in diseases of that organ. The kernels of the seeds are used in sprains, bruises, injuries to bones, in hysterical phantom tumor, and in dark spots on the face (黧). Their ingestion is said to improve the complexion. The white bark of the root is considered to be very cooling, and is therefore used in thirst and febrile difficulties. In decoction it is also used in ulcers, toothache, fluxes, menorrhagia, leucorrhœa, and fevers of children. The flowers are added to cosmetic preparations. The leaves are used in intermittent fever and epileptoid affections of children. The gum of the tree is recommended in pannus, to stop pain and relieve swelling.

PSORALEA CORYLIFOLIA.—補骨脂 (Pu-ku-chih). 破故紙 (P'ò-ku-chih), 1042, 婆固脂 (P'ò-ku-chih). This drug is said to come from Persia, and the above names are probably transliterations. The plant is now found in Lingnan and Szechuan. The flat, oval or slightly reniform, black one-seeded legumes are about two or three lines long, and often retain the persistent, five-lobed calyx. They have an aromatic odor, and a bitter, aromatic flavor. They are regarded as highly aphrodisiac and tonic to the genital organs, and are prescribed in all forms of sexual incompetency. Threatened abortion, the discomforts of pregnancy, insufficient erections, polyuria, and incontinence of urine in children, are difficulties for which the drug is administered.

PTERIS AQUALINA.—蕨 (Chüeh). The different kinds of ferns are not clearly distinguished from each other.

But the description given in the *Pêntsao* answers well enough to *Pteris*. There is some confounding of the genus with *Osmunda*. The thallus and root-stock are both eaten and used medicinally, and they are sweet, mucilaginous, and cooling. They expel fever, benefit the water passages, and promote sleep. Tonic properties are also ascribed to them. 井口邊草 (Ching-k'ou-pien-ts'ao), 鳳尾草 (Fêng-wei-tsao), 紅茂草 (Hung-mao-ts'ao), and 蜈蚣草 (Wu-kung-ts'ao), 1461, are other names for *Pteris*, but are not distinguished in the *Pêntsao*. 水蕨 (Shui-chüeh) is *Ceratopteris thalictroides*, and is much esteemed as a food. The root-stock has a slightly bitter taste, and it is regarded as eliminative and is used in constipation.

PTEROCARPUS SANTALINUS.—紫檀 (Tzū-t'an). This is described in the *Pêntsao* under the article on *Santalum album*. The Chinese do not distinguish clearly between this *red saunders* and sandal-wood. It is not grown in China, but comes from the region of the Kunlun mountains, and is not fragrant like the sandal wood. Mr. Eitel (Handbook of Chinese Buddhism) gives *tailaparni* or *rakta tchandana* as Sanscrit names of this wood. He also speaks of a kind of copper-brown sandal-wood under the Sanscrit name of *gosircha tchandana*, which is rendered into Chinese as 牛首旃檀 (Niu-shou-chan-t'an). The saunders wood being of a red color is considered a blood remedy; therefore it is used in wounds, ulcers, and the like, to check hemorrhage and suppuration. It is not used for anything else.

PTEROCARYA STENOPTERA.—櫟 (Chü), 櫟柳 (Chü-liu). Henry thus identifies this tree as it grows in Hupéh. In other parts of China and in Japan the first name is applied to an elm-like tree, the wood of which is highly valued for making boxes and tables. In the latter country this is identified as *Ulmus keaki* or *Zelkova keaki*. The seed vessels of this look like small coins, and the country people use the leaves as a substitute for tea. The description in the *Pêntsao* is very faulty, and does not distinguish between these; so the identification of Henry is here adopted. The bark of the tree is used in medicine, and it is directed that it shall be

taken from the west half of a tree over twenty years old. Its action is said to be antifebrile and astringent, and is prescribed in dysentery, anasarca, and conjunctivitis. The leaves are used locally in eroding ulcers.

PUERARIA.—葛 (Ko). See *Pachyrhizus thunbergianus*.

PULSATILLA.—See *Anemone cernua*.

PUNICA GRANATUM.—安石榴 (An-shih-liu). The *pomegranate* is not indigenous to China, but was introduced by the famous general Chang Chien (circa B.C. 120), from Kabul or Parthia, as indicated by the first two characters. The last character is explained by 瘤, a tumor or wen, and refers to the appearance of the fruit when burst open. Three kinds are spoken of in the *Pênsao*, a red-flowered, a yellow-flowered, and a white-flowered, bearing sweet, sour, and bitter fruits respectively. The last is called 山石榴 (Shan-shih-liu), which name is also referred to under the article on *Rhododendron indicum*, and may refer to that shrub. Several varieties are also mentioned, and the plant is much cultivated by Chinese gardeners for its flowers; some very beautiful ones being produced, among which is one bearing large white flowers. The red fruit, bursting open and revealing its numerous seeds, is compared to a grinning mouth showing the teeth. The fruit is much relished by the Chinese, who always seem to have spare time enough to devote to the ingestion of pomegranates and melon seeds. The sweet pomegranate, if eaten in excess, is said to injure the lungs. It is thirst-relieving, and is prescribed in caked-breast and worms. The fruit of the sour kind is used in fluxes from the bowels, colic, menorrhagia, and leucorrhœa. The peel, 1155, is astringent, and is used in dysentery, seminal losses, paralyzes, incoördination in the muscles, intestinal worms, prolapse of the rectum, and fluxes of all kinds. The eastward-extending root is anthelmintic and astringent. It is used in diseases of the mouth or gums, in the diseases for which the peel is used, and in dyes for the hair or whiskers. The flowers, 1154, if dried, pulverized, mixed with iron, and taken for a year, cause the hair to turn white. They are also styptic and astringent.

PYCNOSTELMA CHINENSIS.—徐長卿 (Hsü-ch'ang-ch'ing). This is confounded in the *Pênsao* with *Macroclindium verticillatum*; but the latter is a composite plant, while this is an asclepiadaceous one. The name of the plant is properly the name of a man, a famous physician for whom the plant was named. The description is not very characteristic. The root is said to resemble that of *Asarum sieboldi*. The taste of the drug is acrid and it is somewhat deleterious. It is used in driving away evil effluvia, in the treatment of marasmus, and for the purpose of quieting nervous affections, and is also recommended in car and ship sickness (vertigo).

PYROLA ROTUNDIFOLIA, *Pyrola media*.—鹿蹄草 (Lu-ti-ts'ao), 764. This *wintergreen* is found in similar localities in China to those occupied by it in America. There is not much description of it. The plant is bruised and applied to wounds to staunch hemorrhage, and it is also applied to serpent, dog, and insect bites.

PYRUS BACCATA.—棠梨 (T'ang-li). Also called *Pyrus betulæfolia*. This is a small coarse pear, originally growing wild in mountainous districts. It is not fit to eat until after heavy frost. There are two varieties, a sweet and a sour, bearing white and red flowers respectively. The wood of the red variety is also red, and is good for making bows. The leaves of this tree are sometimes pickled and eaten, or used as a substitute for tea. The flowers also can be roasted and eaten, or ground up and made into cakes. These are said to benefit the muscles. The fruits, if baked, are said to cure mucous diarrhœa. The twigs and leaves are prescribed in cholera and choleraic difficulties, including cramps and colic, and in vomiting.

PYRUS CATHAYENSIS.—木瓜 (Mu-kua), 866. This is the same as *Cydonia sinensis*. The Chinese term is used in the south for *Carica papaya*. But in the north the name is applied to the *quince*, and the description in the *Pênsao* evidently refers to this fruit, although some of the varieties mentioned may refer to *Carica*. An ancient name for the quince is

榲 (Mou). The tree is found in Persia, Nepal, the Himalayas, and North India. In China it is found chiefly in the Yangtze provinces, especially Anhui, where it is largely cultivated; that from Hsianchen, in Ningkuo prefecture, being considered the best. The sour fruit is well described in the *Pêntsao*, and it is sliced and dried, 868, and used in medicine. It is prescribed as an astringent in choleraic affections, and is thought to quiet spasm. Digestive, thirst-relieving, and diuretic properties are also ascribed to it. The seeds are prescribed in choleraic troubles, along with warm water, probably for their demulcent properties. The twigs, leaves, bark, and root are used in similar difficulties, presumably as astringents. The flowers are used in cosmetic preparations.

Another kind of small quince is described under the name of 欖子 (Cha-tzú) or 木桃 (Mu-t'ao). The first character refers to *Cratægus*: but in Japan, and probably in China, these terms are applied to *Pyrus japonica*, var. *pygmæa* (*Cydonia japonica*). They are specially grown in Mêngchou, Honan. The color is yellowish, the taste sour, and the fruit is smaller than the ordinary quince. It has a coarse peduncle and core, and the seeds are round. If eaten in excess these fruits are said to injure the teeth and tendons. They are recommended in dysentery, pyrosis, and choleraic affections.

A third kind is described under the terms 榲欖 (Mingcha), 木李 (Mu-li), and 木梨 (Mu-li). This is known in Japan as *Pyrus chinenses* or *Cydonia vulgaris*. It is a very large quince of a yellow color. The Taoists take the expressed juice of the green fruit and mix it with powdered spikenard and *Scrophularia* root, and make an incense which is said to be very agreeable to the gods. The action of the fruit is considered to be antivinous, resolvent, antacid, and astringent. Soaked in oil and used as a bandoline, it "cures" grey or red hair.

A fourth kind is called 榲棒 (Wên-po). This is a very small variety, and the fruit is often mistaken for that of *Cratægus*. The tree resembles that of *Pyrus malus*, and bears a greenish white flower. Faber calls it *Pyrus cydonia*, as it is also called in Japan. The taste is between sweet and sour, and is cooling. It is peptic, carminative, astringent, and antivinous. The bark of the tree is used in ulcers, probably as an astringent.

PYRUS MALUS.—林檎 (Lin-ch'in), 柰 (Nai), 來檎 (Lai-ch'in), 花紅 (Hua-hung). This is discussed in the *Pên-tsao* under two articles, to which are attached the first and second terms respectively. The *Lin-ch'in* is also called 文林郎果 (Wên-lin-lang-kuo), because it is said that a man named Wên Lin-lang found a tree floating in the river, and took it up and planted it, producing this fruit. In the south it is confounded with the 榲桲 (Wên-po). There are two varieties, a sweet, ripening early, and a sour, ripening later. There are also several varieties distinguished by the color of the fruit. The ripe apples are crushed, dried, pulverised, and made into a decoction called 林檎麩 (Lin-ch'in-ch'ao), which is used by Buddhist priests. These fruits are also sometimes confounded with *Cratægus*. If eaten in excess, the fruits are said to depress the circulation. Medicinally, they are said to dispel gas, dissolve mucus, and cure fluxes. The root is considered anthelmintic, thirst-relieving, and sleep promoting.

The *Nai* is also called 頻婆 (P'in-p'o), which seems to represent a Sanscrit name, but is also said to be used in the north. The fruit is found principally in the northern provinces, is larger than the *Lin-ch'in* and is found in white, red, and green varieties, and also a winter variety, which is pearl colored. The fruit is considered to be slightly deleterious, producing flatulence and consumption, and if eaten by the sick increases the difficulty. Tonic, antifebrile, and constructive properties are attributed to this fruit. *Pyrus tomentosa* is included among these. *P'in-p'o* is also applied to *Sterculia lanceolata*, and 懶果 (P'in-kuo) is a term applied to the large, green, cultivated apple.

PYRUS SINENSIS.—梨 (Li). This is the common Chinese pear, which is very similar to our *Pyrus communis*. There are many varieties, of which the best is the 白梨 (Pai-li) or white pear. The fruit is small, globular, yellowish-white, and has the appearance of an apple. It is very savory. A large white pear, the size of a fist, is called 御梨 (Yü-li), "Imperial pear," has a crisp flesh, is very juicy, and is of fine flavor. The 沙梨 (Sha-li) is a coarser kind, but in much favor with the Chinese in all parts of the empire. It bakes

well, but is scarcely fit to eat in the raw state. The pear has been known in China from very ancient times, and is probably indigenous. It was introduced into India and Japan from China, and may have been carried to other parts of the world. The characters 梨 (Li) and 棠 (T'ang) are generic, and the former is very ancient. The eating of the fruit in the cool weather is thought to produce weakness; and those suffering from wounds, nursing women, and the anæmic should not eat it. It is considered to be antifebrile, peptic, quieting to the nerves, and lubricating to the lungs. The flowers are used in cosmetic preparations, the leaves are astringent, and the bark is antiseptic.

A kind of wild pear is called 鹿梨 (Lu-li), 鼠梨 (Shu-li), and 山梨 (Shan-li). The fruit is as large as an apricot, the leaf looks like a tea-leaf, and the root is about the size of a thumb. The fruit is used in dysentery, and the bark of the root is used as an astringent in wounds and itch.

Another kind is called 沙棠果 (Sha-t'ang-kuo). It grows in Lingnan, bears a yellow flower and red fruit, which tastes like a plum, but has no pit. The fruit is recommended for "water" diseases. Still another is called 探子 (Shan-tzŭ), and it grows in Kiangnan. The fruit does not ripen until winter, has a sour taste, and the seeds are quite hard. If eaten raw, it cures diarrhœa, and when ripe cures cough.

PYRUS SPECTABILIS.—海棠 (Hai-t'ang), 海紅 (Hai-hung). This fruit is said to come originally from Hsinlo (Korea). Szechuan furnishes large quantities; but the best kinds come from Kiangnan. It is a long stemmed crab-apple, red and sour. It bears a beautiful red flower. Its medicinal uses are limited to being recommended in fluxes.



Q.

QUERCUS.—More than forty species of *Quercus* have been found in China, but identifications of the Chinese names are exceedingly unsatisfactory. 柞 (Tso), 櫟 (Li), 櫟 (Hu), 櫟 (Chu), and 橡 (Hsiang) are all characters specifically applied to this genus; but they are often used in combination with each other, and with other characters in different parts of the empire, to indicate different species. The first character is generic, but not common. The second is referred to *Quercus serrata*; the third to *Quercus dentata*; the fourth to *Quercus sclerophylla* and *Quercus glauca*; the fifth is *Quercus sinensis*, but is also applied to the acorns of the 櫟 (Li). Other characters applied to this genus are 槭 (Yü), 櫟 (P'ò), 櫟 (Hsü), 櫟 (Chu), 栎 (Ch'iu), 櫟 (Su), 櫟 (Chiang), 櫟 (Yu), 櫟 (Chou), 櫟 (Fou), and 櫟 (Ko). This array of characters indicates a wide range of terminology, if only they were specifically assigned to definite species. Since identifications are so difficult, it will only be possible to follow the *Péntsao* in its various accounts of the trees of this genus and their products.

櫟子 (Chu-tzŭ). This is an evergreen oak, smaller than the 橡 (Hsiang). There are two kinds, the bitter and the sweet, and the latter is edible. The leaves are like those of the chestnut, pointed, thick, and shining, with deep serrations. The sweet acorns are smaller than the bitter, and the grain of the wood is fine and the wood white. The acorns are called 麵櫟 (Mien-chu), *Quercus glauca* (?). In the case of the bitter variety, the grain of the wood is coarse and red, giving the name 血櫟 (Hsüeh-chu), *Quercus acuta* (?); or black, when it is called 鐵櫟 (T'ieh-chu). The wood is used for making pillars for houses and coffins, because it does not easily decay. The ingestion of the acorns is considered to be highly beneficial, being nourishing, relieving thirst, and checking diarrhœa. A decoction of the bark and leaves is used to check hemorrhage in puerperal women, and tender, young leaves are applied to chronic ulcers. The sweet acorns are also called 鈎栗 (Kou-li) and 巢鈎子 (Ch'ao-kou-tzŭ).

橡實 (Hsiang-shih) are said to be the fruits of the 櫟 (*Li*), which is made to be identical with the 柞 (*Tso*). The fruit is also called 皂斗 (*Tsao-tou*), because of the shape of the cupules and the fact that they are used to dye black. There are two kinds of the *Li*, one which does not bear fruits (sterile flowered), which is called 槭 (*Yü*), and which has a red heart wood; the other bears fruits (fertile flowered), called 栩 (*Hsü*), which bears the acorns referred to in this paragraph. The people in the mountainous districts where these acorns grow eat them cooked whole or ground into meal; when they are very plentiful they are fed to pigs to fatten them. The young leaves are sometimes used as a substitute for tea. The acorns are recommended in fluxes and as a nourishing food. The cupules, powdered and decocted, are used as an astringent in fluxes, menorrhagia, and prolapse of the rectum. As a black dye, they are sometimes used to color the whiskers and hair. The bark of the wood and of the root is used as an astringent and cleansing dressing in foul sores, in fluxes, and as an application to promote absorption of tuberculous nodules. The cupules of the acorn are called 橡椀子 (*Hsiang-wan-tzū*).

槲實 (*Hu-shih*). The *Hu* is a common tree in the mountains. It resembles the *Li*, and is therefore called 大葉櫟 (*Ta-yeh-li*), *Quercus aliena* (?). Other names are 槲櫟 (*Hu-su*) and 樸櫟 (*P'ò-su*). The acorns of this species are small, the wood is also inferior, and is not used by mechanics, but is employed for fuel and for charring. As known in the north, this tree has obovate, sinuate leaves, with a very short petiole, and on young trees they attain to enormous size, being often as much as two feet long and correspondingly broad. The acorns of this tree have the same medicinal properties as those of the 橡 (*Hsiang*). The leaves, called 槲若 (*Hu-jo*), are astringent in hemorrhoids, dysentery, and hemorrhages, and are considered thirst-relieving and diuretic. They are also applied to the face, in decoction, to relieve congestion and erythema. The bark of the wood is said to be anthelmintic, and is used in decoction as an astringent in excessive discharges, foul sores, enlarged glands, and dysenteries.

柯樹 (*Ko-shu*) is identified as *Quercus cuspidata*. It is said to grow in the mountainous districts of the Kuang (廣)

provinces, and its wood was said to have been used by the Persians for making ships. The bark is used medicinally, and is considered to be slightly deleterious. It is regarded as a drastic, and is used in ascites.

QUISQUALIS INDICA.—使君子 (Shih-chün-tzū), 1145. It is said that a famous physician named 郭使君 (Kuo Shih-chün) made a specialty of treating children's diseases, and extensively used this drug for the purpose; therefore it was given his name. It is a combretaceous plant which originally came from the south, but is now grown in Fukien. It is not difficult of cultivation, is a climbing vine growing upon trees or poles, and has green leaves resembling those of *Acanthopanax*. In the fifth month it bears a bunch of fifteen or twenty red flowers. The fruits are about an inch or an inch and a half long, oblong, pointed at both ends, with a slight obliquity, and sharply pentagonal. The pericarp is smooth, hard, thin between the ridges, of a dark brown or black color, and enclosing an oily seed with two cotyledons, which should be of a yellow color. The taste is by no means unpleasant. Fruits showing any signs of dehiscence, or at all worm eaten, should be rejected. The principal property of the drug is that of a safe and efficient vermifuge. It is said to cure the hundred diseases of children, of which it is safe to say that in China from seventy to ninety are due to animal parasites. The 疳 (Kan) disease (marasmus), and the 痞塊 (P'i-k'uai), enlarged abdomen in children, both of which are due to intestinal worms, are successfully treated with it. It is also given in the diarrhœas and leucorrhœal discharges of children, which likewise are frequently due to nematode infection. Macerated in oil, it is applied to parasitic skin diseases. Four or five seeds, roasted and eaten on the first morning of the month before taking food, is the usual method of administering the drug to Chinese children, and this seldom fails to expel worms. Few children are brought to the mission hospitals for simple worm infections. There are two reasons why this is so: namely, that the Chinese have such an excellent vermifuge in these *Quisqualis* fruits, and because they believe that worms are necessary in the process of digestion, especially to voracious

and omnivorous children. The creeper is the *liane vermijuge* of the Mauritius, where the drug has caused spasms and other ill effects when given in quantities of more than four or five fruits. According to Dr. Waring's account in the Indian Pharmacopœia, in the Moluccas the drug has long enjoyed a high repute as an anthelmintic. He says that the scandent shrub is met with in Burma, the Malayan archipelago, and in gardens in India, where it is called the Rangoon creeper. He recommends that four or five of the seeds be bruised and given with honey or jam, as an electuary, which suffices to expel the worms of children, especially lumbrici. The drug is cheap in China; but will scarcely supplant the more convenient and equally effective santonin in hospital practice.



R.

RANUNCULUS ACRIS.—毛茛 (Mao-kên). It is also called 毛堇 (Mao-chin), because it resembles aconite or *Ænanthe*, but is hairy. This grows by water courses and is said to be eaten by crabs. If men eat it by mistake, it produces a sort of maniacal delirium. The leaves and seeds are used externally as blisters and counter-irritants, in foul sores, cancer, and as a derivative in inflammation. It is applied as an epispastic to the back in ague, in men to the left of the spine and in women to the right, as the "door of life" (命門) is supposed to vary in this way in the sexes. It is bruised with ginger root, and the juice applied to the abdomen in colic. It does not seem to be used internally.

RANUNCULUS SCLERATUS.—石龍芮 (Shih-lung-ju). Also called 苦堇 (K'u-chin), "bitter aconite." It grows in hilly country to the height of about one foot, is usually found by water courses, has ternate, dissected, glabrous leaves, and bears small yellow flowers. The fruit is green, as large as a bean, and resembles an unripe mulberry. For this reason it is called 地椹 (Ti-shên), "ground mulberry." The young leaves of the plant are sometimes eaten as a vegetable. The seeds are used in medicine, and are considered to be tonic. They are prescribed in colds, rheumatism, spermatorrhœa, and general debility.

RANUNCULUS Sp.—野芹菜 (Yeh-ch'in-ts'ai), 狼毒 (Lang-tu). Different genera of ranunculaceous plants are often confounded by the Chinese, and we see these terms applied to *Aconitum*, *Actea*, *Heleborus*, and *Ranunculus*, as well as to solonaceous plants, *Apium*, and *Cicuta*. The first is also identified as *Cardamine hirsuta*. See *Apium graveoleus*, *Corydalis incisa*, and *Mandragora*.

RAPHANUS SATIVUS.—蘿蔔 (Lo-po). This is the common name for the radish, but includes all napiform roots, including beet root. The old name is 菜服 (Lai-fu). The

plant seems to be indigenous to China, and to have been cultivated from remote antiquity. Judging from the similarity of the names by which it is known, it seems to have been introduced into adjacent countries from China. In Annam and the Malay peninsula it is called *lobac*; in Thibet, *laphug*; and in Mongolia, *laopang* and *lobin*. In Persia it is called *turup*, and from this our English word *turnip* is probably derived. The *Pentsao* gives a good description of the plant, and notes its resemblance to the 蕪菁 (Wu-ch'ing), *rape*. Many varieties are found in China, most of which are sweet, but some are coarse and acrid. The use of the root as food is regarded as carminative and corrective. The Chinese cook radishes with stale meat, and claim that it prevents ptomaine poisoning. Radishes are crushed and applied locally as a dressing or poultice to burns, scalds, fetid feet, ecchymoses, and the like. The seeds, 688, are considered to be expectorant, peptic, diuretic, carminative, and corrective. A decoction is used to bring out the rash in eruptive fevers. The flowers fermented in wine are taken to produce brilliancy of the eyes. Another kind of sweet radish, which is specially relished in the raw state, is called 水蘿蔔 (Shui-lo-po), and is found in its best state in the province of Shantung.

REHMANNIA GLUTINOSA.—地黃 (Ti-huang), 1264. This is a common plant in North China, said to resemble *Plantago* in some respects. It was at first called *Digitalis glutinosa*, but was found to represent a different, but related genus. It is probable that the mistaken identity of *Digitalis purpurea* as 毛地黃 (Mao-ti-huang) arose from this fact. The scapes and leaves are covered with hairs, the flowers red and yellow, the fruit a capsule, the seeds small and greyish-brown, and the root large and juicy, especially in rich soil. The root is prepared for medicine by washing clean and drying in the sun, when it presents the appearance of dark, soft, wrinkled, spindle-shaped masses, sometimes more or less flattened, from two to five inches long, black in color, moist in section, and having a sweetish taste. In this state it is known as 乾地黃 (Kan-ti-huang). Sometimes part of the juice is first expressed in a wooden mortar, or the root is soaked several

times in spirits, and then dried; but this last process particularly must detract from the medicinal activity of the drug. The root is largely prescribed as a cooling and purifying drug, acting directly on the blood as an alterative and tonic. It is said to heal broken bones and tendons, to prolong life, "quiet the soul and confirm the spirit," benefit the eyes and ears, and is prescribed in fatigue and injuries of men, hemorrhagic discharges in women, hemoptysis, nosebleed, and fevers. The drug in the fresh state, 生地黃 (Shêng-ti-huang), is considered to be more active than in the dried. It is prescribed in the same cases as above, but more particularly in active hemorrhages and acute difficulties. A preparation, called 熟地黃 (Shu-ti-huang), is made by taking juicy roots, washing in spirits, filling with the seeds of the bastard cardamom, steaming on a willow frame in a porcelain vessel, drying, and resteamng and redrying nine times. This is thought to harmonise, increase, and cool the blood, and to strengthen the marrow. It is considered highly tonic, and is used in all wasting diseases and weakened conditions of the body. In diseases of pregnancy, puerperal difficulties, diseases of children, and wasting discharges, it is specially recommended. The leaves are bruised, and used in scaly eczema. The fruits, powdered and taken with water, have properties similar to those of the root, as is also the case with the flowers. Another plant, said to be similar to *Rehmannia*, grows in Lingnan, and is called 胡面莽 (Hu-mien-mang). It is mentioned in the *Pêntsaó* in an appendix to the article on *Rehmannia*. It has a sweetish cooling taste, and is non-poisonous. It is taken in decoction in dyspepsia, flatulence, and colic. It is also found in Japan.

REINECKIA CARNEA.—吉祥草 (Chi-hsiang-tsaó). This is Faber's identification. The term means "plant of felicity." Chên Tsang-chi says that it grows in western countries and was brought to China by the Tartars. It is sweet and cooling in taste, and non-poisonous. It brightens the eye, strengthens the memory, and is tonic to the heart. Li Shih-chên says that there was a plant cultivated in China during his time, which was called by the same name, the leaves of which resembled those of the 漳蘭 (Chang-lan), an orchid, and it

remained green throughout the year, bearing purple flowers in panicles. He says it is not the plant to which Chên Tsang-chi refers.

RHAMNUS CHLOROPHORUS, *Rhamnus tinctorius*.

This is a tree of Chekiang province, called by the natives 綠柴 (Lü-ch'ai). There are two kinds, one growing wild, which is known as the white, and a cultivated kind, called the yellow. A brilliant green dye is made of the bark of these, by boiling together thoroughly that of the two varieties in an iron pan. It is left to stand for three days, after which it is placed in earthen-ware vessels, and cotton cloth which has been previously prepared with lime is immersed in it five or six times. The coloring matter is then washed from the cloth with clean water, and is again placed in the pans and boiled. Cotton yarn is then dipped into the solution several times, which takes up the coloring matter, which is again washed off with water, and placed on paper to dry. The process of drying is completed under the full rays of the sun. In order to dye with it, three parts of carbonate of potash are mixed with ten parts of dye. It is very expensive, and so is used sparingly by dyers. Grass cloth, on account of its rough texture taking up the color most easily, is the principal fabric upon which it is employed. It is a very permanent color, and constitutes the *sap-green* of water color painters. The Chinese call the pigment 綠膏 (Lü-ko) and 綠膠 (Lü-chiao). It appears on the Chinese market in thin, dry, bluish scales, which when rubbed up produce a bluish-green pigment, and is used by the Chinese to color shark-skin for covering spectacle cases and the like. It has the purgative properties of the buckthorn, in the crude state, and when mixed with lunar caustic makes an excellent indelible ink.

RHAMNUS JAPONICA.—鼠李 (Shu-li). The same name is also applied to *Rhamnus arguta* and *Rhamnus virgata*. Other common names are 牛李 (Niu-li) and 山李 (Shan-li). The tree, which is common in the provinces north of the Yangtse, grows to the height of eight or ten feet, has leaves resembling those of the common plum, and bears fruits that

are black in color, containing a purplish-black juice. The branches of the tree are used for dyeing green. The fruits are recommended in fevers, scrofulous sores, ascites, small-pox eruption, scabious sores, and sores on horses and cattle. The bark of the tree is similarly used.

RHEUM OFFICINALE, *Rheum palmatum*.—大黃 (Ta-huang), 1225. This is also called 黃良 (Huang-liang), "yellow efficacy," and 將軍 (Chiang-chün), "Captain-general," both referring to the esteem in which it is held as a drug. It has been known in China since the time of the Five Rulers (circa 3000 B. C.). The Emperor Shennung and Leikung, who is said to have lived in the reign of the Emperor Huangti, considered the drug to be poisonous; hence it is classed among the poisons in the *Péntsao*. It is produced in the north-western provinces, but that coming from Kansu is considered the best. The plant grows six or seven feet high, and the stem is brittle and has a sour taste. The stalks were formerly eaten raw. The leaves are coarse, long, and thick, and the flowers vary in different varieties, being yellow, green, or red. The root in the fresh state is red, bowl-shaped, and nearly two feet long. It is pulpy, and is easily attacked by worms. It is usually cut into slices, placed on heated stones and partially dried. Afterwards it is strung together on twine and dried in the sun. Sometimes the drying is completed by artificial heat, and in this case the drug is not so apt to become wormy. A kind of rhubarb, called 土番大黃 (T'u-fan-ta-huang), comes from Thibet or Turfan. Another called 土大黃 (T'u-ta-huang), and which is found in the north-eastern provinces is *Rheum rhaponticum*; but in Japan is a *Rumex*. Good Chinese rhubarb is of a reddish-yellow color, variegated or mottled, and firm in texture, showing evidences of considerable deposits of raphides in its structure. The pieces should be dry and not too light. When chewed, the root should grate upon the teeth, have a bitter and sharp rather than smooth flavor, and color the saliva with a deep yellow tinge. Boracic acid should not color the external yellow surface a dark brown. The purgative properties of rhubarb are not made so much of by the Chinese as they are in the west.

It is regarded more as a general eliminant and tonic to the digestive tract. Depurative properties are also ascribed to it in a marked degree. It is recommended in diseases of women, especially those attended by congestion of the pelvic organs, such as dysuria and dyspareunia. It is also used in malarial fevers and the fevers of children.

RHODODENDRON (*AZALEA*) INDICUM.—杜 鵑 (Tu-chüan), 映 山 紅 (Ying-shan-hung), 紅 躑 躅 (Hung-chih-chu), and 紅 杜 鵑 (Hung-tu-chüan); *Rhododendron (Azalea) sinense*, 黃 杜 鵑 (Huang-tu-chüan) and 老 虎 花 (Lao-hu-hua). These are all given in the *Pentsao* under the title 羊 躑 躅 (Yang-chih-chu), which seems to be a sort of generic name, and derives its meaning from the fact that when sheep eat of these plants, incoördination of the muscles is produced, and the animal staggers and falls. For this reason it is also called 羊 不 食 草 (Yang-pu-shih-ts'ao). Other names are given, and other species of *Azalea* are evidently referred to, such as 山 躑 躅 (Shan-chih-chu), which in Japan is *Rhododendron sublanccolatum*; 白 杜 鵑 (Pai-tu-chüan), a cultivated kind with white flowers, *Rhododendron leucanthum*; and 野 杜 鵑 (Yeh-tu-chüan) *Rhododendron dauricum*. In addition to these, the term 鬧 羊 花 (Nao-yang-hua) is also given, which has been variously referred to *Datura metel* and *Hyoscyamus niger* (see these articles). The number of Rhododendrons and Azaleas to be found in China is very large. Bretschneider gives a list of 132 names in his "History of Botanical Discoveries in China," and when varieties are counted the number will probably exceed this. The flowers are used as a sedative in rheumatism, neuralgias, contractions, and bronchitis. Upon the principle of "*similia similibus curantur*," the Chinese regard these very poisonous substances as admirable counterpoisons to the most virulent forms of toxæmia. Mixed with aconite it is used in toothache, and with *Arisæma thunbergii* as an application to painful abscesses to benumb them, or previous to opening them by those who are bold enough to do such a thing. The *Shan-chih-chu* is said to be non-poisonous, and children eat the flowers. The yellow flowered variety is deleterious. The *Yang-pu-shih-ts'ao* grows

in Szechuan, and is also said to be non-poisonous. It is considered to be tonic and eliminant. These two are probably not *Rhododendrons*.

RHODODENDRON METTERNICHII.—石南 (Shih-nan). This is a Japanese identification, in which Faber concurs. It is probable, judging from the conflicting descriptions given in the *Pêntsao*, that several plants are known by this name in China. In Kueiyang it is called 風藥 (Fêng-yao), and taking the place of tea or steeped in wine, it is used as a cure for headaches. This tea is called 欒茶 (Luan-ch'a) by the people of the southern provinces. Fortune described a *Rhododendron* found growing in the province of Chekiang, which on that account is called *Rhododendron fortunei*. This is also found in the Yangtse provinces, and is called 野枇杷 (Yeh-p'i-p'a). This may be the same as the *Shih-nan*, as the latter is described as having *P'i-p'a*-like leaves. These leaves, which are used in medicine, are acrid, bitter, and slightly poisonous. They are said to strengthen the kidneys, cure internal injury and weakness in the *yin* principle, and to benefit the bones, sinews, skin, and hair. Females should not continue to use the drug, as it has excessive aphrodisiac properties. It is also prescribed in fevers, colds, and intestinal worms.

RHUS SEMIALATA.—鹽麩子 (Yên-fu-tzŭ). The tree is called 膚木 (Fu-mu), and it is confounded with *Broussonetia papyrifera* by the Chinese. Another name for the tree is 麩楊 (Fu-yang); but this is not found in the *Pêntsao*. This is the tree upon which is borne the Chinese nut-galls, 五倍子 (Wu-pei-tzŭ). Several names are given in the *Pêntsao* for the drug, referring to the sour and saline taste of the leaves, seeds, and bark, all of which are used in medicine. The *Pêntsao* has a very fair description of the tree, and mentions the fact that its reniform seeds are sometimes eaten by children. There is also mentioned a 鹹平樹 (Hsien-p'ing-shu), said to be used by the people of Cambodia as an acid condiment; 酸角 (Suan-chio), which is said to resemble *Gleditschia*, and to be used in Lingnan as a substitute for vinegar; and 鹹草 (Hsien-ts'ao), which

comes from a woman's kingdom, located east of the country of Fu-lin, and which is fragrant, saline, and eaten as a vegetable. These are all said to belong to the same class (possibly of plants having a sour and saline taste). The seeds of the *Yên-fu-tzũ* are said to cure malaria, rheumatism, jaundice, epidemic fevers, coughs, and dysentery. The bark of the tree is astringent and anthelmintic, while that of the root is considered to be cholagogue.

RHUS SUCCEDANEA.—黃櫨 (Huang-lu). This grows in the mountains of Shensi and Szechuan. It has a round leaf and yellow wood which is used in dyeing yellow. It is considered to be antifebrile, antivinous, cholagogue, and is used in ophthalmia and as a wash for varnish poison.

RHUS TOXICODENDRON.—In Japan this is 鉤吻 (Kou-wên) and 野葛 (Yeh-ko), and Faber also gives the former name as an equivalent. There is little doubt but that the plant described in the *Pêntsao* under this title is *Gelsemium elegans* (which see). The title refers to the plant and the second term to the root. It is quite possible that this *Rhus* and *Gelsemium* might be confounded by the Chinese, since both are climbers and have a very superficial resemblance to each other. That the *Pêntsao* does not mention any peculiar poisonous action on the skin, would be presumptive evidence against the identification as *Rhus*. Nothing is said either of a resinous juice.

RHUS VERNICIFERA.—漆 (Ch'í). The proper way to write this character is 漆 (Ch'í), which represents water dropping out of wood, referring to the sap oozing out and running down. This is the Chinese *lacquer* tree, found in both China and Japan. The character refers to the varnish and gives a name to the tree. The 乾漆 (Kan-ch'í), 62, is used in medicine. This is the juice of the tree dessicated and pulverized. It is considered to be tonic and stimulant, and is prescribed in coughs, intestinal worms, amenorrhœa, and ecchymoses. The leaves are used in wasting diseases and intestinal parasites, the seeds in dysentery, and the flowers in the swelled

belly of children. A number of remedies for varnish poison are given. A prophylactic is to chew *Zanthoxylum piperitum*, and apply the resulting saliva to the face, when the poison will not act on the skin. A decoction of the wood of *Cunninghamia sinensis*, of *Perilla ocymoides*, of *Sagina maxima*, or the broth of crabs, if applied to the inflamed skin, is reputed to be very efficacious. The remedy giving greatest relief, however, is hot camphor water, frequently applied.

RHYNCHOSIA VOLUBILIS.—鹿藿 (Lu-huo). Also called 鹿豆 (Lu-tou), 豨豆 (Lao-tou), and 野綠豆 (Yeh-lü-tou). It is a wild leguminous plant, found growing in wheat fields. Both the plant and the seeds are eaten either raw or cooked. The latter are sometimes ground into meal, from which cakes are made. They are recommended in the *Ku* poison, scrofulous glands, backache and abdominal pain in women, and headache.

RHYNCHOSPERMUM JASMINOIDES.—絡石 (Lo-shih). This is an apocynaceous plant, allied to *Nerium*, found clambering over rocks. It has small, thick, firm, green leaves, white flowers, and bears a black fruit. It is evergreen, and therefore is called 耐冬 (Nai-tung), "enduring the winter." The stalks and leaves are used in medicine, and are non-poisonous. They are considered to be restorative and tonic, and are a medicine especially adapted to the aged. Gonorrhœa, carcinomatous growths, sciatica, viper bites, and wounds, are some of the difficulties for which it is recommended.

RICINUS COMMUNIS.—蓖麻 (Pei-ma). The first character is properly written 蓖; both having the same sound (Pei or Pi). The character is explained by 蟻 (Pi), a cattle tick, which the seeds are said to resemble. The plant is of foreign origin, having been introduced from Tartary, where it is extensively grown. In China it is cultivated for its shade, as an ornamental plant, and for its seed and leaves which are used in medicine. It grows in a short time to a height of more than ten feet, having a woody stem, which never survives the winter of central and northern China. There is a red-stemmed and a white-stemmed variety,

but the former is the more common. The tricocous, spiny fruit contains the seeds, one in each cell. There is a species, or variety, said to have smooth fruit, and to be non-poisonous. An oil is extracted from the seeds of these and used in cooking. Information is still lacking as to what this plant may be. The castor oil seeds, 990, are oval, slightly curved or compressed, grey, shining, and striped or mottled with blackish or reddish-brown stripes or spots upon the outside. They vary from four to five lines in length, are three lines in breadth, and are marked with a ridge running down the inner or under surface from the larger end to the prominent hilum. On breaking the hard and brittle seed-coat, the oily albumen is seen to be covered with a delicate membrane. The mass of albumen and cotyledons is easily crushed, yielding the acrid, purgative oil, 992, upon which their properties depend. The crushed seeds are used in Chinese medicine as an outward application in a large number of diseases, combined with the oil of the seeds, or the pulp is taken internally as a remedy, the effects of which must be very similar to those of the pure oil. The pulp is rubbed into the temples in headache, into the palms of the hands in palsy, is introduced into the urethra in stricture, and is rubbed into the soles of the feet of parturient women to hasten the birth of the child or the expulsion of the placenta. It is stuffed into deaf ears, rubbed over the top of the head in cases of prolapsus uteri, and is applied to burns and scalds. The seeds are chewed in scrofula, and the pulp is used in a variety of skin affections, dog bite, and wherever a lubricant is needed. The leaves, 991, are applied in swellings as a discutient remedy, and are given internally as a tussic and expectorant. The oil is expressed by the Chinese, but was not especially used in medicine apart from the pulp; its special use being to mix with vermilion for stamping ink. In a note appended to the article on *Ricinus*, there is another plant spoken of, called 博落迴 (Po-lo-ch'ung), the stalk or leaves of which are said to resemble *Pei-ma*, having a hollow stem that when blown through will produce a sound. This, when broken, exudes a yellow juice which is exceedingly poisonous. It grows in mountain ravines and is probably a *Rhus*. It is considered to be an efficient counter-poison to virulent infections.

ROSA ANEMONÆFLORA.—月季花 (Yüeh-chi-hua), 月月紅 (Yüeh-yüeh-hung). This is the Chinese monthly rose, a variety of the *Rosa sempervirens*, a common scrambling shrub, bearing a profusion of red flowers, mostly barren. It is supposed to act on the blood, reduce swelling, and destroy poison in ulcers. The flowers are said to encourage the breaking of stumous abscesses when taken internally, after having been prepared according to very disgusting process suggested by an ancient formulary.

ROSA BANKSIA.—木香 (Mu-hsiang). This is not described under this term in the *Pentsao*, what is there said referring to *Aplotaxis* and *Aristolochia* (which articles see). Li Shih-chên speaks of a kind of rose (薔薇) being called *Mu-hsiang*, but no further reference is made to it.

ROSA INDICA, *Rosa multiflora*.—薔薇 (Ch'iang-wei). This is a general name for the species. The fruit is called 營實 (Ying-shih), and the plant 牆藤 (Ch'iang-mi), "wall-rose." One kind with very large flowers is called 佛見笑 (Fo-chien-hsiao), "Buddha sees and smiles." It grows wild in the forests and on banks. In the spring, children strip the bark and spines from the young shoots and eat these latter. The flowers have yellow anthers and pale or pink petals. Cultivated varieties have white, yellow, red, and purple flowers. The fruits are used in wounds, sprains, injuries, foul sores, and are said to be anodyne. The root is considered carminative and astringent, and is used in fluxes, ulcers, wounds, skin diseases, and polyuria. The leaves are applied in ulcers. Li Shih-chên speaks of a perfume found among the 南番 (which may refer to any place outside of China, and whose people approach China from the South), called 薔薇露 (Ch'iang-wei-lu). This may refer to *Attar of Roses*; or this latter may be the 薔薇水 (Ch'iang-wei-shui), brought to Canton and Fukien by Arabian traders, and referred to in the annals of the Sung dynasty, quoted by Dr. Bretschneider in a series of articles of great interest in the "Chinese Notes and Queries" for 1870.

ROSA LÆVIGATA.—金櫻子 (Chin-ying-tsu), 166. The second character should be 嬰 (Ying), as its seed capsule

is the shape of a water jar. *Pyrus malus* also has this same Chinese name, as does also *Rhododendron sinense*. This rose is found everywhere. It bears a white flower, a yellow capsule, and small seeds, which are hairy and aromatic. These seeds are carminative, astringent, and diuretic. The flowers are also used in dysentery, and to restore the color of hair. The leaves are famous as a vulnerary remedy. Dried together with the leaves of the mulberry and of *Bœhmeria nivea*, and all powdered, they form a renowned vulnerary called 軍中一捻金 (Chün-chung-i-nien-chin), "a pinch of gold in the army." The root, 169, is anthelmintic, and the bark of the root is astringent, and is used in diarrhœa and menorrhagia.

ROSA RUGOSA.—玫瑰花 (Mei-kuei-hua), 834. This is the cultivated species of rose, with red and pink flowers, which is so highly prized by the Chinese. Purple and white varieties are also found. This rose is fragrant, its nature is cooling, its taste is sweet with a slight bitterishness, and it acts especially on the spleen and liver, promoting the circulation of the blood. It is prescribed in the form of an extract for hematemesis, and the flowers are used in all diseases of the liver, to scatter abscesses, and in blood diseases generally. The petals are used as tea, 玫瑰茶 (Mei-kuei-ch'a), to soothe the liver. The *Attar of Roses* is also said to be called 玫瑰油 (Mei-kuei-yu), and a scented liquor is called 玫瑰露 (Mei-kuei-lu), "*Dew of Roses*."

ROSMARINUS OFFICINALIS.—迷迭香 (Mi-tieh-hsiang). This was brought from the bounds of the Roman Empire during the reign of Wenti of the Wei dynasty (452 A. D.). It was valued for its delightful fragrance. It is used to make fine odors, as a perfume, and when burned will drive away demons. Mixed with *Peucedanum decursivum*, it is burned to drive away mosquitoes.

ROTTLERA JAPONICA.—梓 (Tzū). See *Catalpa kämpferi* and *Lindera tzūmu*.

RUBIA CORDIFOLIA.—茜草 (Ch'ien-ts'ao), 126. A very luxuriant variety of the plant is called 蒨 (Ch'ien), and

the root is called 菟 (Sou). Other names are 地血 (Ti-hsüeh), 染緋草 (Jan-fei-ts'ao), and 血見愁 (Hsüeh-chien-ch'ou), 478. The first of these terms, as well as the character 菟 just above, refers to the belief that the color of the plant is due to transformed human blood; the second to the use of the plant in dyeing a deep red color; and the third means "when blood sees it, it is shamed," referring to the color produced by it. It is the Indian *madder* plant, and is very similar to the European madder. It is a creeper, growing to a length of several feet, has a square, hollow stem, covered with small prickles. The leaves are in whorls of five, scabrous and dark on the upper side. The root is purplish-red. In the *Historical Records* it is said that he who plants a thousand *mou* with this plant and the *Gardenia*, is considered to be equal in wealth to a nobleman who has control of a thousand households. This shows the importance in which these plants are held in the estimation of the Chinese. The root is used as a red dye not only in China, but also in Japan, and is called *munjetto*, or *mandjuchaka* in Sanscrit. Tonic, alterative, astringent, vulnerary, and emmenagogue properties are ascribed to the root, and it is used in rheumatism, jaundice, hemorrhages, fractures, and all sorts of exhausting discharges.

At the close of the article in the *Péntsao*, a creeper called 血藤 (Hsüeh-t'êng), 479, is spoken of, and is probably a rubiaceous plant. It is yellow, and is used as a blood remedy.

RUBUS CORONARIUS.—醑醑 (T'u-mi). This is a fragrant bramble, similar to, or possibly identical with, the *Brier Rose*. Its only use is to scent a kind of wine called 醑醑酒 (T'u-mi-chiu). The characters are sometimes written 茶藨.

RUBUS INCISUS.—懸鈎子 (Hsüan-kou-tzŭ). This is also called 山莓 (Shan-mei) and 木莓 (Mu-mei), "wild or wood berry". The berries are rather sour, but quite edible. They are counter-vinous, refreshing, and expectorant. The leaves are used in dysphagia. The bark of the root is used in case of the death of a fetus which has not come away, in menorrhagia, chronic dysentery, and chronic discharges of all kinds.

RUBUS THUNBERGII.—蓬蘽 (P'êng-lei). 蘽 (Piao) is a name for berries like the blackberry, raspberry, or strawberry. Under the present article in the *Pên-tsao* a number of species and varieties of *Rubus* are mentioned, such as 梶田蘽 (Non-t'ien-piao), which is *Rubus parvifolius*; 薔央蘽 (Hao-ying-piao), *Rubus trifidus*; 寒莓 (Han-mei), *Rubus buergeri*; 插田蘽 (Ch'a-t'ien-piao), *Rubus corcanus*; and 冬蘽子 (Tung-piao-tzŭ), *Rubus ichangensis*. The general description given in the *Pên-tsao* is quite characteristic, but detailed account of the various species is so incomplete that identifications are difficult. Nor is this necessary, since all are used medicinally in the same way. These fruits are said to quiet the five viscera, strengthen the virile powers, increase the *yin*, give force and vigor to the body, and promote fertility. They improve the complexion, promote the growth of hair, and cure fevers and colds. The shoots and leaves are used in the same cases as those of the *Fu-p'ên-tzŭ*.

RUBUS TOKKURA.—覆盆子 (Fu-p'ên-tzŭ), 335. Ancient writers did not distinguish this from the last. The Chinese name, meaning "a turned-over bowl," refers to the shape of the fruit. A number of other names are given, some of which evidently refer to a foreign origin for the plant. Some of the names given in the last article are also applied to this. This is the common Chinese wild raspberry, resembling the American *Rubus strigosus*. It is found in the uplands of the central and western provinces, and the fruit is not much used by the Chinese, especially in the fresh state. It is sometimes dried or made into jam. The fruit is bruised, made into cakes, and dried for medicinal use, or it is made into a conserve with honey. It is supposed to benefit respiration, give vigor to the body, and prevent the hair from turning grey. Tonic, restorative, and aphrodisiac properties are ascribed to it, and it is recommended in phthisis, wasting, diabetes, impotence in the male and sterility in the female. The fresh leaves are bruised and the juice employed in ophthalmia, especially the infectious kind. The root is used in decoction in ophthalmia and opacities following smallpox.

RUMEX.—Docks and sorrels are common in China, but the identification of Chinese names is difficult. The same names are used for widely differing plants, and as descriptions are incomplete or confusing, definite identification in many cases is well-nigh impossible. 葛菜 (Ko-ts'ai) is sometimes used as a term, but this first character is properly applied to *Pachyrizus*. 蔓菁 (Wan-ching) is also used for *Rumex*, but what is described in the *Péntsao* under this title is *Brassica rapa*. Another term is 紫花菜 (Tzū-hua-ts'ai), and this properly refers to *Raphanus* or *Brassica*. In Japan 土大黃 (T'u-ta-huang), or 杜大黃 (T'u-ta-huang), is identified as *Rumex aquaticus*, and it is probable that there is some confounding of genera by the Chinese, but the latter do not distinguish this from *Rheum*. In the Peking mountains a *Rumex* goes by this name.

Rumex acetosa is 酸模 (Suan-mo). This is confounded with *Oxalis corniculata* and *Physalis alkekengi*. Other names are 山羊蹄 (Shan-yang-ti), 山大黃 (Shan-ta-huang), and 酸母 (Suan-mu). This last is *Physalis*. One kind that resembles 羊蹄 (Yang-ti) and is sour, is used in the treatment of itch. The plant has a reddish-yellow root, and the juice of this and of the leaves is used to correct the poison of corrosive sublimate. The leaves are sour and the root slightly bitter. Taken internally it is regarded as antifebrile and carminative. Externally it is used for parasitic skin diseases and freckles. Another name for this plant in Hupeh, according to Henry, is 牛舌頭 (Niu-shê-t'ou); but at Peking this is *Rumex crispus*. It is a water dock having a leaf a foot or more long, according to the description given in the *Péntsao*. The fruits of this are considered tonic and constructive. These fruits are called 豕首 (Shih-shou), "hog's head," and the leaves 牛耳 (Niu-êrh), "cow's ear." Another kind of water dock, called 麩舌 (Chün-shê), is highly recommended in choleraic affections.

RUMEX JAPONICUS.—羊蹄 (Yang-ti). Another name given for this is 鬼目 (Kuei-mu), which is also a name for *Tecoma grandiflora*, the seeds of *Solanum dulcamara*, and a sort of *Amomum*, also called 麩目 (Lu-mu), found in Lingnan. So this name is not very distinctive. Other names are 牛舌菜

(Niu-shê-ts'ai), 秃菜 (Tu-ts'ai), 羊蹄大黃 (Yang-ti-ta-huang), and the seeds are called 金蕎麥 (Chin-ch'iao-mai), "golden buckwheat." At Peking this is *Rumex crispus*. It grows in marshes and at the side of water courses, to the height of three or four feet. Its leaves somewhat resemble those of *Lactuca*, but are darker in color. The stalk is purplish-red, and it bears a greenish-white flower. The seeds are borne on a spike, and are three angled. The root is reddish-yellow, and resembles that of *Rheum*. It is used as a parasiticide, insecticide, and antiseptic remedy in skin diseases, ulcers, and the like. It is also used internally in constipation. The leaves are used as a demulcent food, and are recommended in diarrhœas and intestinal worms. The seeds are used as a demulcent and carminative in dysentery and flatulence.

RUTA GRAVEOLENS.—芸香草 (Yün-hsiang-ts'ao). This grows in Yunnan. Two kinds are described, one with five leaves (compound), and one with leek-like leaves. Its action is considered to be counterpoisonous, and it is recommended in malarial poisoning. The name is derived from that of the resin secured from *Symplocos prunifolia*, to the odor of which that of this plant is likened.

S.

SACCHARUM OFFICINARUM.—甘蔗 (Kan-chê). The earliest account of the *sugar-cane* in China dates from the second century before Christ, and the characters were then written 𦵑𦵑 (Kan-chê), the radical indicating the sweetness of the plant. The name is also written 竿蔗 (Kan-chê), referring to the reed-like character of the stalk. In the *Shuowên* it is termed 藟 (Chê). Under these characters are included both *Saccharum officinarum* and *Sorghum saccharatum*. The Chinese distinguish several kinds; such as 杜蔗 (Tu-chê) or 竹蔗 (Chu-chê), which is used for making sugar; 西蔗 (Hsi-chê), also used for making sugar; 芳蔗 (Lê-chê), 蠟蔗 (La-chê), or 荻蔗 (Ti-chê), which is *Sorghum saccharatum*; and 紅蔗 (Hung-chê), 紫蔗 (Tzŭ-chê), or 崑崙蔗 (K'un-lun-chê), which is used principally for chewing in the fresh state. The sugar-cane is grown in Kiangsi, Szechuan, Hunan, Chekiang, Fukien, Formosa, and Kuangtung, largely as a substance for chewing, but also for the manufacture of sugar and treacle. This latter use has been much on the increase as foreign intercourse with China has developed. The ingestion of the cane with wine is thought to increase phlegm, and if eaten in excess it is said to produce feverishness and nosebleed. The use of the juice is considered to be cooling, tussic, stomachic, and antivenous. The bagasse, 澤, is incinerated and mixed with black juniper oil, 烏柏油, as an application to the sore heads of children.

Raw sugar is called 沙糖 (Sha-t'ang) or 紫糖 (Tzŭ-t'ang). The second character is now more commonly written 糖 (T'ang). The name is derived from the fact that in the T'ang (唐) dynasty, during the reign of the Emperor Tai-tsung, the method of boiling the juice of the crushed cane was introduced into Szechuan and other parts of China from Turkestan or Central Asia. Hence the term for sugar is made up of the character for the name of the dynasty combined with the "food" or "rice" radical. The method of manufacture as first introduced into China is given in the *Pentsao*. The character 飴 (T'ang) is also used, but it is probably a wrong

way of writing 餈 (Hsing), "sweet-meats." A number of the various products of the process are named, such as 青餈 (Ch'ing-t'ang), which is a pasty mass, produced by boiling and partly clarifying; and several clarified and crystallized products are called 石蜜 (Shih-mi), 氷餈 (Ping-t'ang), and 餈霜 (T'ang-shuang). Figures of men, birds, and animals have long been made of the coarse sugar for children and for use at feasts. A preparation made up with refined sugar and cow's milk is called 乳餈 (Ju-t'ang), and it much resembles in appearance the sweetened condensed milk now on sale in China. The refined sugar, which was called 石蜜 (Shih-mi) and 白沙餈 (Pai-sha-t'ang), is considered to be a remedy for the spleen, and is prescribed in fevers, lack of secretion, dry cough, and like difficulties. At the Yangtse ports sugar is sometimes called 洋糖 (Yang-t'ang), from the fact that it is brought in foreign steamers.

The making of sugar in Szechuan has been much interfered with by the cultivation of the poppy, so that the Yangtse provinces which used to draw their supply from this source, now receive sugar in large quantities from Swatow, Canton, and Hongkong. The provinces of Hunan, Kueichou, and Kiangsi are still able to supply the greater portion of what they consume, although the imported sugar is considered better, and in the end cheaper. The sugar-cane is largely cultivated in Chekiang for chewing, although the manufacture of sugar is on the increase from year to year. It is to be remembered that the embassies of 1792 and 1816, which visited this province, found sugar very extensively manufactured there. According to Mr. Bowra's account in his Customs Report of 1869, itinerant sugar-boilers go about through the Chekiang sugar districts, carrying with them an iron cauldron and a pair of cylinders. The sugar mills are of the rudest kind, being set up in the midst of the cane plantation, and are sometimes rented out. "The juice having been boiled and partly clarified is transformed into 青糖 (Ch'ing-t'ang) or 烏糖 (Wu-t'ang), a green or black sugar of a pasty description." In some places a good sugar is produced by the claying process. "As in the case of black sugar, the cane is ground and the juice is partly clarified, and having been boiled to a certain consistency, is

transferred into earthen-ware vessels of a conical shape, the article being then known as 糖菜 (T'ang-ts'ai). These cones being inverted into empty vessels to drain, in a short time an article known as 機赤糖 (Chi-ch'ih-t'ang) is formed and partly dried in the sun. In refining, moist clay is placed on the base, renewed as required, and in due course removed, when the sugar, on being shaken free from the cone, is found to consist of three or four grades, that at the apex being coarse and moist, known to the trade as 漏尾 (Lou-wei), the next in order being 揭糖 (Chieh-t'ang), the next 楊糖 (Yang-t'ang), and above all 貢粉糖 (Kung-fên-t'ang), which is the whitest and best." The molasses is treated afterwards to make the 紅糖 (Hung-t'ang), an article which the Chinese use as a laxative remedy. Steam mills and refineries have been introduced into the south, many of which are the result of foreign enterprise. These are supplying much better grades of sugar at such cheap rates that local manufacture is being driven out. It has not been possible to learn whether the sugar-beet is yet cultivated to any extent in China. Barley sugar is manufactured in Fukien under the name of 冰糖 (Ping-t'ang). A sort of dextrose is also made in many parts of China from the 糯米 (No-mi), glutinous rice. Sugar is often found adulterated in China, as elsewhere, with sand, ricemeal, and the like. The same ideas about the damage to the teeth and digestive organs by sugar prevail in China as are entertained in Western countries. It is frequently used as an application to wounds, ulcers, boils, and inflamed eyes. It is noted that both barley sugar and rock-candy are called 冰糖.

SAGINA MAXIMA.—漆姑草 (Ch'i-ku-ts'ao). This is a Japanese identification. It is given in the *Pentsao* under the article on 蜀羊泉 (Shu-yang-ch'üan), which in Japan is *Solanum lyratum*. Three distinct plants are described, the third being called 老鴉眼睛草 (Lao-ya-yên-ching-ts'ao), which is the same as the 龍葵 (Lung-k'uei), *Solanum nigrum*. These descriptions are very much mixed; but there is no doubt that one of them refers to a *Sagina*, and that this is the one most commonly called *Ch'i-ku-ts'ao*. The name is said to be derived from the fact that the plant is regarded as an

antidote to varnish poisoning. The juice of the plant is used in fevers, foul sores, and all sorts of parasitic skin diseases, decayed teeth, vaginal injuries, nervous difficulties of children, to promote the growth of hair, in varnish poisoning, and internally in jaundice. Just which of these virtues is ascribed to which plant is not made clear.

SAGITTARIA SAGITTIFOLIA.—慈 姑 (T'zǔ-ku), 1426; also written 菰 姑 (Tzǔ-ku) and 慈 孤 (T'zǔ-ku). Other names are 藉 姑 (Chieh-ku), 白 柈 栗 (Pai-ti-li), and 水 萍 (Shui-p'ing), for the bulb, while the stalk is called 剪 刀 草 (Chien-tao-ts'ao), and 燕 尾 草 (Yên-wei-ts'ao), referring to the shape of the leaves. This is confounded with *Monochoria hastata*, and indeed this latter is called by these names in the south. As one of the Chinese names indicates, it is also confounded with *Lemna*. It is also said to resemble *Alisma plantago*. It grows in shallow water, and is also cultivated in ponds and irrigated fields. The arrow-shaped leaf is well described in the *Pentsao*. In the fall and early spring the tubers are dug up and steamed for food. The tender stalk is similarly used, and a sort of arrowroot is made of these products. The herbage is somewhat acrid. The ingestion of the tubers in the raw (cold) state is considered to be deleterious, producing fluxes, weakness, and hemorrhoids. Pregnant women should not eat of them. They are recommended in deficient lochia, and in retention of the placenta, as well as in gravel. The bruised leaves are applied in foul sores, snake and insect bites, and as a powder to itching diseases.

SAGUS RUMPHII.—桫 欏 (Kuang-lang); *Saguerus rumphii*, 蔞 木 (So-mu). The first character of the latter name is properly written 莎 (So). The former is also called 麩 木 (Mien-mu), referring to its starch, and 鐵 木 (Tieh-mu), referring to the hardness of its wood. The tree grows in Lingnan, and it is cultivated. The description of the fecula and the mode of obtaining it is given in the *Pentsao*. The bark is used for making ropes, and the fiber for making a coarse cloth or matting. The fruits resemble those of *Arca catechu*, and are supposed to render fluid the blood and disperse ecchymoses.

The *sago*, called 桄榔麩 (Kuang-lang-mien), is considered to be very nutritious and strengthening. The second above named is an allied kind of palm found growing in Annam, and called 檳木 (Hsiang-mu). The tree is somewhat taller than the other, and grows on mountain ridges. It resembles the coir-palm, but furnishes the fecula which yields sago. There is no apparent difference in the product of this tree and that of the other.

SALISBURIA ADIANTIFOLIA.—銀杏 (Yin-hsing), 白果 (Pai-kuo), 952. This tree grows south of the Yangtse, and is said to be found at its best in Hsüan-chêng-hsien in Ningkuofu, Anhui. It grows from twenty to thirty feet high, with thin, vertical leaves resembling a duck's foot (triangular-fan-shaped). In the second month the tree blooms with a greenish-white bud, which opens in the night and quickly drops off, so that men rarely see the flower on the tree. The fruits are borne prolifically on the branches, and resemble lotus seeds. They ripen after frost. The seeds are pointed at the extremities, and are marked by two or three longitudinal ridges. The Chinese say that the three ridged seeds produce staminiferous plants, and the two ridged pistiliferous ones. Care should be taken to plant both kinds of seeds together. This tree is the *Ginko biloba*, the generic term being derived from the Japanese pronunciation of the two characters 銀果 (Yin-kuo). It is a tree of great beauty, and has been successfully transplanted to Europe and America, growing quite well even in the north, and the fruits ripening in the warmer latitudes of the south. These are resinous, bitterish, and astringent. The *Pai-kuo*, "white-fruits," of the shops, consist of the nut-like seeds, which are from three-quarters of an inch to one inch long, and have a brownish-white, smooth, hard shell. The kernel consists of two yellow, mealy cotyledons, covered with a beautiful, thin, reddish membrane. The Chinese consume these nuts at weddings, the shell being dyed red. They are also much used at feasts, and are a fair substitute for lotus seeds. They have a somewhat fishy taste, and are supposed to benefit asthma, coughs, irritability of the bladder, blenorrhœa, and uterine fluxes. Eaten raw, they destroy cancer and are counter-vinous. Cooked, they are said to be peptic and

anthelmintic, and are similarly used by the Japanese to promote digestion. In some cases they appear to cause peculiar symptoms of intoxication, and occasionally to destroy life. They are sometimes used to wash clothes, and are digested in wine or oil to make a kind of detergent cosmetic. This detergent action is dependent upon a peculiar, crystallizable, fatty principle which the pulp contains. The wood of the tree is made into seals, which are used as charms by quacks in the treatment of disease. The trees sometimes grow to a very great size; one of the famous "big trees" of Kuling being of this kind.

SALIX BABYLONICA.—柳 (Liu), 小楊 (Hsiao-yang), 楊柳 (Yang-liu). Several kinds of willow are included under these terms; but the most common Chinese willow, and the one that is planted extensively in all parts of the empire, is the *Salix babylonica*. Of this there are several varieties, some with the long pliant branches characteristic of the weeping willow, while others have shorter and less pliant limbs. The tree is well described in the Chinese books. The cottony down of the seeds is called 柳華 (Liu-hua) and 柳絮 (Liu-lsü); but this may also include the catkins. This product is recommended in jaundice, rheumatism, hemorrhage, fever, and locally in foul sores and ulcers, cancers, and perspiring feet. Decoction of the leaves, 741, is used in ulcers, skin diseases, varnish poisoning, and internally in rheumatism, gonorrhœa, ephemeral fever, and carbuncle. The white bark of the twigs and root, 746, is used in the bath for parasitic skin eruptions, and internally in decoction for jaundice, gonorrhœa, and rheumatic swellings. A kind of tea, called 甜茶 (T'ien-ch'a), is made of the leaves of this and other trees of the willow family, and they are sometimes used to adulterate tea. The gum from the willow tree, called 柳膠 (Liu-chiao), is applied to foul sores. The willow epiphyte 柳寄生 (Liu-chi-shêng), is a species of *Viscum*, and is sold in the shops as a dried, yellow, flowering plant, with the leaves attached. It is used as a carminative, antispasmodic, and sedative.

SALIX PURPUREA.—水楊 (Shui-yang), 蒲柳 (P'u-liu), 青楊 (Ch'ing-yang). This is a willow with leaves that

are rounder and shorter than those of the last, and short, stiff branches, with reddish bark and wood that is fit to make arrows. Possibly more than one kind of willow is included under these terms, as the 蒲楊 (P'u-yang) is said to have long leaves and pliant branches suitable for making baskets. The twigs and leaves, 746, are used in chronic dysentery, cancerous sores, and as a dressing to smallpox ulcers. The white bark of the tree and the root, 741, is used in similar cases and as a styptic and anodyne in wounds.

SALVIA JAPONICA.—鼠尾草 (Shu-wei-ts'ao), 1171. This plant takes its name from its flower spikes, which somewhat resemble those of *Plantago major*. It is used for dyeing black, and for that reason is called 烏草 (Wu-ts'ao). It grows in marshes, and is therefore called 水青 (Shui-ch'ing). There are two varieties, one with red and the other with white flowers. The flowers and leaves are used in medicine in struma, fluxes, and discharges. "The white-flowered kind is good for colorless discharges, and the red-flowered for red discharges." It is also used in ague and dropsy.

SALVIA MILTIORRHIZA.—丹參 (Tan-shên), 1246. This labiate plant is grown in Shensi, Shansi, Shantung, and in the Peking mountains it is a common plant. It has from three to seven hirsute leaves and large violet flowers. The root is red externally and purplish internally when fresh. It is sold in short, shrivelled pieces of a bright, brick-red color, sometimes branching or twisted, and generally bristling with radicles. The interior is soft, and the taste of the whole is sweetish, resembling that of licorice. This root is one of the five astral remedies, 五參 (Wu-shên), which are thought to correspond to the five colors—yellow, white, black, purple, and red—and to the five principal viscera—spleen, lungs, kidneys, liver, and heart. This particular one belongs to the heart, and its red color suggests the blood. It is credited with alterative, antispasmodic, arthritic, tonic, sedative, astringent, and vulnerary properties, and it is highly recommended in all blood difficulties, hemorrhages, menstrual disorders, and miscarriages.

SALVIA PLEBIA.—荆芥 (Ching-chieh), 175. This Chinese name is used for various plants, such as *Nepeta tenuifolia*, *Molsa lanceolata*, *Origanum vulgare*, *Phthcirospermum chinense*, *Elsholtzia*, and *Melampyrum*. It is described in the *Pêntsao* under 假蘇 (Chia-su), *Tenerium stoloniferum* (which see), and is not distinguished medicinally from it. At Peking, however, *Ching-chieh* is *Salvia plebia*.

SALVINIA NATANS.—紫萍 (Tzŭ-p'ing), see *Lemna minor*. *Salvinia vulgaris*, 槐葉蘋 (Huai-yeh-p'in), see *Hydrocharis morsus ranae* and *Marsilia quadrifolia*.

SAMBUCUS JAVANICA.—陸英 (Lu-ying). The description of this plant in the *Pêntsao* is very vague, but its identity is sufficiently established by observation. The leaves and root are used in medicine, and are regarded as non-poisonous. It is prescribed for all diseases of bones, pain and numbness, and rheumatic difficulties generally.

SAMBUCUS RACEMOSA.—接骨木 (Chieh-ku-mu), 90. This is the same as *Sambucus sieboldiana*, and is a real woody *elder*. Other names are 續骨木 (Hsü-ku-mu) and 木蒴藿 (Mu-so-t'iao). It grows extensively throughout China, and is a small tree from ten to fifteen feet high, and has a hollow stem. It is sometimes cultivated. The juice is acrid and slightly emetic. It is used in broken bones, sprains, colds, and carious teeth. The bark of the root is used in dropsy, ague, and suppressed lochia. As it is emetic, care should be exercised in its use. The leaves are used in ague fits, when adults use the juice of seven leaves and children that of three leaves. This produces emesis, which is supposed to break the attack.

SAMBUCUS THUNBERGIANA.—蒴藿 (So-t'iao). Also called 接骨草 (Chieh-ku-ts'ao), 90. This is the same as *Sambucus chinensis*. It is a half-woody, half-herbaceous plant, and grows quite commonly in waste ground. It has five-parted leaves, white flowers, and berry-like fruits which become red when ripe. The leaves, stem, and root are used in

medicine, have a sour taste, and are poisonous, being emetic. They are used in decoction in the bath in the treatment of itchy, scaly, and parasitic skin diseases. They are somewhat used internally in obstinate agues, suppressed lochia, and anasarca.

SANDARAC.—It is not known that this substance appears by itself in Chinese commerce; at least no name has been found for it. Porter Smith gives 芸香 (Yün-hsiang) as a term for it, and this term is indeed found in the *Pên-sao* referring to an herb (*Ruta graveolens*), and as one of the names of *Symplocos prunifolia*. Under this last article there is a reference to a resin coming from Khoten which is called 芸香膠 (Yün-hsiang-chiao). It is used in polishing jade. It is quite probable that olibanum is sometimes found with an admixture of sandarac, as often happens in that found in western pharmacies, and it may even be that the pure sandarac is sometimes confounded in China with olibanum or storax. Porter Smith did not claim to be able to procure the drug in Hankow, but says that it is somewhat whiter than mastich and is used in much the same way as the other resins: *i. e.*, as a stimulant, sedative, and deodorizing drug. It is often put into clothes-trunks to keep away moths. *Gunda birosa* is the Indian name of a drug resembling sandarac.

SANGUISORBA OFFICINALIS.—地榆 (Ti-yu); see *Poterium officinale*.

SANTALUM ALBUM.—檀香 (T'an-hsiang). This is somewhat confounded with *Dalbergia hupeana* and *Pterocarpus santalinus*. But it is distinguished as the 真檀 (Chên-t'an), "true t'an," and 旃檀 (Chan-t'an), which is in imitation of the Sanscrit *chandana*, the name of the *sandal wood* in India. Another name is 白旃檀 (Pai-chan-t'an). The principal name is explained by its phonetic 檀 (T'an), which means "true," "sincere," and refers to the use of the wood as incense for worship. The wood originally came from the countries of the Buddhists and Mohammedans, but is now grown in Lingnan. Medicinally, it is regarded as carminative

and corrective, and is used in hiccough, vomiting, and choleraic difficulties. It is mixed with mucilage and applied to acne of the face and to aching parts. The sandal-wood tree grows under the protection of the British government in Mysore, and in some cases is allowed to attain to the height of twenty-five feet. The trees are usually cut down when twenty years old, and the wood is chopped into billets for sale. The roots and heart-wood yield a fine, yellow, clear oil, which is imported into China, 1249, and is much valued for its fragrance. Other woods used in the carving of fans and like articles are given a coating of this oil to make them appear to be genuine sandal-wood. This oil is mentioned in the Appendix to the *Péntsao* as a carminative remedy; but modern Chinese doctors have learned to use it in gonorrhœa also.

SAPINDUS MUKOROSI.—無患子 (Wu-huan-tzū), 木患子 (Mu-huan-tzū), 865. Other names are 肥珠子 (Fei-chu-tzū), 油珠子 (Yu-chu-tzū), 菩提子 (P'u-ti-tzū), and 鬼見愁 (Kuei-chien-ch'ou). The first two refer to the oily nature of the seeds and their pearl-shape, while the third means *bodhi seeds*, and is used by the Buddhists, and the fourth is used by the Taoists and refers to the benign influence of the seeds in exorcising demons. The tree is a large one, bearing seeds resembling those of *Melia azedarach*, which are sometimes used for making rosaries. Notwithstanding their acidity, they are roasted and eaten by the Chinese. The dark kernels were formerly made into a tincture, which was used as a corrective and eliminant remedy. The globular fruit outside the seed is used in medicine under the name of 木患肉 (Mu-huan-jou), 863. It is considered to be slightly poisonous, and is cleansing to the skin, removing tan and freckles. The cotyledons of the seeds are recommended for bad breath and gum boils. The root, 864, is also used, probably in the same way as the fruit and seeds.

SAPONARIA VACCARIA.—王不留行 (Wang-pu-liu-hsing), 1440. Other names are 禁宮花 (Chin-kung-hua) and 金盞銀臺 (Chin-chan-yin-t'ai). The plant is frequently met with in the fields, and grows from one to two feet high.

It has bell-shaped flowers, with an inflated calyx enclosing the seed capsule. At Peking, *Silene aprica* is called by this name. The plant is slippery and unctuous, and when trod upon is apt to cause a fall. Hence, one of the princes forbade its being allowed to grow in the palace grounds. From this arose the two principal names. The seeds are dark red and round, resembling turnip seeds. The root, shoot, flowers, and leaves are all used in medicine and are said to be vulnerary, styptic, diuretic, galactagogue, discutient, and solvent. They are a soldier's remedy after receiving wounds.

SARACA INDICA.—無憂花 (Wu-yu-hua). The flowers of this "sorrowless" tree upon which the mother of Sakyamuni Buddha is said to have laid hold in the pangs of the birth of her son, are barely mentioned in the *Kuang-chün-fang-pu*. It is a leguminous tree, and the legend is that it always bursts into flower when touched by a woman. It is therefore a woman's remedy.

SARGASSUM SILIQUASTRUM.—海藻 (Hai-tsau).
See *Algæ*.

SAURURUS LOUREIRI.—三白草 (San-pai-ts'ao). The Customs lists give 三丫虎 (San-ya-hu) 三丫草 (San-ya-ts'ao), 1064, but from what source these are derived has not been found. The plant grows in marshy ground, has a stalk that resembles *Polygonum*, leaves that resemble those of *Celosia argentea*, and in the fourth month the three terminal leaves of the plant successively begin to turn white. There is a common saying, "one leaf white, eat wheat; two leaves white, eat plums and apricots; three leaves white, eat millet." In the fifth month it bears a spike of small, white, slightly fragrant flowers, followed by small, one-seeded berries. The root is white, elastic, jointed, and covered with bristly rootlets. The plant is to be distinguished from *Polygonum persicaria*, which has black spots on the leaves. The flowers and root are used in medicine, and are considered to be slightly deleterious. Eliminating, antimalarial and parasiticide properties are attributed to it.

SAXIFRAGA SARMENTOSA.—虎耳草 (Hu-êrh-ts'ao).

This grows in moist, shady places, and is also cultivated on stony ground. It has a creeping stalk, and sends up leaf-stalks to the height of five or six inches, the leaf-blade being rounded, hairy, and shaped like a tiger's ear or lotus leaf. For this last reason it is sometimes called 石荷葉 (Shih-ho-yeh). The flower, which opens in summer, is pale red. The drug is used in choleraic difficulties, vomiting, discharges from the ear, and piles. In the last case, the plant is dried in the shade and then set fire to in a bucket, and used to steam or smoke swollen, painful hemorrhoids.

SCAPHIUM SCAPHIGERUM.—胖大海 (P'ang-ta-hai), 安南子 (An-nan-tzū), 大洞果 (Ta-t'ung-kuo), 大海子 (Tahai-tzū), 1223. This drug comes from the Tatung mountain of Annam, where it grows in the darkness of the jungle. It is described in the *Péntsao* as follows: "The fruits resemble dried *Canarium* fruits, have a yellowish black skin very much wrinkled, and when soaked in water the layers swell up into a cloudy mass. But in the middle is a soft shelled seed containing the cotyledons, the taste of which is sweetish." The drug is also found in Siam, where the tree is called *Boa-tam-pai-jang*, *Poungtarai*, and *Bungtalai*. The leaves examined by Hanbury were about five inches long, simple, entire, ovate-acuminate, and glabrous on both surfaces. The fruits are about an inch long, ovoid, and without a pedicle, the cicatrix left by the dark-brown, deeply-wrinkled fruit being very conspicuous and curiously oblique, with a kind of spur. The thin, dry epidermis being removed, reveals a dry, black mesocarp, within which is the central seed, consisting of the two shrunken cotyledons. When the fruit is put into water for some few hours, the thin epidermis peels off, and the dark mesocarp swells up into a very large, tasteless mass of gelatine showing all the wrinkles of the fruit, and imparting a dark tint to the water. This is due to the bassorine contained in the pericarp. Sir R. H. Schomburgk was told that where the trees grow by a roadside and the fruits drop on the road abundantly, after a hard rain there will be such a mass of glutinous jelly formed that the passage of the road by travellers is a matter of dif-

ficulty. Extravagant properties are attributed to the drug. Said to grow in the shade, it is a remedy for "fire" in the system. It is used to bring out the eruption of smallpox, to cure all fevers, phthisis, hemorrhage from the nose, stomach, bowels or bladder, to counteract poison, sunstroke, ophthalmia, toothache, intestinal worms, hemorrhoids, dry cough, fever in the marrow, all sorts of ulcer, "and it is difficult to enumerate all of its medicinal virtues." Some years ago it was introduced into France as a certain specific in diarrhoea and dysentery. Its virtues were probably due to being a mucilaginous drink substituting all other medication, thus affording rest and an opportunity for the diseased organs to recover. The jelly is sweetened and eaten, but its principal use is as a domestic cooling, demulcent, and laxative remedy.

SCHIZANDRA CHINENSIS.—五味子 (Wu-wei-tzū), 1477. This is confounded with its allied genus *Kadsura*, and in Japan *Kadsura japonica* is 南五味 (Nan-wu-wei), and *Schizandra chinensis* 北五味 (Pei-wu-wei), 996. The drug is said to have five distinct tastes. The skin and pulp of the fruit are sweet and sour, the kernels are pungent and bitter, and the whole has a salty taste. This gives rise to the name, "five flavors." The plant is a climber, and the fruit is a berry, being black in the case of *Schizandra nigra*, and red in that of *Kadsura* and *Schizandra chinensis*. The fruit and branches contain a great amount of viscid mucoid material, and the Japanese women are said by Siebold to dress their hair with it, it being also used to size the Japanese mulberry-bark paper. The specimens of the drug generally contain portions of the stalks of the berries, which are collected in a head as they grow upon the trees which support the trailing plant. Tonic, aphrodisiac, pectoral, and lenitive properties are ascribed to the plant, although the Chinese unwisely reject the branches, which yield a mucilaginous decoction, efficacious in dysentery, gonorrhoea, and coughs. The plant is believed to contain the quintessence of the five elements as the basis of its properties.

SCIRPUS CYPERINUS.—蒹草 (K'uai-ts'ao). This is mentioned in the *Pentsao* in a foot note to *Gymnothrix*

japonica. It is said to have a shoot like *Imperata*, and can be made into matting and ropes. The seeds can be eaten as a substitute for rice.

SCIRPUS TUBEROSUS.—烏芋 (Wu-yü), 荸薺 (Pi-ch'i), 地栗 (Ti-li), 蕞苳 (Fu-tzū). The second name is usually wrongly written 勒臍, and is properly pronounced *P'o-chi*. The tubers are like taro and black; ducks like to eat them, hence the first and fourth names. This last is the proper name, according to the books, while the second is the common name. The plant is the same as *Eleocharis tuberosus*. The tuber is eaten both raw and cooked, and is liable to produce flatulence. It is largely cultivated and sold as a food all over China. In some parts of the country, especially in the Yangtse valley, the plant grows wild, and is therefore not specially cultivated. The tubers are sweet, juicy, and somewhat resemble the chestnut in appearance rather than in flavor, and are therefore called by the foreigners "water-chestnuts," although the Chinese call them "ground-chestnuts" (地栗). They are considered to be cooling and beneficial to the breath, and are used in fluxes and poisons. A starchy preparation is made from them, known as 荸薺粉 (Pi-chi-fên), which is considered very nourishing and beneficial to the digestive organs, and is given to children when they swallow cash or other metallic substances. In the Customs Lists it is called 馬蹄粉 (Ma-ti-fên), 811, but upon what authority does not appear.

SCOPOLIA JAPONICA.—莨菪 (Lang-tang). The plant described under this name in the *Pên-tsao* does not seem to be *Hyoscyamus niger*, although Henry found a plant called by this name in a mountain garden in Hupeh, which proved to be *Hyoscyamus*, and Bretschneider says that at least two species of *Hyoscyamus* are found in North China. He does not give any Chinese name for these. The plant described is hirsute, has leaves resembling those of *Rehmannia*, white or purple flowers, urn-shaped calyx, persistent and enclosing the seed capsule, which contains greenish-white seeds. These seeds, when eaten, produce madness. For use in medicine, the seeds are prepared by digesting in vinegar and then in milk, and

afterwards drying in the shade. In this way they in a large measure lose their poisonous properties. Anodyne, constructive, tonic, diuretic, and tussic properties are attributed to the drug, and it is prescribed in dysentery, coughs, mania, epilepsy, dropsy, toothache, cancer of the breast, and prolapse of the rectum. The root is used in pernicious malaria, and in parasitic skin diseases.

SCROPHULARIA OLDHAMI.—玄參 (Hsüan-shên), 1563. The first character is also frequently written 元 (Yüan). The plant is also called 黑參 (Hei-shên) and 野脂麻 (Yeh-chih-ma). It has opposite leaves, which are long and serrated. It grows four and five feet high, has a slender stem of purplish-green color. It bears greenish, purple, or white flowers, and black fruits. The stem, which is square, and the leaves are covered with hairs. The roots, which represent the drug proper, are about three or four inches long, and nearly an inch in diameter in the middle, tapering off to either end. They are brown externally, and very irregularly furrowed and wrinkled. They are fleshy and dark internally, and moist in fresh samples. Some of the roots are branched and jointed. Although this is said to be used by incense-makers, it has very little smell, and the taste is raw and sweetish. It is very liable to be attacked by worms. It is regarded as cooling, diuretic, tonic, and restorative, and is prescribed in fevers, malaria, typhoid, scrophulous glands, galactorrhœa, and leucorrhœa.

SCUTELLARIA MACRANTHA.—黃芩 (Huang-ch'in), 513. This name seems also to be applied to *Scutellaria viscidula*. This Chinese *skullcap* is a common plant in nearly every part of China, in Mongolia, and well into Siberia. It grows about a foot high, has small, lanceolate leaves, and bears blue flowers. Other species, which are also used, bear yellow, or purple, flowers. The root, which is usually cut into slices, is light, spongy, yellow in color, slightly bitter, and mucilaginous. When it is fresh and solid, it is called 子芩 (Tzŭ-ch'in), and when old, broken, and full of holes, it is called 宿芩 (Su-ch'in). This old root, from being

hollow and black within, is sometimes called 妬婦 (Tu-fu), "jealous woman;" such a person being supposed by the Chinese to have the typical rotten, black heart. This thing is said to equalize the vital principles, to be tonic to the bladder, quieting to the pregnant uterus, stimulant to the respiratory organs, anodyne, and astringent, and it is prescribed in fevers, jaundice, diarrhœas, ulcers, colic, amenorrhœa, fluxes, boils, carbuncle, and cancer of the breast. A famous prescription is known as the 三黃丸 (San-huang-wan), "three-yellow-pill," and is composed of this root, rhubarb (大黃), and *Coptis tecta* (黃連). It is regarded as a tonic and reconstructive remedy in weakness of sexual origin in men and women. The seeds are also used to cleanse the bowels of blood and pus.

SEDUM ERYTHROSTICTUM.—景天 (Ching-t'ien). It is not certain that this plant in China is not *Sempervivum tectorum*. It has a large number of names meaning "to protect from fire," as it is supposed to have this quality, and is therefore planted in pots on house tops. It is also much cultivated on artificial rocks in gardens for ornamentation. The stem is tinged with red and yellow, the leaves are pale green, shining, soft, spoon-shaped, thick, and not pointed. They have a bitterish-sweet taste, and can be eaten after scalding. An allied species, called 八寶兒 (Pa-pao-êrh), is very beautiful and is commonly cultivated. It is probably *Sedum alboroseum*. The leaves are considered to have antifebrile properties, and are prescribed in all forms of fever, wounds, and inflammations. The flowers are used in fluxes from the vagina, the nervous affections of children, in opacity of the cornea, and in prolapse of the genital organs after labor. The juice of the leaves is a common domestic remedy in eruptions, as well as an application to burns.

SEDUM LINEARE.—佛甲草 (Fo-chia-ts'ao). It is said to resemble purslane, to be four or five inches high, and to have a brittle stem with fine linear leaves. It blooms in summer with a yellow flower, is cultivated on stony places or

old walls, and is thought to have some mysterious power of preventing famine. It is slightly poisonous, and is used as a local application in the treatment of burns and scalds.

SEDUM Sp.—石松 (Shih-sung), 1158. In most places this is *Lycopodium clavatum* (see the article on *Lycopodium*), but Faber also gives this identification.

SELAGINELLA INVOLVENS.—卷柏 (Chüan-po). The Customs Lists, 1438, confound this with 萬年松 (Wan-nien-sung); but this is properly 玉柏 (Yü-po), or *Lycopodium japonicum*. Bretschneider says: "This curious plant of the order Lycopodiaceæ, is very common in the Peking mountains, where it grows on stones and rocks. It has the fronds curled in and contracted when dry, in which condition it is of a yellowish-brown color, but it expands immediately and assumes a fresh green color when put into hot water. Its common name at Peking is 湯湯青 (T'ang-t'ang-ch'ing), which means it becomes green in hot water." The plant is also found plentifully at Nanking, and wherever there is rocky, moist ground that is allowed to remain undisturbed. It is also called 長生不死草 (Ch'ang-shêng-pu-ssü-ts'ao), as it is thought to have the property of prolonging life, when administered medicinally. It is prescribed in coughs, prolapse of the rectum, gravel, amenorrhœa, and hemorrhage from the bowels. The power of driving away evil spirits is also ascribed to it.

Two other lycopodiaceous plants are spoken of under this article. They are called 地柏 (Ti-po) and 含生草 (Han-shêng-ts'ao), respectively. They are like *Selaginella*, and the first is used in hemorrhages. The second comes from the country of the red-socked nomads in Kokonor, and is used in difficult labor.

SELINUM MONNIERI.—蛇牀 (Shê-ch'uang). See *Cnidium monnieri*.

SELINUM Sp.—藤蕪 (Mi-wu). This is Faber's identification; but Li Shih-chên says that this name stands for the young leaves of *Conioselinum univittatum*, an umbelliferous

plant. Another name given is 江蘼 (Chiang-li), "river sedge;" but these characters, if properly applied to this plant, evidently do not have this meaning. The plant was much cultivated formerly, and may yet be, for its fragrant leaves, which seem to have inspired poets to write about them. These leaves are used in medicine as a tussic, carminative, nervine, antiseptic, and anthelmintic remedy, and they are prescribed in colds and diarrhœas. The flowers are used in cosmetic preparations.

SENECIO CAMPESTRIS.—狗舌草 (Kou-shê-ts'ao). This plant grows in Szechuan in moist ground. It has a leaf somewhat resembling that of *Plantago*, and bears a yellowish-white flower. It is regarded as slightly poisonous, and is only used as a parasiticide in skin diseases and on the clothes.

SENECIO PALMATUS.—薇銜 (Wei-hsien). There are very many species of *Senecio* in China, and this name probably refers to more than one kind. Other names given are 靡銜 (Mi-hsien), 鹿銜 (Lu-hsien), 吳風草 (Wu-fêng-ts'ao), 無心草 (Wu-hsin-ts'ao), 無顛 (Wu-tien), 承臙 (Ch'êng-chi), and 承膏 (Ch'êng-kao). It is said that deer, when sick, eat this plant and then recover; hence the name *Lu-hsien*. It has hairy leaves, a red stem, and bears yellow flowers. It is said not to move in the wind, but to be self-moving in still air. The stalk and leaves are used in rheumatism, epilepsy, cancerous sores, and general debility. It is said to prevent conception, and a decoction is employed as a wash for foul sores. The *Wei-hsien-ts'ao* is considered to be tonic, and astringent and carminative in diarrhœa.

SENECIO SCANDENS.—千里及 (Ch'ien-li-chi). Also called 千里光 (Ch'ien-li-kuang), 199. The other plant spoken of in the Customs Lists, 九里明 (Chiu-li-ming), 199, is an allied species, *Cineraria repanda*. But this *German ivy* is well described in the *Pên-tsao*. The flowers, when produced, are yellow, and the seeds seldom come to perfection. The stalk and leaves are regarded as an efficient remedy in eye diseases. The plant is regarded as slightly poisonous (emetic).

It is used in all sorts of epidemics, jaundice, malaria, and snake or dog bites. Decocted with licorice, it is used as an antifebrile, and with 小青 (Hsiao-ch'ing), *Ardisia japonica* (?), for the tenesmus of dysentery.

SERISSA FÆTIDA.—曲節草 (Ch'ü-chieh-ts'ao). Other names are 六月凌 (Liu-yüeh-ling) and 六月霜 (Liu-yüeh-shuang). These last, however, are considered to represent *Euonymus*. This plant resembles *Solidago virgo aurea*, but is greener and more brittle. Its flowers resemble those of *Mentha arvensis*. The stalk and leaves are used in carbuncles and cancers.

SESAMUM INDICUM.—胡麻 (Hu-ma), 青囊 (Ch'ing-jaug). This latter is said to represent the leaves of the former. The character 麻 is properly applied to plants yielding textile fibers, as *Corchorus*, *Bœmeria*, *Linum*, and as anciently, to *Cannabis sativa*. But hemp seed has been from ancient times an article of food; so it has not been surprising that the term should be applied to *Sesamum*, which is commonly called 油麻 (Yu-ma), although this latter term also includes one or more species of *Linum*. The famous general, Chang Chien, brought the seed of these oil-bearing plants from the West when he made his famous tour in the time of the Han dynasty. For this reason it gets the character 胡 (Hu), "Scythian," in its name, as do the most of the plants brought from abroad by this observant traveler. The account in the *Pentsao* thoroughly confounds *Sesamum*, *Linum*, and *Mulgedium*; so medical uses are not clearly defined. The fruits are dark brown, or black, four-angled capsules, two-valved, and about a quarter of an inch long. The taste is sweet and aromatic. They are used as cooling, emollient, pectoral, laxative, and uterine remedies. The seeds are distinguished between black, 黑油麻 (Hei-yu-ma), and white, 白油麻 (Pai-yu-ma); and while the medicinal properties are necessarily very much alike, the Chinese make certain distinctions in their use. Generally speaking, they regard the seeds as emollient, constructive, and cooling. The black seeds are specially used in labor, to prevent catching cold, and the raw seeds bruised are employed

as a sort of poultice in the sore heads of children and in venereal sores in women. The white seeds are eaten by nursing mothers to prevent colds and convulsions in their infants. The oil, very naturally, has similar properties, and is used as a bland emollient internally in diarrhoeas, and externally in all sorts of sores. Its ingestion is also thought to facilitate labor. The dregs of oil from an old lamp are considered to be specially efficacious. The oil-cake, 麻枯餅 (Ma-k'u-ping), is used to fatten fish and to enrich the fields. It is also used as food for human consumption, and is employed to clean the teeth and blacken the hair. The *Ch'ing-jang*, which is the foliage of the plant, is also considered very beneficial when eaten, having qualities not much inferior to those of the seeds. A strong decoction is recommended in dysmenorrhœa. The flowers are thought to make the hair grow after favus, and to promote the growth of the eyebrows. They are emollient to the intestines, and are used as an application to warts and other excrescences of the skin. The stalks are incinerated, and the ash used on hemorrhoids and in purulent otorrhœa.

SESELI LIBANOTIS.—邪蒿 (Hsieh-hao). This is an umbelliferous plant having a general resemblance to *Artemisia apiacea*, but it does not have the offensive odor of the latter. The leaves and root are both edible. It is carminative and corrective, and is recommended in flatulence and indigestion. A decoction is used to wash foul sores.

SETARIA ITALICA.—梁 (Liang). This is the common *spiked millet*, which is so extensively grown for food in the north of China, where the popular name of the plant is 穀子 (Ku-tzü), and of the hulled grain is 小米 (Hsiao-mi). The character designating this grain is explained by 良 (Liang), "excellent grain." Another explanation is that it originally came from 梁州 (Liang-chou), formerly including parts of Szechuan, Hupeh, and Honan. The character 粟 (Su) is sometimes applied to this form of millet, but belongs rather to another variety. Three varieties of grain are distinguished: 黃梁米 (Huang-liang-mi), yellow, 白梁米 (Pai-liang-mi), white, and

青梁米 (Ch'ing-liang-mi), green. It is possible that the last is confounded with *Setaria viridis* (see below). The yellow grain is considered as constructive, as well as emollient and astringent in diarrhoeas and choleraic affections. The white is cooling, and is therefore recommended in feverish and choleraic conditions. The green has about the same qualities as the other two, but is also diuretic and strengthening to virility. All are used in the form of congee.

SETARIA ITALICA GLUTINOSA.—秫 (Shu). This is the glutinous variety of the spiked millet. It is not much used as food, as it is thought to obstruct the viscera; but it is extensively used for the distilling of spirits. Three varieties are mentioned: yellow, red, and white. It is recommended in feverish conditions, as a local application in varnish poisoning, mixed with white of egg in boils and abscesses, and in dog bite. It is used in a congee with *Astragalus hoangtchy* by pregnant women who have a discharge from the vagina.

SETARIA VIRIDIS (*Germanica*).—粟 (Su), 秬 粟 (Hsien-su). Anciently 粟 (Su) was a general name for millet-like grains, including 黍, 稷, 粱, and 秫; but later this term is applied to a non-glutinous variety of the spiked millet, distinguished by short spikes and short bristles. This is also commonly called 小米 (Hsiao-mi) in the north. There are green, red, yellow, white, and black varieties. The grain is regarded as beneficial to the kidneys, lungs, stomach, bladder, and ligaments. It is recommended in cholera, nosebleed, vomiting, and claw wounds of bears or tigers.

SHOREA ROBUSTA.—娑羅木 (So-lo-mu). This is a coniferous tree of India, described in the *Kuang-chün-fang-pu*, and which furnishes a sort of *frankincense*, called 篤耨香 (Tu-nou-hsiang). It grows in Cambodia, and the resin is white and translucent. That made from the bark by roasting is dark in color. Another kind is called 膽八香 (Tan-pa-hsiang), and is produced by a maple-like tree in Cochin-China. The resin is used in a cosmetic preparation made with this substance, *Jatropha janipha*, the kernels of the seeds

of *Benincasa cerifera*, and pomegranate bark, digested in spirits for three days. Applied to the face after first washing, and doing this for some days, the skin will gradually assume a lustrous appearance like jade.

SIEGSBECKIA ORIENTALIS.—豨 薺 (Hsi-lien), 395, 豬 膏 母 (Chu-kao-mu), 虎 膏 (Hu-kao), 狗 膏 (Kou-kao), 粘 糊 菜 (Nien-hu-ts'ai). This composite plant is said to smell like a pig and have an acrid, bitter taste; hence the principal name. The third and fourth names are derived from the fact that wounds by dogs and tigers are treated with this drug, and the last name from the use of the plant as food after boiling, which removes the bad odor and taste and produces a mucilaginous pot-herb. It is probable that a number of varieties, species, or even genera, are included under the several names given for the plant in the *Pentsao*. Li Shih-chên gives a lengthy description of the differences, but in general characteristics the plants seem to be very similar. Some are regarded as being slightly deleterious (emetic), while others are thought to have no untoward properties. It is used in worm fever and loss of appetite, in wounds to relieve pain, as a mild stimulant in ulcers, in chronic malaria, dog and tiger bites, spider and insect bites, and numbness of the extremities. Two other similar plants are mentioned in a footnote to this article, called 類 鼻 (Lei-pi) and 羊 屎 柴 (Yang-shih-ch'ai); but these are not identified. The leaves of the former are used as a tonic, and those of the latter to treat cancerous sores. The root of this latter may be used to poison fish.

SILER DIVARICATUM.—防 風 (Fang-fêng), 292. This is an umbelliferous plant, and it is not quite certain whether the name refers to this, to *Peucedanum rigidum*, or to *Peucedanum terebinthaceum*; possibly to all these, as well as to others. There is not much description, and that given is very unsatisfactory. The plant is found in most of the central and northern provinces. It is compared to the fennel plant, and is eaten as a pot-herb. The best root is sold in long, brownish-yellow, irregular, branching pieces, having some of the stem attached to the root-stock. It has a sweetish,

aromatic taste, and is given in all difficulties due to damp and chill, including the thirty-six varieties of 風 (Fêng), diseases of the circulation, and general debility. The leaves are used as a diaphoretic in fevers, the flowers in circulatory disturbances, and the seeds in obstinate colds. The root is regarded as an antidote to aconite poisoning.

SINAPIS.—芥 (Chieh). The mustards grown in China are mostly varieties of *Sinapis juncea*. In the *Péntsao* there is an article on the general term given above, and one on 白芥 (Pai-chieh), 96, or 胡芥 (Hu-chieh), which is probably *Sinapis alba*. Li Shih-chên speaks of the following kinds:—青芥 (Ch'ing-chieh), also called 刺芥 (Tzŭ-chieh), which from his description seems to be *Sinapis nigra*; 大芥 (Ta-chieh), which is either *Sinapis integrifolia* or *Brassica campestris rutabaga*; 馬芥 (Ma-chieh); 花芥 (Hua-chieh); 紫芥 (Tzŭ-chieh); 石芥 (Shih-chieh), which is also called 臘芥 (La-chieh), 春芥 (Ch'un-chieh), and 夏芥 (Hsia-chieh), according to the season at which it is planted and eaten. Of these varieties, which seem to be indigenous to China, the stalk and leaves are used as a pot-herb, having carminative qualities. The large leaved kinds are eaten, while the small leaved are considered harmful. Medicinally, they are recommended as corrective, digestive, and expectorant remedies. They are also used as a stimulant application in toothache, varnish eruptions, and ulcers. The seeds have about the same properties, and are used by preference as being more convenient. The *Pai-chieh* is also called 蜀芥 (Shu-chieh), because it was introduced into Szechnan from Mongolia. It is extensively cultivated for its stalk, leaves, and seeds. The stalk and leaves are carminative. The seeds, as indeed the whole plant, have about the same qualities as the other varieties have; but the Chinese endeavor to distinguish in favor of this. A strong decoction of mustard, called 芥醬 (Chieh-chiang), was made to be eaten with meat, and was much relished, as the European eats prepared mustard with his corned beef.

SIPHONOSTEGIA CHINENSIS.—菴 蔞 (An-lü), see *Artemisia keiskiana*. 漏 盧 (Lou-lu), 756, see *Echinops sphæro-*

ocephalus. But under this last title is given another plant called 鬼油麻 (Kuei-yu-ma), which seems to answer the description of *Siphonostegia*. Another plant, which seems to be *Siphonostegia*, is called 陰行草 (Yiu-lsing-ts'ao), but this is not found in the *Pêntsao*. Tatarinov thought to identify 劉寄奴 (Liu-chi-nu) as *Siphonostegia chinensis*; but he was evidently mistaken, as this is a composite plant, in all probability *Solidago virgo aurea* (which see).

SISYMBRIUM SOPHIA.—葶歷 (Ting-li), 1307. See *Draba nemoralis*. 蘼蒿 (Lin-hao) is Faber's identification. Under this title in the *Pêntsao* the term 抱娘蒿 (Pao-niang-hao) is given, and this is thought by some to be *Sisymbrium*. See *Pedicularis sceptrum carolinum*.

SKIMMIA JAPONICA.—茵芋 (Yin-yü). The second character is also written 蘋. This is an evergreen shrub, which bears fragrant, reddish-white flowers. It is considered to be poisonous. Another species, known as *Skimmia fortunei*, is smaller, has dark green, lanceolate leaves, hemaphrodite flowers, and bears dark crimson, obovate berries. This probably is also known by the same name. Still another species, to which the name *Skimmia reevesiana* has been given, is called by the Chinese 望山桂 (Wang-shan-kuei), has finely scented white flowers, glossy evergreen leaves, and bears in the winter bunches of red berries, resembling those of the common holly. It is a very desirable garden shrub. The stalk and leaves of the *Yin-yü* are considered to be tonic and restorative. A tincture, composed of this and eleven other drugs, is used in atrophy of the muscles. There is also a compound pill, employed for a similar purpose.

SMILAX CHINA.—菝葜 (Pa-ch'ia). The second character is also written 藟, and the plant is called 金剛根 (Chin-kang-kên), 鐵菱角 (T'ieh-ling-chio), and 王瓜草 (Wang-kua-ts'ao). Li Shih-chên says: "It is a common mountain plant, which sometimes climbs, but its stem is strong, hard, and covered with spines. The leaves are large, round like the hoof of a horse, and shining. In the autumn

it bears yellow flowers, followed by red fruits. The root is very hard, and is covered with bristle-like hairs. A decoction, which is sour and harsh, is made of the root. The aborigines gather the leaves and root and use them as a dye." It is commonly supposed that *China root* is obtained from the *Smilax china*, but this is not the case (see *Smilax pseudo-china* and *Pachyma cocos*.) The root is tonic, diuretic, and antimalarial, and it is used in colds, menorrhagia, gravel, fluxes, and debility.

SMILAX PSEUDO-CHINA.—土茯苓 (T'u-fu-ling), 1368 (see also 332). Other names given are 刺猪苓 (Tz'ü-chü-ling), 冷飯團 (Lêng-fan-t'uan), "cold rice ball, and 山地栗 (Shan-ti-li), "mountain ground-chestnut." It was called 禹餘糧 (Yü-yü-liang), because once when the Great Yü was traveling in the mountains and ran short of food, he had this root gathered and used as a substitute. Li Shih-chên says that the plant grows plentifully in Hukuang and Szechuan. It is a climbing plant, having a spotted stem; and the leaves, which are not opposite, somewhat resemble large bamboo leaves, but are thicker, more glabrous, and five or six inches long. The root somewhat resembles that of *Smilax china*, but is round, and consists of a conglomeration of tubers of the size of a hen's or duck's egg, being found at varying depths in the ground. The flesh is very tender and can be eaten raw, and there are two kinds: one red and one white. The latter is used in medicine. This is the principal substance known as *China root*, although *Pachyma cocos* is also included under this name, and it is sometimes difficult to separate the two products or distinguish them on the market. The latter is usually much larger, and in China proper is more common. But the *Smilax* root is exported to India and Burma, being called in the former country *Chob-China*, and in the latter *Tsein-apho-taroup*. It is met with on the market in the form of brown, irregular, nodulated, branching, tuberous roots, with wiry radicles of some length attached to them. The interior is white and starchy, and sweet to the taste, with patches of yellow near the surface. It can be used as food, strengthening the body, and assisting in keeping one awake on

journeys prolonged into the night. It is regarded as tonic, astringent or corrective in diarrhœas, and curative in ulcers and mercurial sores. But its use par excellence is in syphilitic difficulties, especially the secondary and tertiary manifestations. Dr. Waring found the large tuberous roots of the Burmese variety, the *Smilax prolifera* of Roxburgh, very useful, in the form of a decoction of the fresh root, in secondary syphilis, cachexia, and chronic skin diseases. The sliced root, 土茯苓片 (T'u-fu-ling-p'ien), 333, 1369, is also found on the market.

SMILAX SINENSIS.—葎 薺 (Pei-hsieh), 988. Other names are 赤節 (Ch'ih-chieh), "red-joint," and 白菝 蓊 (Pai-pa-ch'ia), "white smilax." The root resembles that of *Smilax china*, but is larger, is yellowish-white, and has many joints which are purplish in color. The account in the *Péntsao* is not clear, being confounded on the one hand with *Smilax china* and on the other with *Dioscorea*. But it is said to have a hard root with a bitter taste. It is regarded as tonic, and is specially recommended for the aged. It is also warming and quieting, and is used for nocturnal polyuria and all forms of gonorrhœal difficulty. See *Dioscorea*.

SOJA HISPIDIA.—白 豆 (Pai-tou). Also called 飯 豆 (Fau-tou). This is a small bean, a variety of *Glycine hispida*, the stalks of which, when young, are eaten as a pot-herb. The bean is sometimes used to make soy and bean-curd, and is eaten both boiled and as a congee. It is considered to belong to the kidneys, therefore those suffering from diseases of this organ should use it. The bean is regarded as very nutritious, and both it and the leaves benefit the viscera.

SOLANUM DULCAMARA.—苦 茄 (K'u-ch'ieh), 蜀 羊 泉 (Shu-yang-ch'üan). The former is described as a small, prickly, wild shrub, found in Lingnan. It may be that this is the plant which supplies the 茄 枝 (Ch'ieh-chih), 100, of the Customs Lists. Its berries are mixed with vinegar and used as a local application to cancerous sores and other swellings. The root is used in decoction for the same purpose, and is also recommended in malarial poisoning. *Shu-yang-ch'üan* was

identified by Porter Smith as *Solanum dulcamara*, but on what authority he does not mention. The Japanese identify it as *Solanum lyratum*, which is a variety of *Solanum dulcamara*. In the *Péntsao* it is confounded with *Sagina maxima*; but although Li Shih-chên notes the confusion in these very different genera, he does not attempt to clear up the matter, but adds further confusion by likening both to *Solanum nigrum*. See the article on *Sagina maxima* for medical uses.

Another plant identified by the Japanese as *Solanum dulcamara* is 白英 (Pai-ying). The young leaves of this are whitish and can be eaten. The flowers are small and white, and the fruit, which is called 鬼目 (Kuei-mu), is at first green, but turns dark-red when ripe. This, however, is not the only use to which the name 鬼目 is put. The root and shoot of this plant are considered to be cooling and constructive, as are also the leaves, which are used in chronic malaria and fevers of children. The fruit, besides its cooling and nutritive properties, is considered to be a useful remedy for the eye. The whole plant is used as a counter-poison.

SOLANUM MELONGENA.—茄 (Ch'ieh). This is the *brinjal*, *ambergine*, or *egg-plant* of western countries. Another name is 落蘇 (Lo-su), which is said to be wrongly written for 酪酥 (Lo-su), referring to the resemblance of the fruit to a ball of cheese. Still another name is 崑崙瓜 (K'un-lun-kua), "Kunlun melon." There are many varieties of the egg plant; the fruit varying in color—white, yellow, azure, and purple. These fruits are not regarded by the Chinese as being free from deleterious properties; prolonged use being thought to produce digestive troubles and to injure the uterus. They are regarded as cooling, and are used bruised with vinegar as a poultice to abscesses and in cracked nipple. The peduncle, incinerated, is used in intestinal hemorrhage, piles, and toothache. The root, 101, and the dried stalk and leaves are used in decoction for washing sores and discharging surfaces, and as an astringent in hemorrhage from the bladder and other hemorrhagic fluxes.

SOLANUM NIGRUM.—龍葵 (Lung - k'uei). Other names are 天茄子 (T'ien-ch'ieh-tzū), 天泡草 (T'ien-p'ao-ts'ao), and 老鴉眼睛草 (Lao-ya-yên-ching-ts'ao). There is a fair description of this plant, with its small white flowers and black seeds, in the *Pentsao*. There is some confounding with *Sagina maxima* and *Solanum dulcamara*, also with *Althea rosea*. The young shoots are eaten, after boiling, and are considered to be corrective, cooling, and tonic to men (virility) and women (menstrual disorders). The stalk, leaves, and root are used in decoction in wounds, cancerous sores, and as an astringent. They are also thought to have diuretic properties. The seeds have about the same properties and uses as the young shoots.

Another plant is mentioned, called 龍珠 (Lung-chu) and 赤珠 (Ch'ih-chu), which is said to be the *Lung-k'uei* with red seeds. It evidently is another species or variety of *Solanum* nearly allied to *Solanum nigrum*. The shoots and seeds of this are said to have about the same qualities as those of the *Lung-k'uei*, except that while the latter promotes sleep, this plant promotes wakefulness.

Another plant mentioned in this connection is 牛心茄子 (Niu-hsin-ch'ieh-tzū). It grows in the island of Hainan, and it is said that if one fruit is swallowed, the person will quickly die. It is only used for outward applications, and should not be taken internally. There is no description of the plant, but its action may suggest *Atropa belladonna*, *Atropa mandragora*, or *Hyoscyamus niger*.

SOLANUM TUBEROSUM.—土芋 (T'u-yü), 土卵 (T'u-luan). This is more latterly called 洋薯 (Yang-shu), because it has been reintroduced, at least in eastern China, by foreigners. It was known and eaten by the people of the Liang dynasty. Faber calls 黃獨 (Huang-tu), which is given as one of the synonyms for this, *Dioscorea japonica*. Without doubt there is some confusion in the Chinese books, as one author claims for the tuber emetic properties, while others say it can be freely eaten, and claims that it is very nutritious.

SOLIDAGO VIRGO-AUREA.—劉寄奴草 (Liu-chi-nu-ts'ao), 739. The identification of this *golden rod* is Japan-

ese, confirmed by Faber. Tatarinov calls it *Siphonostegia chinensis*, but the description in the *Péntsao* indicates a composite, not a scrophulariaceous, plant. The Chinese name is probably derived from the name of a person. There is a legend to the effect that in the reign of one of the Emperors of the Sung dynasty a man whose surname was Liu Yü, and whose "small name," was Chi-nu, while cutting down a 蕨 (Ti) plant, saw a large snake and killed it with an arrow. On the next day he went there and heard the sound of mortar and pestle. When he searched for the source of this sound, he saw several youths dressed in green robes in the hazel thicket bruising this plant for medicine. When he asked why they did this, they replied that their master was shot with an arrow by Liu Chi-nu, and that they were now preparing medicine to cure the wound. So the Chinese have ideas in regard to the healing properties of this plant similar to those which gave the botanical name to this genus. The seeds are officinal, and are said to dissolve the blood and expel flatus. If taken too long, they produce hemorrhage of the bowels. They are used in hemorrhages, wounds, menstrual disorders, cholera, diarrhoea, and hemorrhage from the bladder in children.

SONCHUS OLERACEUS.—茶 (T'u), 苦菜 (K'u-ts'ai). See *Lactuca*. The first character, which originally was the name for tea, is now generally referred to this genus. The second name is also used for various species of *Lactuca*, as well as other plants used as pot-herbs, such as some of the Solanaceæ.

SOPHORA ANGUSTIFOLIA.—苦參 (K'u-shên), 635. This is the same as *Sophora flavescens* and *Sophora kronci*. Other Chinese names are 野槐 (Yeh-huai), 水槐 (Shui-huai), and 地槐 (Ti-huai). Other names are given, referring to its dwarf and herbaceous character as compared to the *Sophora japonica*. Tatarinov, following Loureiro, called it *Robinia amara*. It is a very common plant in mid-China, bears yellowish-white flowers, a siliquaceous pod, and a long, yellowish, exceedingly bitter root, which last is the part used

in medicine. The best comes from Juningfu in Honan. It is one of the five 參 (Shên) enumerated by T'ao Hung-ching. In the list of Li Shih-chên, however, 紫參 (Tzŭ-shên) takes its place. The drug is given in fevers, jaundice, dysentery, leprosy, scrofula and many other important maladies. As a bitter tonic and stomachic, it probably is of more value than the true ginseng, for which it is named. Anthelmintic properties are also ascribed to it, as are also those of an astringent. The fruits, called 苦參實 (K'u-shên-shih) or 苦參子 (K'u-shên-tzŭ), 636, have properties identical with those of the root, and are considered restorative and tonic.

SOPHORA JAPONICA.—槐 (Huai). This leguminous tree is very common in China, growing in all latitudes from Kuangtung to Manchuria, and is a frequent ornament of the streets, courtyards, and parks of Peking and other cities. The leaves are elliptico-lanceolate, and greyish on the under surface. The legumes are wrinkled, fleshy, and moniliform, often containing only one seed, or the pod is lengthened so as to have from five to seven seeds, and by a constriction of the pod at various places, these are grouped into twos or threes. The pods containing one or five seeds are rejected by the Chinese, and those containing groups of two or three are employed in medicine. The pods are used in preparing a yellow dye. In order to prepare them for medicinal use, they are first broken up with a brass pestle, and then soaked overnight in the milk of a black cow, and steamed and dried. These legumes are considered to be tonic, to preserve the freshness of youth, and to be astringent and styptic in wounds and hemorrhoids. Difficult labor, abortion, venereal sores, profuse salivation, and milk fever are treated with them. They are called 槐實 (Huai-shih), 504, and 槐角 (Huai-chio), 501. The flowers, which are usually gathered in the immature state, and are called 槐花 (Huai-hua), 槐米 (Huai-mi), and 槐子 (Huai-tzŭ), 502, are greenish-yellow, and are used in dyeing cloth a yellow color, or for changing the color of blue cloth to green. They are astringent, anthelmintic, and cooling, and are employed in loss of voice, hemoptysis, epistaxis, and menorrhagia. The leaves seem to resemble senna-leaves in

their action, and have been used in India as a purgative. In China they are used in convulsions and epilepsy in children, post-partum difficulties, and as a wash in scabious skin affections, for which last the stalk and bark are also used. The twigs, 505, are decocted for the treatment, as a wash, of all sorts of skin difficulties, piles, sore eyes, and discharging surfaces. The bark of the tree and of the root is used for similar purposes and is specially recommended in orchitis, gonorrhœal discharges in women, and in the bath to improve the skin. The gum which exudes from the tree is given several fanciful virtues, the principal use being that of an application in skin affections. An extract made from the leaves and the fruit of this tree is used to adulterate prepared opium. The wood was formerly employed in making primitive fire drills, and was also used as a cautery or form of the moxa.

SORGHUM SACCHARATUM.—荻 蔗 (Ti-chê). This is included under the article on *Saccharum saccharatum* (which see). In Japan 蜀黍 (Shu-shu) is used for this, but in China this term refers to *Sorghum vulgare*.

SORGHUM VULGARE.—蜀黍 (Shu-shu). The common name is 高粱 (Kao-liang), or "high-millet." Other names are 蘆粟 (Lu-su) and 荻梁 (Ti-liang). This is one of the three "millets" so extensively grown in northern China as food for man, provender for beasts, and for distilling spirits, the others being *Panicum miliaceum* and *Setaria italica*. The seed of this plant was brought from Szechuan, but whether indigenous there or originally coming from further west is not now known. There are glutinous and non-glutinous kinds, the former being used for distilling spirits, and the latter as food and provender. The stalks are used as reeds in the construction of fences, wattle houses, mats, and the like, replacing the *Phragmites* reeds of the Yangtse valley. The grain is regarded as warming, nutritious, and beneficial in fluxes. The glutinous kind can be used as a substitute for the glutinous paniced millet. The second and third names at the beginning of this article distinguish between the yellow and black varieties respectively.

SPINACIA OLÉRACEA.—菠薐菜 (Po-lêng-ts'ai), 菠菜 (Po-ts'ai). The seed of this plant was brought from India by a Buddhist priest in the Tang dynasty, and the herb is extensively used by the bonzes as one of their 蔬 (Su), lentinare. As the Chinese have a tendency to attribute everything that comes from the south-west to Persia, we are not surprised to find this called 波斯草 (Po-ssü-ts'ao), "Persian vegetable." Another name is 赤根菜 (Ch'ih-kên-ts'ai), "red-root." The diœceous nature of the flowers in this genus is noted by the Chinese. The herbage with the root is regarded as a cooling, carminative, antivenous, thirst-relieving vegetable. No special medicinal uses are noted.

SPIRITS.—酒 (Chiu). The character is explained by 就 (Chiu), since the action of this drug determines (就) the good or evil (善惡) in the disposition of men, referring, it is supposed, to the varying action of alcohol in producing different types of intoxication. The clear spirit is called 釀 (Niang, which also means "to ferment"); the turbid is called 盎 (Ang); the concentrated is called 醇 (Shun); the dilute is called 醴 (Li); the double fermented is called 酎 (Ch'ou); "one night wine" is called 醴 (Li); good wine is called 醕 (Hsü); the unpressed is called 醕 (P'ei); red wine is called 醕 (T'i); the green is called 醕 (Ju); and the white is called 醕 (Ts'ò). Spirit is made from the various kinds of millet and of rice, from honey and from grapes. In all except the honey and grapes, yeast is used to produce fermentation. Glutinous rice is said to make the best spirits, with paniced millet next, and spiked millet poorest of all. The invention of spirits is ascribed to 儀狄 (I-ti), a daughter of one of the legendary emperors who presented it to the Great Yü. The Shuo-wên says it was invented by 少康 (Shao-k'ang), otherwise known as 杜康 (Tu-k'ang). Others still put it as early as the reign of Huang-ti (circa 2700 B.C.). The spirit derived from fermented grain may have been the kind the use of which resulted in the curse of Canaan and the incestuous origin of the two troublesome tribes of Moab and Ammon. Originally, all forms of spirits were made by the fermentation process, as distillation was not known until the Mongol dynasty. The only methods of puri-

fication and concentration known to the ancient Chinese were decantation and refermentation of the dregs. The rice spirit was the principal one recommended in medicine. They said that its prolonged use injured the mind (神) and shortened life (壽), weakened the bones and ligaments, produced flatulence, and when complete drunkenness was frequently produced, mania would result. A drunk person should not take a cold bath, as it was certain to result in rheumatism. Neither should a drinker take cinnabar and other mineral drugs, nor ginger, as these tended to the production of cancerous troubles. Spirits and tea taken together are said to injure the kidneys and produce dropsy. The treatment of all poisonous difficulties is made difficult by the ingestion of spirits. The antiseptic and stimulant properties of spirits are recognized, especially the stimulant action upon the circulation and apparently upon the brain, but the incoherence of thought produced by its action is also noted. It is thought to prevent the action of various ptomaine poisons, and is often taken with meals on the chance of the food not having been perfectly fresh.

糟底酒 (Tsao-ti-chiu) is that which has stood on the dregs for three years. It is stomachic, digestive, and corrective of vegetable poisons.

老酒 (Lao-chiu) is that which is made in the twelfth moon, which is said to keep for several years. It is said to be warming.

春酒 (Ch'un-chiu) is that made at the time of the Ching-ming Festival, and is also said to keep good for many years. Its habitual use is said to produce obesity.

The sacrificial wine left over from the altar 社壇餘胙酒 (Shê-t'an-yü-t'so-chiu) is used in stammering of children, in deafness, and is squirted into the corners of the room to destroy mosquitoes.

The spirits found in the pipes of the vat, 糟筍節中酒 (Tsao-sun-chieh-chung-chiu), is said to cure nausea, if taken with milk, and is rubbed locally on urticaria.

東陽酒 (Tung-yang-chiu) is the same as 金華酒 (Chin-hua-chiu), made at Kinhuafu in Chekiang. It is used in the compounding of medicines. It is thought to bring out the virtues of the medicines digested in it, and to enhance their

remedial action. It is used externally in all sorts of sores, and especially to harden the skin and protect it from chapping or cracking.

A kind of spirit prepared after a special process is called 愈瘡酒 (Yü-nio-chiu), "curing ague spirit," because it has a reputation in that disease.

屠蘇酒 (T'u-su-chiu) is made after the formula of the famous physician Huato. It is considered an infallible remedy in epidemics, especially those of a virulent character. It therefore receives the name "killing-and-reviving-spirit," i. e. killing the demon of disease and reviving the patient. It is composed of red *Atractylis*, cinnamon heart, *Siler divaricatum*, *Smilax china*, *Zanthoxylum piperitum*, *Platycodon grandiflorum*, rhubarb, aconite, and *Abrus precatorius*. These are digested in spirits, both cold and hot. It is kept cool by hanging in a vessel at the bottom of the well, and used as a prophylactic at times of epidemics.

A compound spirit, made in a very fanciful manner, is called 逡巡酒 (Chün-hsün-chiu). To it is attributed remarkable virtues in the treatment of rheumatism and as a life preserving and health promoting remedy.

Honey spirit, called 蜜酒 (Mi-chiu), is made by mixing glutinous rice congee and yeast with honey, and fermenting in a sealed jar for seven days. It is used in the treatment of eruptive fevers.

DISTILLED SPIRITS, called 燒酒 (Shao-chiu) and 火酒 (Huo-chiu), was unknown in China until the Yuán dynasty, when the large contact with the Western world had by that Tartar dynasty, which conquered so large a portion of Central Asia and threatened to overrun Europe, served to convey from the west a knowledge of the process of distillation. It is a remarkable fact that this Tartar invasion of all parts of the civilized world, which served to carry the germs of so many useful inventions and industrial arts into Europe, should have been the instrument of conveying to the Far East the first knowledge of the triple curses of ardent spirits, opium, and tobacco. Proof of the foreign origin of the process of distillation is given in one of the names of its product, 阿刺吉 (A-la-chi), which is a transliteration of the Arabic *araq*. The

process of distillation is described by Li Shi-chên in the *Pên-tsao*. 暹羅酒 (Hsien-lo-chiu), "Siamese spirit," is the triple distilled 三燒 (San-shao), or *samschu* as it is called by foreigners. It is sometimes colored and flavored with charred sandal-wood, after which it is sealed up in jars and buried in the earth for two or three years to ripen. Several kinds of distilled spirits are found on the markets. 汾酒 (Fên-chiu) is a kind that comes from Fênchoufu in Shensi. The common name for the sort most generally consumed at the present day is 黃酒 (Huang-chiu), which is of about the strength and appearance of sherry wine. 茺花酒 (Yüan-hua-chiu) is a weak white spirit, flavored with the flowers of the *Daphne genkwa*, and said to be tonic. 歸元酒 (Kuei-yüan-chiu) is a red wine. 碧綠酒 (Pi-lü-chiu) is a greenish spirit, made in several places in the north. But the most famous spirit is the 紹興酒 (Shao-hsing-chiu), made in the province of Chekiang, having a sour flavor and yellow color. It would seem to be a purer ethyl spirit than *samschu* and other forms, as it does not have the delirient action possessed by many of these, which seem to contain large percentages of methyl spirit. A common saying with the Chinese is:

紹興爲名士 燒酒爲光棍
 "Shaohing is the polished scholar,
 "Samschu is a rowdy."

The Chinese always consume the spirits warm, and they very soon redden the face. As their wine cups are very small, holding only about a dessert-spoonful, and as they do not usually drink many of these, drunkenness is not common, and liver diseases from this cause are infrequent. The Chinese seem to have the same ideas of the virtues of the *samschu* that many Europeans attribute to whiskey, using it whenever there is attack of choleraic or indigestive trouble. Ague, hiccough, and general feeling of illness are troubles for which recourse is had to the wine-pot.

The *mash* of fermenting grain is called 糟 (Tsao) or 粕 (P'ao), and the *wort* is called 釀 (Nieh). For this latter, see the article on *Malt*. The mash for preparing spirits is made in the twelfth moon, at the Chingming festival, or the ninth of the ninth moon festival. It is used unpressed, because if

expressed it has no taste or virtue. It is said to warm the digestive organs, promote digestion, destroy putrefaction and vegetable poisons, give a healthy appearance to the body, and benefit all of the viscera. It is used externally in bruises, insect and animal bites, chilblains, and sunburn. Fermented sweet-meats, called 乾 餈 糟 (Kan-hsing-tsao), are used in nausea and vomiting, and as a digestive and stomachic.

SPONDIAS AMARA.—菴 摩 勒 (An-mo-lê), 餘 甘 子 (Yü-kan-tzū). The first name is in imitation of the sanscrit *Amala*, and another form of the same, or similar name is 菴 摩 落 迦 果 (An-mo-lo-chia-kuo). The second name refers to the taste of the fruit, which at first is bitter, but leaves an increasingly sweet taste in the mouth. It is similar to the *hog-plum* of the West Indies. The fruit is sometimes confounded with the mango. It grows in Lingnan, and has fine leaves, like the *Albizia julibrissin*, yellow flowers, plum-like fruits, greenish-yellow in color, with a six or seven angled, round seed, the kernel of which is also used in medicine. The tree grows to the height of ten or twenty feet, and has pliant branches. The fruits are reputed to be tonic, pectoral, and alexipharmic. Their ingestion is regarded as highly favorable to long life, health, and the preservation of a youthful appearance. It is also said to be antidotal to mineral poisons, especially of vermilion and sulphur. A pomade made of the crushed fruits is used to promote the growth of hair and preserve its black color. It is not stated for what the kernels are used.

SPONDIAS DULCIS.—人 面 子 (Jên-mien-tzū). This comes from the south-seas; the tree is like the cherry. The fruit has not much taste, but if stewed with honey it is relished. The seed looks like a man's face, with eyes, nose, and mouth well marked. It is often used as a plaything. The kernel is brittle and pleasant flavored, and is sometimes added to tea to give it a fragrant, mucilaginous, sweet taste. The medicinal qualities are considered as alexipharmic and cooling. It is recommended in bad cases of itch, and to be taken internally to prevent extensive ulceration. In cases of difficult labor, if the

parturient woman will hold one of the seeds in her hand, on the odd days in the right hand and on the even days in the left hand, delivery will soon be accomplished.

STACHYS ASPERA.—水蘇 (Shui-su). This is also called 香蘇 (Hsiang-su) and 龍腦薄荷 (Lung-nao-po-ho), "camphor-mint." It is a common plant growing in moist ground, and is sometimes eaten as a vegetable. It is sometimes confounded with *Mosla grosseserrata*. The stalk and leaves are used in medicine as a carminative, deodorizing, and astringent remedy. Taken with hot spirits it is recommended for colds, very much as hot mint-juleps have been recommended in domestic practice in the west.

STACHYS SIEBOLDI, *Stachys tuberifera*.—草石蠶 (Ts'ao-shih-ts'an), 地蠶 (Ti-ts'an), 甘露子 (Kan-lu-tsu). This tuber named "ground cocoon," and "sweet dew," is the "Crosnes" of France and other parts of Europe. It was first cultivated in Europe by Mr. A. Paillieux on his estate "Crosnes," from tubers sent him from China by Bretschneider. *Kan-lu* is used in the Bible to translate the word *manna* because the same characters are used by the Chinese for *amrita*, the food of the devas; but this product must not be confounded with manna. The similarity of this plant to *Stachys aspera* is noted in the *Pêntsao*. The tuber is soaked in wine and taken for colds, and when dry and powdered is considered to be anodyne. No matter how prepared it is considered to have a beneficial influence upon the body.

STEMONA TUBEROSA.—百部 (Pai-pu), 958. It is likened to *Asparagus lucidus*, and is sometimes called wild asparagus. The root, which is the part used in medicine, consists of a central mass with ten or more tubers attached, long, pointed, hollow, and sweet. The stem is sometimes eaten when young as a pot-herb. As sold in the shops, the drug is in the shape of brown, dried, shrivelled pieces, from two to four inches long. It is given in coughs, as a carminative, anthelmintic, and is used as an insecticide. Old coughs of thirty years standing are reputed to be cured by it.

STELLARIA AQUATICA.—繁縷 (Fan-lü). This is confounded with *Artemisia stelleriana vesiculosa*; and it is also called 鷄腸草 (Chi-ch'ang-ts'ao), but this is *Erytrichium pedunculare*. Another name is 鷓腸草 (È-ch'ang-ts'ao). This plant grows commonly in damp places and on margins of ditches and canals. It has a twining stem, containing a viscid sap, which, when the stem is broken, draws out in silk-like filaments. It is used as a pot-herb and is sweet and tender. It has small white or yellow flowers and bears minute seeds, resembling those of *Sisymbrium*. The whole plant is used in medicine, and is said to have a sour taste. Its action is considered to be solvent to the blood, increasing secretion generally. For this reason it is used in the treatment of ulcers, hemorrhoids, insufficient secretion of milk, and scanty urination.

STERCULIA PLATANIFOLIA.—梧桐 (Wu-t'ung), 1475. This is one of the many *T'ung* trees. It is an ornamental tree and is frequently met with in the courtyards of Chinese temples and houses, its large leaves affording an excellent shade. It may be readily recognized by its paniced flowers with columnar stamens, and the peculiar tendency of the follicular carpels to put on a leafy form, bearing the seeds on their margins. The seeds are oily, and hence the tree is called after the wood-oil tree, which is the *Dryandra cordata*. The wood of the tree is regarded as very good for coffins, and the seeds enter into the composition of the moon cakes, eaten by the Chinese at the Autumnal Festival of the eighth moon. There is abundance of mucilage in the young branches. The leaves and liber are used to make a hair-wash and a soothing lotion for carbuncular and other sores. Cloth and ropes are made from the inner white bark of the tree, and this bark is used in preparing an astringent lotion for hemorrhoids. The seeds are crushed and the juice rubbed into gray hair, with the reputed virtue of causing the gray to fall out and the new hair to come in black. The same preparation is used in aphthous sore mouth in children.

STILLINGIA SEBIFERA.—烏桕 (Wu-chiu). This is the tallow tree. The Chinese name is derived from the two facts that the birds like to eat the berries and that the root of

the tree is used for making mortars. The tree is quite common throughout central China and somewhat resembles the Azedarach, or Pride of India. It varies a good deal in size in different provinces, and is readily known by its aspen foliage, which is permanent, but becomes a brilliant red color in autumn and winter. The leaves yield a black dye with sulphate of iron, thus demonstrating the large amount of tannin contained in them. The berries are three-seeded, and dehisce when ripe, disclosing the kernels enveloped with a coat of the vegetable fat which renders the tree so valuable. Dr. Williams says that the tree is called 栲樹 (Ch'ung-shu) in the neighborhood of Macao. The white bark of the root is bitter and considered to be slightly deleterious. It is diuretic and derivative in its action and is also used in the treatment of snakebite and skin ulcers. The leaves are used for a similar purpose and are considered specially useful in the treatment of boils.

VEGETABLE TALLOW.—相油 (Chiu-yu). The tallow yielded by tallow berries is made by the following process. The ripe nuts are bruised and the pericarp separated by sifting. They are then steamed in wooden cylinders with numerous holes in the bottom, which fit upon kettles or boilers. The tallow is softened by this process, and is separated from the albumen of the seeds by gently beating them with stone mallets, when the tallow is effectually removed by sifting the mass through hot sieves. The tallow still contains the brown testa of the seeds, which is separated by pouring it into a cylinder made up of straw rings, laid one on top of the other, in which it is put into a rude press and the tallow is squeezed through in a pure state. A picul of seeds yields from twenty to thirty catties of tallow, besides the oil 青油 (Ch'ing-yu), which is obtained from the albumen by grinding, steaming, and pressing it a second time. The tallow is of a whitish color, hard and tasteless. It melts, according to Dr. Macgowan, at 104°, and is composed mainly of tripalmitine, a substance which, saponified by alcoholic potash, produces palmitic acid. It is largely used in candle making, being mixed with white insect wax, in the proportion of three ounces of wax to ten catties of tallow. These candles are especially used by the Buddhists. The tallow has been exported to Europe and would doubtless make a good

lubricant for railway axles, for which purpose it has been used in India. The tallow tree is not the only one producing a vegetable tallow; other kinds coming from Singapore and other places in the Far East. But strange to say, according to Mr. Sampson, this tree yields no tallow in Kuangtung province, where it grows so generally. Large quantities of vegetable tallow are exported from some of the Yangtse ports. It is sometimes used as an ingredient in ointments, and the yellowish mixture procurable from the candle-makers is useful in making up suppositories. Medicinally it is used as a pomade for the hair, being said to change gray hair to black. It is also applied to all sorts of sores and skin eruptions. Taken internally, it is believed to be emetic, purgative, hydragogue, and antidotal. Cases of poisoning, in China, are generally treated with a dose of the tallow, or the oil of the albumen, and it is generally useful for this purpose on account of its oily nature and its not violently emetic properties.

STRYCHNOS IGNATIA.—呂宋果 (Lü-sung-kuo). This is mentioned in the Appendix to the *Péntsao*. There is not much description of the plant, but what there is is sufficient to identify this *Strychnos philippinensis* of Blanco. 加空弄 (Chia-wa-lung) is given as the Bisayan name of the fruit. The bitter and poisonous properties of the fruit and seed are pointed out. The drug is highly valued medicinally, and the seeds are called 寶豆 (Pao-tou), "precious beans," either on account of this estimate or on account of their cost. They are used as a counterpoison in ague, intestinal worms, in post-partum difficulties, and epidemics.

STRYCHNOS NUX-VOMICA.—番木鱉 (Fan-mu-pieh), 馬前 (Ma-ch'ien), 798. The second character of the second name is properly written 錢, as referring to the "cash" on a horse's bridle; but it is commonly written as above. Other names are 苦實把豆 (K'u-shih-pa-tou), "bitter-seeded-Persian-bean," and 火失刻把都 (Huo-shih-k'o-pa-tu), which seems to be a transliteration of a foreign term. This drug is now found in Szechuan, but it originally came from some Mohammedan country. As the bright red fruit of the plant

resembles that of *Momordica cochinchinensis*, it is sometimes confounded with that innocuous plant. The seeds are commonly used to poison dogs, and are forbidden to be sold to strange persons. A considerable amount of uncertainty exists as to the identification of this substance as found in the shops; for while the above statement, as to the poisonous properties of the seeds, and caution in regard to their sale, is given, the kernels are still said to be non-poisonous. These kernels are said to be useful in the treatment of the one hundred and twenty diseases, and are especially recommended in fever, throat affections, ague, and abdominal enlargements. They are powdered and enter into the composition of ointments for the dispersion of swellings, and the powder is blown into the throat in the treatment of cynanche. Made into a mass, it is sometimes introduced into the vagina to produce abortion.

STYRAX BENZOIN.—安息香 (An-hsi-hsiang). The Sanscrit name is represented by 拙貝羅香 (Ch'u-pei-lo-hsiang). This drug is said to be used by makers of incense, but on account of its cost it is probable that very little is so employed. According to Dr. Williams it is imported into Southern China from Borneo and Sumatra. The *An-hsi*, in the Chinese name, probably refers to the Parthians, or Persians, whose country together with Anam, Sumatra, and Central Asia, is said to have yielded this foreign drug. The tree is said to have evergreen four-cornered leaves and to resemble the *Melia azedarach*. Disinfectant, deodorizing, carminative, cordial, stimulant, arthritic, and sedative properties are ascribed to the drug. It is prescribed in worms, griping pains in the abdomen, and other diseases of children. A very curious and amusing test is given for ascertaining the purity of this drug; if genuine the fumes from burning this substance will attract rats and mice, and is also said to drive away devils and attract good spirits. However, this should not be adduced as a proof that the Chinese consider rats to be good spirits. The drug is recommended in spermatorrhœa.

LIQUID BENZOIN.—安息油 (An-hsi-yu). This is mentioned in the *Péntsao* as a treacle-like oil with all the properties of the gum benzoïn. It is sold in small bottles in the large

medicine shops; but is much adulterated, having the same dark brown color as wood oil, but usually not so much of the odor of the drug as it should have. Rose-maloes is apparently substituted for it. This is the same drug as that described by Hanbury under the name of 水安息香 (Shui-an-hsi-hsiang). His sample was enclosed in "small globular, wooden shells, apparently the pericarp of some fruit, about one and three-fourths inches in diameter, closed with wax. The Chinese assert that they import it by way of the Indian archipelago; but I have not been able to trace it either there or in Siam. It is curious, moreover, that this fragrant resin, even to the shell enclosing it, is extremely like that kind of balsam of Peru, which was brought to Europe long ago in the capsules of *Lecythis* and naturally supposed to be a product of South America." The virtues of this product are extremely like those of gum benzoin, but it is more highly valued as a medicine because of its scarcity and high price.

SYMPLOCOS PRUNIFOLIA.—山 攀 (Shan-fan). Other names are 芸香 (Yün-hsiang) and 七里香 (Ch'i-li-hsiang). This tree grows throughout the Yangtse valley to the height of ten or fifteen feet, having leaves resembling those of the Gardenia. These are used for dyeing purplish black and do not need a mordant. This explains the Chinese name "*mountain alum*." It bears a very plentiful supply of beautiful white flowers with yellow stamens and is very fragrant. The seeds are as large as pepper corns, and when ripe can be eaten. The leaves are also used in the preparation of bean curd, and are used mixed with tea leaves to give the latter a flavor. They are also eaten as a pot-herb. They have a sweetish-sour taste, and are used in chronic dysentery, to relieve thirst, and to kill fleas. For the latter purpose, about thirty leaves are decocted with three slices of ginger and the decoction used as a wash.

T.

TAMARINDUS INDICA.—菴 弭 羅 (An-mi-lo). This is a Buddhist transliteration of the Sanscrit name of the tamarind, *amla*, and is only met with in Buddhist books. See Eitel's Handbook of Buddhism, pages 7 and 8. Faber is wrong in using 菴 羅 樹 (An-lo-shu) for this, as these characters refer to the *hog-plum* and *mango*. See *Mangifera indica* and *Spondias amara*.

TAMARIX CHINENSIS.—檉 柳 (Ch'êng-liu). Other names are 赤 檉 (Ch'ih-ch'êng), 河 柳 (Ho-liu), 垂 絲 柳 (Ch'ui-ssü-liu), 270, and 觀 音 柳 (Kuan-yin-liu). The common name is 三 春 柳 (San-ch'un-liu). The resemblance of the flowers of this genus to those of the willow has caused the Chinese to class this with the latter family. It has a dark red bark, its leaves resemble floss silk, it is not injured either by frost or snow, and it knows when rain is approaching and indicates this fact by its moving leaves. It is called *San-ch'un-liu*, because it flowers three times a year, in pale red spikes three or four inches long. The tamarisk wood is used in medicine in the treatment of sores due to horse or donkey blood getting into a wound (anthrax?). The twigs and leaves are antivenous, carminative, and diuretic. *Tamarix manna* is called 檉 乳 (Ch'êng-ju), and is used as a vulnerary remedy in wounds.

TANACETUM CHINENSE.—蕪 艾 (Ch'i-ai). See *Artemisia vulgaris*.

TANARIUS MAJOR (*of Sumatra*). 降 真 香 (Chiang-chên-hsiang). This botanical name follows Dr. Williams; it has not been found elsewhere. The product is known as *laka wood*. Other Chinese names are 紫 藤 香 (Tzū-t'êng-hsiang), in which it is confounded with *Wistaria*, and 鷄 骨 香 (Chi-ku-hsiang), 48, in which it is confounded with lign aloes. It is said to come from Syria, and its odor is likened to that of sappan wood. It is said now to be found in Kuangtung,

Kuangsi, Yunnan, Szechuan, Hupeh, Cambodia, Siam, Borneo, and Liuchiu. That coming from abroad is preferred to the native article. It is met with in bundles of long, rough pieces, of a reddish-grey color on the outside, and of a deep magenta red on the broken surface. Rotten portions of the wood are sometimes found in its substance, having lost more or less of their color. The grain is very hard, the odor fragrant, but the taste is very slight. The wood is used in dyeing, and is powdered and mixed with other substances to make incense. Is used in medical practice as an astringent, as a wash to cleanse sores and excite granulations, and as a deodorizing or disinfecting agent.

TARAXACUM OFFICINALIS.—蒲公英 (P'u-kung-ying), 1055. This common plant has a large number of names, such as 耨耨草 (Chiang-nou-ts'ao), "plowing-and-hoeing weed," 金簪草 (Chin-tsan-ts'ao), "golden-hair-pin weed," 黃花地丁 (Huang-hua-ti-ting), "yellow-flowered earth-nail," 狗乳草 (Kou-ju-ts'ao), "dog's milk weed," and 白鼓釘 (Pai-ku-ting). The plant is found generally in all parts of the country, north of the Meiling range, but is most common in the Yangtse valley. It is fairly well described in the *Pêntsao*. The tender shoots are eaten as a pot-herb. Tonic and alterative properties are ascribed to the plant, and it is prescribed in all sorts of abscesses and swellings, carious teeth, and snake bites.

TAXODIUM HETEROPHYLLUM.—水松 (Shui-sung). This identification is somewhat doubtful. It is counter-poison, cures ascites, and hastens labor.

TECOMA GRANDIFLORA.—凌霄 (Ling-hsiao), 733. See *Bignonia grandiflora*.

TENERIUM STOLONIFERUM.—假蘇 (Chia-su). It is not quite certain if this is not *Salvia plebia*. 荆芥 (Ching-chieh) is given as a synonym, and at Peking this is *Salvia plebia* and *Nepeta tenuifolia*. As usual where there is confounding of plants in the *Pêntsao*, there is not much descrip-

tion, so that it is difficult to distinguish. The stalk and the flower spike of the plant spoken of is used in medicine, and they are both eaten as an herb, and an infusion is drunk as a tea. Tonic and alterative properties are ascribed, and it is recommended in fevers, in abscesses and swellings, after labor, in menstrual difficulties, in headaches, indigestion, and as an astringent in hemorrhages.

TERMINALIA CHEBULA.—訶黎勒 (Ho-li-lê), 訶子 (Ho-tzū), 379. The identification is not quite certain, as the fruits described in the *Pên-tsao* are six-angled, while all the *Terminalia* fruits are five-angled. *Emblica officinalis* may be suggested as an alternative. The fruits of this tree, as well as those of the *Terminalia bellerica*, have been long celebrated in European and Indian medical practice under the name of *myrobalans*. The first name is an imitation of some Sanscrit name, the drug having been brought by T'ien Wang from India. According to Chinese account, the tree grows in the Kuangtung province and resembles *Sapindus chinensis*. It belongs to the order Combretaceæ, and produces in India a peculiar gall-like excrescence upon its leaves, the result of the deposition of the ova of some unknown insects. These are called *Kadu-kai-pu* in Tamil, but are not known in China. They are astringent and very useful in infantile diarrhœa. In former days Cochin-China, Persia, and Arabia supplied the *myrobalans* to China. As they are placed in the *Pên-tsao* just after galls, and not along with fruits, it is possible that the galls of the tree were imported along with the fruits. The *myrobalan* fruits are deeply furrowed, wrinkled, oblong, and pointed at the lower end. They vary from one inch to an inch and a half in length, and are of a reddish or greenish-yellow color. The interior is hard and woody, and the taste is bitter. They are used in China as a mild laxative, deobstruent, tonic, carminative, and even astringent remedy variously combined with other drugs to determine its action to the lungs, stomach, and intestines. In India it is used as a topical and general astringent drug, highly extolled by the natives. Twining has found the fruits serviceable in enlarged spleen. Curious accounts are given in the *Pên-tsao* of ships

unable to move at sea through the slippery mucus of some great fish, being able to get away after pouring overboard a decoction of the fruit. Hair dyes, diet drinks, and charms to drive away all diseases are spoken of as made from them. The seeds are mixed with white honey and used in eye diseases. They are also used in coughs and dysentery. A decoction of the leaves is carminative, demulcent, and astringent.

THALICTRUM RUBELLUM.—升麻 (Shêng-ma), 1132. This is properly *Actea spicata* (which see). These root-stocks are met with as dark-brown, irregular pieces, bristled with rootlets, and having more or less of the stems attached to them. The taste is bitterish. The Indian Pharmacopœia quotes the native account of *Thalictrum foliolosum*, which is called *Pila jari*, and which is a tonic and antiperiodic remedy, combining some aperient properties, which are found in the root when administered as a powder, or as an extract, prepared as is that from gentian root.

THEA.—茗 (Ming), 茶 (Ch'a). See *Camelia thea*.

THERMOPSIS FABACEA.—黃花 (Huang-hua). One four-parted flower with gamapetalous corolla to each stalk. The frost colors the flower more deeply yellow. The fruits (pods) are the parts used in medicine for diseases of the mouth, throat, and teeth.

THLADIANTHA DUBIA.—王瓜 (Wang-kua), 土瓜 (T'u-kua), 赤雹 (Ch'ih-pao). This is a climbing plant, with roundish leaves, small, yellow, five-cleft flowers, red fruit which gives the name "red hail-stone" to the plant, and a tuberous, starchy root. The young plant and root are both used for food, and the root and seeds are used in medicine. The former is considered to be alterative, cholagogue, galactagogue, and diuretic, and is used in jaundice, urinary difficulties, constipation, alactia, amenorrhœa, fluxes, pimples on the face, and deafness. The raw seeds are said to be tonic to the heart and lungs and good for jaundice, and when roasted are used as an astringent in fluxes and to relieve nausea and vomiting.

THLASPI ARVENSE.—菥蓂 (Hsi-ming). Another name is 大薺 (Ta-chi), "large shepherd's-purse." It is akin to *Capsella bursa-pastoris*, and is larger and more hirsute. It is also likened to *Sisymbrium*. The shoots are said to harmonize the internal organs and brighten the eyes. The seeds are considered to be tonic and constructive, and are used in the treatment of lumbago and eye diseases.

THUJA (*Biota*) ORIENTALIS.—柏 (Po). The Chinese do not distinguish clearly between *Thuja* and *Cupressus*. In fact, *Abies* and *Juniperus* are sometimes called by this same generic name. The arbor vitæ is 扁柏 (Pien-po). Other names for *Thuja* are 崖柏 (Ai-po) and 側柏 (Ts'e-po); but this last sometimes refers to *Juniperus chinensis*. All other trees face east; this alone faces west, and therefore it is an emblem of chastity. These trees furnish the cypress-wood much used by Chinese furniture makers, and Chinese and Japanese gardeners delight to dwarf and train them into all sorts of shapes, of animals, baskets, and the like. The leaves are used as decorations and garnitures for presents. The fruits, called 柏實 (Po-shih), and the kernels of the same, called 柏子仁 (Po-tzū-jên), 950, 968, are used in medicine. The nuts are considered to be very nutritious and fattening, and they are said to benefit the respiratory organs and to check profuse perspiration. They also act on the liver, and are prescribed in convulsive disorders of children. The leaves, 1019, 1039, are used in hemorrhages, and also in colds. A decoction of the joints of the branches is used in colds, rheumatic difficulties, and locally in parasitic skin difficulties. The resin is mixed with pine resin and plastered on tumors as a resolvent. The white bark of the root is powdered and called 柏香碎 (Po-hsiang-sui), 1936, and it is used in an ointment made with wax and lard to cure burns and scalds and to make hair grow on the cicatrices.

TILIA MIQUELIANA.—菩提樹 (P'u-ti-shu). This is purely Japanese. In China the three characters refer to the *Ficus religiosa*, the sacred *Bo* tree of Buddhism. This must not be confounded with 菩提子 (P'u-ti-tzū) which are the fruits of *Sapindus mukorossi*. See *Ficus religiosa* and *Sapindus mukorossi*.

TILIA CHINENSIS.—椴 (Tuan). This character is also written 椴 (Chia) in the *Erhya*, and it is not quite certain whether two different trees are confounded, or two characters are not clearly distinguished. At Peking *Tuan* refers to the *linden* or *lime* tree. It is described as having very large leaves folded together like a fan, and the bark furnishes textile fiber for making fish nets. No medical uses are given for any part of the tree.

TINCTURES.—酒 釀 (Chiu-lei). These with the Chinese are usually fermented spirits, made by macerating the drug in a mixture of grain (usually rice) and leaven during the process of fermentation for producing spirits. In some instances the prepared spirit is used, but at the time most of the formulæ were prepared distilled spirits were unknown. In the native medicine shops the old process is still in use, although in those cases where the prepared spirit is directed to be used, distilled spirits are now employed instead of the old fermented spirits. A large number of these preparations is found in the books of which the following are the principal ones:

Tincture of Acanthopanax spinosum; 五加皮酒 (Wu-chia-p'i-chiu). A decoction of the bark is fermented with rice and leaven. It is used in colds and is regarded as beneficial in diseases of the ligaments and bones.

Tincture of Achrynanthes bidentata; 牛膝酒 (Niu-hsi-chiu). A decoction of the drug is fermented with rice and leaven, and the preparation is considered tonic and useful in chronic malaria.

Tincture of Acorus calamus; 菖蒲酒 (Ch'ang-p'u-chiu). A decoction of the root is fermented with rice and leaven, and the preparation is regarded as useful in all forms of colds, rheumatic difficulties, and to improve the sight and hearing.

Tincture of Akebia quinata; 通草酒 (T'ung-ts'ao-chiu). The fruits of this plant are decocted and fermented with rice and leaven. It is used in the treatment of diseases of the viscera and to improve the circulation.

Tincture of Allium fistulosum; 葱豉酒 (Ts'ung-shih-chiu). The onions are mixed with bean ferment and digested in

spirits. This is a remedy for fever, headache, and dysentery. It is also considered to be anhydrotic.

Tincture of Amomum zanthoides; 縮砂酒 (So-sha-chiu). Cardamon kernels are roasted, powdered, and digested in spirits. This is a carminative preparation, used in digestive difficulties.

Tincture of Arctium lappa; 牛蒡酒 (Niu-p'ang-chiu). The root is sliced and digested in spirits. It is used in colds, and to give strength to the back and legs.

Tincture of Artemisia apiacea; 青蒿酒 (Ch'ing-hao-chiu). The juice of the herb is expressed and fermented with rice and leaven. It is used in general debility and chronic malarial difficulties.

Tincture of Artemisia capillaris; 茵陳酒 (Yin-ch'en-chiu). The herb is roasted to a yellow color, and then mixed with rice and leaven and fermented in the usual manner. Colds and muscular rheumatic pains are treated with this preparation.

Tincture of Asparagus lucidum; 天門冬酒 (T'ien-mên-tung-chiu). The herb is decocted and the decoction fermented with rice and leaven. This is considered to be tonic to the viscera and the blood vessels, and quieting in nervous affections. It is used in alcoholic poisoning.

Tincture of Atractylis ovata; 朮酒 (Shu-chiu). The drug is peeled and soaked in east-flowing water for thirty days. The juice is taken and exposed to the dew for one night, and then fermented with rice and leaven. It is prescribed in rheumatism and fever.

Tincture of Bambusa leaves; 竹葉酒 (Chu-yeh-chiu). A decoction of bamboo leaves is fermented in the usual manner, and used in the treatment of fevers, and to clarify the intellect.

Tincture of Brasenia peltata; 仙茅酒 (Hsien-mao-chiu). The drug is steamed and dried nine times, and then digested in spirits. It is considered to be strengthening to the virile powers, and is used in the treatment of general debility and wasting.

Tincture of Cannabis sativa seeds; 仁麻酒 (Ma-jên-chiu). There is more than one formula for this preparation, but in the common one the kernels of the seeds are browned

and digested in spirits. The preparation is used in rheumatic difficulties, where there is much pain and inability to move.

Tincture of Chrysanthemum sinense; 菊花酒 (Chü-hua-chiu). A decoction of the dried flowers is fermented with rice and leaven, and if *Rehmannia glutinosa*, *Cryptotænia canadensis*, and *Lycium chinense* are added, the preparation is greatly improved. This is for headaches, to improve the hearing and sight, and as a prophylactic against diseases in general.

Tincture of Citrus acida compound; 百菓酒 (Pai-kuo-chiu), "hundred fruits spirit." Take one each of *Citrus acida* and *Citrus chirocarpus*; walnut meats, lungans, lotus seeds, and dried oranges of each a half catty; seeds of *Thuja orientalis*, four ounces; pine nuts, three ounces; red dates, twenty ounces; black sugar, three catties; dry distilled spirit, fifty catties. Digest all together. The preparation is regarded as tonic and beneficial to the kidneys.

Tincture of Citrus fusca; 枳茹酒 (Chih-ju-chiu). The inside lining of the *Citrus* fruits is digested in spirits and used for colds and influenza.

Tincture of Clematis graveolens; 黃藥酒 (Huang-yao-chiu). The drug is cut into slices and digested in spirits. It is used in the treatment of goitres and tumors of the neck.

Tincture of Cocos nucifera; 椰中酒 (Yeh-chung-chiu). This is the fermented milk of the cocoanut. It is used in the treatment of dropsy, hemoptysis, and is applied to the head to restore the black color to the hair, which it is also supposed to do if drunk habitually.

Tincture of Coix lachryma; 薏苡仁酒 (I-i-jên-chiu). The Job's tears are powdered, and fermented with rice and leaven, and used as a tonic and stimulant remedy in rheumatic difficulties.

Tincture of Cryptotænia canadensis; 當歸酒 (Tang-kuei-chiu). A decoction of the drug is made, and either fermented in the usual manner, or mixed with prepared spirits, and used as a tonic in diseases of women and to promote menstruation.

Tincture of Cudrania triloba root compound; 柘根酒 (Chê-kên-chiu). Take of the *Cudrania* root, 20 catties; *Acorus calamus*, five pecks; boil in one *tan* of water to five pecks; add old iron, 20 catties, and ferment the whole with rice and leaven

in the usual manner. This is used in diseases of the kidneys and the ears.

Tincture of Cyperus rotundus root; 莎根酒 (So-kên-chiu). The root is sliced and steamed, and then digested in spirits. It is used in diseases of the bladder, and in depression of spirits due to any cause.

Tincture of Dioscorea quinqueloba; 薯蕷酒 (Shu-yü-chiu). The tubers are powdered and fermented with leaven, or there is added *Cornus officinalis*, *Schizandra chinensis*, and ginseng, to increase its virtue. It is considered to be tonic, strengthening to the virile powers, and beneficial to the spleen and stomach.

Tincture of Feniculum vulgare; 茴香酒 (Hui-hsiang-chiu). The fennel seeds are simply digested in spirits. Foreign fennel is most highly esteemed for this purpose. The preparation is used as an anodyne and carminative in strangury and tenesmus.

Tincture of Ipomœa batatas; 甘薯酒 (Kan-shu-chiu). The tuber is sliced and digested in spirits for an indefinite length of time. The preparation is considered warming to the stomach, astringent in diarrhœa, and aphrodisiac.

Tincture of Ligustrum lucidum bark; 女貞皮酒 (Nü-chên-p'î-chiu). The bark is cut into slices and digested in spirits. It is considered as tonic, especially to the loins.

Tincture of Lonicera japonica; 忍冬酒 (Jên-tung-chiu). This tincture is prepared by a complicated process which does not seem of much importance. Some of the virtues ascribed to the preparation are doubtless attributed to the peculiar method of preparation which is given in the *Pên-tsao*. It is vaunted as a remedy in all forms of cancerous and virulent sores, no matter upon what part of the body they may be found. It is taken internally. The tumor is punctured and some form of plaster is applied, in perfect confidence that the disease will be speedily cured.

Tincture of Lycium chinense; 枸杞酒 (Kou-chi-chiu). The seeds of the plant are boiled soft, the pulp expressed, and fermented with rice and leaven. Or the seeds are digested together with *Rehmannia glutinosa* in prepared spirits. This is a tonic preparation, and is useful especially in sexual debility.

Tincture of Monochasma savatieri; 鹿茸酒 (Lu-jung-chiu). The drug is digested in spirits together with *Dioscorea batatas*. This is used in profuse urination and general debility.

Tincture of Morus alba; 桑椹酒 (Sang-shên-chiu). The juice of mulberries is boiled and fermented with leaven in the usual manner. It is used in dropsy, and it is said that out of ten afflicted with this difficulty, if they use this remedy, not one will die.

Tincture of Mulgedium sibiriacum; 巨勝酒 (Chü-shêng-chiu). Two pints of the seeds are combined with two pints of the kernels of *Coix lachryma* and a half catty of the fresh root of *Rehmannia glutinosa*. These are digested in spirits, and the preparation is used in the treatment of debility and rheumatic difficulties.

Tincture of Pachyma cocos; 茯苓酒 (Fu-ling-chiu). The powdered tubers are fermented with leaven and rice and used as a tonic remedy.

Tincture of Panax ginseng; 人參酒 (Jên-shên-chiu). The root is powdered and fermented with rice and leaven, or digested in prepared spirit. It is used as a tonic in all wasting diseases.

Tincture of pitch; 松葉酒 (Sung-yeh-chiu). The freshly collected pitch is fermented with glutinous rice, and used in the treatment of colds and locally in chilblains.

Tincture of Polygonatum canaliculatum co.; 黃精酒 (Huang-ching-chiu). Four catties each of *Polygonatum canaliculatum* and *Atractylis-sinensis*; five catties of *Lycium orientalis* leaves; and three catties of *Asparagus lucidus* are decocted, and the decoction mixed with glutinous rice and leaven, and fermented. This is nourishing, tonic, aphrodisiac, and reconstructive.

Tincture of Polygonum; 蓼酒 (Liao-chiu). A decoction of the plant is fermented with leaven and rice, and the preparation is recommended as a tonic.

Tincture of Tree Polygonum; 天蓼酒 (T'ien-liao-chiu). The plant from which this is made is not really a *Polygonum*, resembling that plant only in taste; but it has not been possible to identify it. The bark of the tree 木天蓼 (Mu-t'ien-liao) is digested in spirits, in the spring and summer for seventeen

days, and in the autumn and winter for twenty-seven days. It is considered to be a sovereign remedy for all the *Fêng* diseases.

Tincture of Populus alba bark; 白楊皮酒 (Pai-yang-p'i-chiu). The bark of the tree is sliced and digested in spirits. It is used as a revulsive and correcting remedy.

Tincture of Prunus persica bark; 桃皮酒 (T'ao-p'i-chiu). A decoction of the bark of the peach tree is fermented together with rice and leaven. This preparation is considered to be diuretic, and is used in dropsy.

Tincture of Rehmania glutinosa; 地黃酒 (Ti-huang-chin). The root of this plant is mixed with leaven and rice, sealed up in a vessel for seven days, and thus fermented under pressure. The preparation is considered to be tonic and rejuvenating.

Tincture of Rosa rugosa co.; 風痺藥酒 (Fêng-pi-yao-chiu). Use one ounce each of the white flowers of Hibiscus syriacus, Rosa anemonæflora, and Rosa rugosa; one half ounce of the flowers of Datura metel; five flowers of Solanum nigrum, and of the flesh of Longan fruits and northern dates, one ounce each. All is soaked in spirits and used in rheumatic difficulties and colds.

Tincture of Sargassum siliquastrum; 海藻酒 (Hai-tso-chiu). The seaweed is washed clean and digested in spirits. It is used in the treatment of goitre, and may be considered to be a very good way of administering iodine.

Tincture of Skimmia japonica; 茵蕒酒 (Ying-yü-chiu). *Skimmia japonica*, the three named species of aconite, *Justicia gendarussa*, *Polygonatum vulgare*, *Siler divaricatum*, *Cocculus thunbergii*, *Rhododendron metternichii*, *Rhododendron chinensis*, *Asarum sieboldi*, and cinnamon heart are digested in spirits for a period ranging from three days in summer to seven days in winter. This combination of poisonous drugs is used only in wasting palsies. The disease being considered to be the result of a virulent poison, requires these virulent drugs for its treatment.

Tincture of Sophora japonica; 槐枝酒 (Huai-chih-chiu). The twigs of *Sophora japonica* are decocted and fermented in the usual manner. The preparation is used in the treatment of leprosy.

Tincture of Stemona tuberosa; 百部酒 (Pai-pu-chiu). The root of this plant is digested in spirits and the preparation is used in the treatment of acute and chronic coughs.

Tincture of Sterculia platanifolia; 梧桐酒 (Wu-tung-chiu). The tops of this tree are used in spring or summer, and the root in autumn or winter, together with distilled spirits, in the preparation of a tincture, which is used both externally and internally in the treatment of mammary abscess.

Tincture of Thuja orientalis leaves; 柏葉酒 (Po-yeh-chiu). A decoction of the leaves is fermented together with leaven and rice and used in colds and rheumatic difficulties.

Tincture of turpentine; 松節酒 (Sung-chieh-chiu). A decoction of pine joints is fermented together with leaven and rice, or the leaves of the pine may be used in making this preparation. It is used, presumably externally, in the treatment of weak tendons, aching points, and chillblains.

Tincture of Zanthoxylum and Juniper; 椒柏酒 (Chiao-po-chiu). Thirty-seven peppers and seven twigs of the juniper, taken from the east side of the tree, are digested in prepared spirits and used as a prophylactic against miasms.

Tincture of Zingiber officinale; 薑酒 (Chiang-chiu). This is simply ginger root, steeped in prepared spirit, or ginger juice fermented with leaven. It is used as a stimulant in colds and indigestion.

TORREYA NUCIFERA.—榧 (Fei). The character is also, but incorrectly, written 槩 (Fei) and 榑 (Fei, Pei, or Pai). The tree is a taxaceous one, resembling *Cunninghamia sinensis*. In fact it is sometimes called 野杉 (Yeh-shan), "wild *Cunninghamia*." The nuts of the tree are called 榧實 (Fei-shih), 297, 榧子 (Pi-tzū), 赤果 (Ch'ih-kuo), and 玉山果 (Yü-shan-kuo). They are collected and eaten by the Chinese, and are much relished as a food and valued as an anthelmintic. They are from three quarters of an inch to an inch and a quarter long, oblong, pointed at either end, but more sharply so at the upper end. The skin is of a reddish-brown color, mottled with patches of a darker tint, woody, fragile, and marked longitudinally with broad, shallow striæ. The kernel is much roughened, obscurely villous, and covered with a thin,

reddish-brown membrane. They have little taste, but are reputed to be peptic, anthelmintic, laxative, and tussic in their qualities. They contain much oil, and in Japan this is expressed and sold on the market. They can be eaten in large quantities without fear of disease from their use. The *Pên-tsao* distinguished the 椴子 as being slightly deleterious; so sometimes this must refer to the fruits of another tree; probably *Cunninghamia*. Their only use is as an anthelmintic. A product called 排華 (Pai-hua), and described as flower of *Torreya nucifera*, is also given. It is said to be bitter, carminative, anthelmintic, and to give a good color. It cannot be taken very long without deleterious effects

TRACHYCARPUS EXCELSA.—椴欄 (Tsung-lü); see *Chamerops excelsa*.

TRACHYLOSPERMUM JASMINOIDES.—芫蘭 (Wan-lan); see *Metaplexis stauntonii*. 絡石 (Lo-shih); see *Rhynchospermum jasminoides*.

TRAPA BISPINOSA, *Trapa natans*.—菱實 (Chi-shih), 菱 (Ling), 水栗 (Shiu-li). This is the *water-calthrop*, or *water-chestnut*. The common names are 菱 [] (Ling-chio) and 老菱 (Lao-ling). The common kind is the two horned; but there are three and four horned kinds. The first name is said to refer to the three horned, while *Ling* refers to the two and four horned. But in central China they are all called *Ling*. The plant is sometimes confounded with *Euryale ferox*. It grows plentifully in the ponds, lakes, and rivers of China, has been used from very ancient times as an article of diet, and is included among the things to be offered in religious ritual. Li Shih-chên gives a very good description of the plant, its fruit, and the manner of cultivation. It is said that if eaten raw it will injure the digestive tract, producing worms and intestinal disorders. This is not surprising, since the nut is usually produced in filthy ponds. Boiled, it is eaten in great quantities with great relish by all classes of people, especially children, and without danger. It is regarded as nutritious and constructive, and being a water product, it is thought to

relieve thirst, reduce fever, and to be useful in sunstroke. The flowers and shells of the fruits are used for dyeing the whiskers and hair, and as an astringent in fluxes. 浮菱 (Fou-ling) is a name assigned to *Trapa natans*, and refers to a kind resembling the French water chestnut.

TRIBULUS TERRESTRIS.—蒺藜 (Chi-li), 52. The *Erhya* gives 茨 (Tzŭ) as the classical name. It is the *calthrop*, and is found in many parts of China. On account of the spiny character of the fruit it is called 止行 (Chih-hsing), "preventing walking." There are two kinds, the common kind being called 杜蒺藜 (Tu-chi-li) and another kind coming from Shensi is called 白蒺藜 (Pai-chi-li), 936, or 沙苑蒺藜 (Shayüan-chi-li), 1081, from the place from which it is brought. The seeds of the ordinary kind are considered to be diuretic, tonic, abortifacient, galactagogue, alterative, and anthelmintic. They are used in spermatorrhœa, anæmia, in parturition, coughs, purulent expectoration, and hemorrhoids. The seeds of the white kind are specially recommended in kidney difficulties and spermatorrhœa. The flowers are recommended in white leprosy, and a decoction of the shoots is used in scaly and scabious skin diseases.

TRICOMANES JAPONICUM.—烏韭 (Wu-chiu). Other names are 石髮 (Shih-fa), 石苔 (Shih-t'ai), 石衣 (Shih-i), and 鬼麗 (Kuei-li). As usual with the Chinese in the case of ferns, there is much confounding of genera and species. It is used in fevers, bladder difficulties, jaundice, wounds, menorrhagia, and as a stimulant to the growth of hair.

TRICOSANTHES MULTILOBA.—栝樓 (Kua-lou), 640. It is probable that other species are included under this term, as *Tricosanthes kirilowii* and *Tricosanthes japonica*. The plant is a sort of *bryony*, resembling *Bryonia dioica*. A classical name is 果羸 (Kuo-lo). Nearly every part of this plant is used in medicine, but the principal products are the seeds, 640, the rind of the fruit, 641, and the root. The brownish-yellow dried rind of this fruit is met with in drug shops in broken, or collapsed, pieces indicating a globular fruit of some three or

four inches in length. In the recent state, the pepo has a yellow rind, and the globular fruits, about the size of a man's fist, hang gracefully from the branches, on long slender pedicels. The seeds are large, flat, and brown. The kernel in the recent state is green and contains much oil, which is sometimes expressed and used as lamp oil. There is little or no difference in the medical action and use of the fruit and seeds. Both are regarded as nutritious, tussic, thirst-relieving, tonic, and astringent in fluxes. They are also administered in jaundice, suppression of urine, relaxation of the mucous membranes, retained placenta, agalactia, and syphilitic ulcers. The seeds are found in commerce, under the name of 瓜蒌仁 (Kua-lou-jên), 640.

The root goes under the name of 天花粉 (T'ien-hua-fên), 1292, and 白藥 (Pai-yao), 970. This is found in the shops in irregular pieces, two or three inches in length, and varying in size from that of a little finger to a man's thumb. Externally they are pale yellowish-white in color, usually marked with irregular longitudinal striæ, and internally they are hard, amylaceous, and white, with yellowish medullary rays passing from the circumference toward the center. They are very apt to be worm-eaten, when they become reduced to a very fine, white, dry powder, compared to snow. This amylaceous substance is not found in the root of the growing plant, but is deposited as the plant attains maturity, and is therefore extracted from the old root dug up in the autumn. This starch is considered to be cooling, nutritious, quieting to the centers, and healing in the case of wounds. It is also recommended in jaundice, polyuria, amenorrhœa, and abscesses. To the stalk and leaves of the plant are attributed antifebrile properties.

TRICOSANTHES PALMATA.—白藥子 (Pai-yao-tzŭ), 970. Such is an identification of Faber. See the last article.

TRIGONELLA FŒNUM-GRÆCUM.—胡蘆巴 (Hu-lu-pa), 485, 苦豆 (K'u-tou). These are the small, pale, reddish-brown seeds of a leguminous plant with small pods, introduced into the southern provinces of China from some foreign country, and at first understood by Chinese writers to be

the seeds of a brassicaceous plant. Since it has been grown in Kuangtung, however, it is recognized as being of a different species. The seeds are furrowed and compressed so as to be somewhat angular in shape, and have a peculiar and somewhat bitter taste. The beans, which have been in use as a medicine since the time of the Tang dynasty, are usually boiled or parched, and given with lign-aloes, anise-seed, and other substances as a tonic, carminative, arthritic and deobstruent remedy. Renal diseases, hydrocele, hernia and diseases of the hypogastric region are said to be benefitted by this drug. It is especially recommended as a demulcent in diseases of the bladder, and this seems to be a reasonable use for it, as this is practically its only property.

TRIGONOTIS PEDUNCULARIS.—鷄腸草 (Chi-ch'ang-ts'ao). See *Eritrichium pedunculare*. The name, Chi-ch'ang-ts'ao is also applied to *Mazus rugosus*, which see.

TRILLIDIUM JAPONICUM.—蚤休 (Tsao-hsiu). See *Paris polyphylla*.

TRISLÆRIGATA KÆMPFERI.—石蟬花 (Shih-ch'an-hua). This is Faber's identification. Others make it 碧蟬花 (Pi-ch'an-hua), but this is given under the article on *Commelyna polygama* (which see).

TRITICUM VULGARE.—小麥 (Hsiao-mai). An old name is 來 (Lai), also written 秣 (Lai). The character 麥 is explained as coming from some place, some say from heaven and some say from another country; by others still the character is said to resemble the spikelets of the ears of wheat. The learned compiler of the *Péntsao* gives 迦師錯 (Ka-shih-tso) as the Chinese transliteration of the Sanscrit or Pali name. As a rule, the grain is sown in winter, although a spring crop is occasionally heard of. Wheat is very extensively raised in the provinces of Honan, Shensi, Shansi, Shantung, and Chihli. It is sown broadcast in the north, but in the more southerly provinces where only an inferior grain can be raised, the seed is more thickly sown and produces only a precarious crop. Setting aside the story of the heavenly origin of this grain, it

may be assumed that barley or rye (included by Dr. Schlegel under the name of *Lai*) has been longer known in Shensi, the original home of the Chinese, than wheat, which "came" to them from elsewhere. It is asserted in the *Péntsao* that if the *Xanthium strumarium* be cut up, dried, and mixed with the wheat it will not suffer from weevils. Wheat is regarded as nourishing, but heating in its nature. It is said to be diuretic, demulcent, and antihemorrhagic. Its use is also said to promote fertility in women. It is recommended to be used in gravel, leprous skin diseases, and in wounds of the abdomen. The grains of wheat which have not filled out, and will therefore float on water, are called 浮麥 (Fou-mai). They are roasted and considered useful in colliquative sweating, especially in tuberculosis in women.

WHEATEN BRAN.—麥麩 (Mai-fu), 麥膚子 (Mai-fu-tzū). Bran is of very good quality in China, the flour not having been entirely removed by the rough mode of grinding the meal. Nutritive, demulcent, vulnerary, and discutient properties are referred to this useful domestic remedy, which is made into poultices with vinegar, or into a tea for the suppression of severe sweats, bloody urine, or any flux. Barley bran is directed to be substituted for wheaten bran in spring and summer. A pillow stuffed with fresh bran is credited with much the same soothing or cooling effects in smallpox and other serious diseases of infancy as the old fashioned hop pillow. Bran is not much used in feeding cattle, but it is sometimes given to pigs. It is an article of veterinary medicine.

WHEATEN FLOUR.—麪 (Mien), 灰麪 (Hui-mien), 白麪 (Pai-mien). This is described in the *Péntsao* as being slightly deleterious. If hung up in an airy place for several years, it is said to lose this injurious quality and to be suitable for medicinal purposes. Formerly, wheat was ground by rude handstones of the most primitive character, as in the rural districts of China is to some extent still the case. In larger towns the millers employ the yellow cow as a motive power to grind over and over again the wheat, which yields a coarse flour. The 三道麪 (San-tao-mien), or "three-way-flour", is considered the finest quality which the Chinese can make with their rude mills. At present, several flouring mills after the

foreign pattern have been established in China, and the flour from these, together with that imported from abroad, is rapidly taking the place of the old style flour. Aside from the nutritious properties of this article, a raw paste is used in fevers and sunstroke, and is also used as a poultice in ecchymoses, and internally in epistaxis and hemoptysis. A variety of other difficulties are also treated with flour or its paste, but are of no special interest, since the virtues ascribed are mostly imaginary.

BREAD.—蒸餅 (Chêng-ping), 饅頭 (Man-tou), 麪包 (Mien-pao), 饅饅 (Mo-mo). Much more appears to be known of Trans-himalayan customs and manners by the Chinese than most persons suppose, as many habits known to, or practiced by them, in former times, in common with Indo-aryan or Turanian races, have dropped out of use and memory. Many words have been coined by those too willing for the task, who might have searched and found out that the Chinese language at least knew of such things. The use of wheaten bread is very ancient and much more general than is supposed by most persons. Bread pills are an old remedy with Chinese doctors. Stale bread is looked upon as very digestible. Bread is raised by means of leaven, native soda, or pearl ash, the small loaves or cakes being steamed in a very simple and ingenious way described in Lockhart's "Medical Missionary in China." Bread and pastry are consumed as the staple article of diet in Honan, Shensi, Shansi, and Shantung. A kind of fancy bread, shaped like a top, is made in Tien-men-hsien, Hupeh. The Mohammedans are the best confectioners. The Chinese do not use alum in their bread, and if made from the best quality of their native flour, it is very wholesome. *Mo-mo* is a Honan name for bread. Stale bread is recommended in the *Péntsao* in diarrhœa, chronic dysentery, leucorrhœa, menorrhagia, profuse sweats, and in serious injuries. Burnt bread is mixed with oil and applied to burns and scalds. A remarkable case of one of the Sung monarchs, in his infancy, having been cured of incontinence of urine by the use of stale bread, garlic, and beans, is quoted in the *Péntsao* with approbation.

WHEATEN STARCH.—麪粉 (Mien-fên). Under this name, often improperly applied to the flour of wheat, the *Péntsao* gives the starch prepared from bran or flour by washing

and separation. It is much used to stiffen clothes. Medicinally, it is cooked and used in dysentery, or parched and made into a poultice with vinegar to be applied to all sorts of swellings.

WHEAT GLUTEN.—麩筋 (Mien-chin). This is prepared by washing out the starch, and when a small quantity is wanted for catching birds, it is only necessary to masticate the wheat until nothing else is left. It is used as a nutritious article of diet, and is also considered to be antifebrile.

WHEAT DEXTRINE.—麥麩 (Mai-ch'ao). This is prepared by steaming, drying and powdering the wheat. It is considered to be nutritious, antifebrile, and quieting. The young sprouts of wheat are considered to be antivinous, constructive, and antibilious. A growth upon the wheat ears, evidently parasitic in its nature, is called 麥奴 (Mai-nu). For this see the article on *Ergot*. The straw of wheat is burned to an ash, and used as a caustic application on unhealthy granulations.

TROPÆOLUM MAJUS.—金蓮花 (Chin-lien-hua). The *Kuang-chün-fang-pu* describes fully this flower, giving as its natural habitat Wutaishan in Shansi. It is not mentioned in the *Péntsao*, but the first two characters of the name are given under the article on *Limnanthemum nymphoides*.

TULIPA GRAMINIFOLIA.—山慈菇 (Shan-tz'u-kū), 653. See *Orithyia edulis*.

TUSSILAGO FARFARA.—款冬 (K'uan-tung), 650. This is the common *coltsfoot* used in popular medicine in western countries, and the flowering scapes, with the purplish bracts and unopened florets, are used in Chinese medicine. Two varieties are met with in China and Korea, one having a large flower. A number of names are given for the plant, among which is 橐吾 (To-wu), which is *Farfugium kämpferi* (which see). Some of the names given refer to the early flowering of this plant and its resistance to cold and frost. The principal medicinal qualities attributed to the drug are those of an expectorant in apoplexy, phthisis, coughs, and asthma, and as a demulcent in fevers. Eyes are bathed with a decoction of the flowers in hot water. The flowers are also smoked in the treatment of chronic cough in much the same

way as the leaves of the plant are used as a substitute for tobacco in England and America.

TYPHA ORIENTALIS. — 香蒲 (Hsiang-p'u), 420. This is a kind of *bulrush*, resembling the *Typha latifolia* of Europe, which is also found in the south of China. It grows at the side of pools, and its linear, reddish leaves are made into mats and fans. The young shoots are gathered in the spring and pickled, and may also be steamed and eaten. The character 香 is used to distinguish it from *Acorus calamus*, which is sometimes called 臭蒲 (Ch'ou-p'u). The heart of the tender plant, which is found at the bottom of the pond in the mud, is called 蒲薺 (P'u-jo) and 白薺 (Pai-jo), and is sometimes eaten raw, after careful cleansing. It is sweet and delicate, and the Chinese like it steeped in vinegar. The stem of the plant bears at the top a kind of mace, containing the flowers, which is called 蒲槌 (P'u-ch'ui) and 蒲萼 (P'u-o). The pollen of the flowers, which is exceedingly plentiful, and is like a fine, golden dust, is called 蒲黃 (P'u-huang), 1054. It is collected, mixed with honey, and sold as a sweetmeat. The old root is also edible when boiled or steamed with fat meat, or it is dried in the sun, powdered, and made into cakes. The rhizomes are also called 蒲筍 (P'u-sun), and are reputed to be tonic, cooling, diuretic, and galactagogue. They are recommended in caked breast, fevers, and dysentery. The pollen, which comes mixed with the stamens and the hairy sepals of the flowering spike, is a yellow powder tending to collect into balls, and resembles lycopodium powder, especially in being quite inflammable. It requires sifting, and is then used as an astringent, styptic, sedative, dessicant remedy in all sorts of hemorrhages, bruises, and ecchymoses, especially those occurring after labor. The refuse (滓) left after sifting the pollen, is called 蒲蕪 (P'u-ô), and is browned and used as an astringent in dysentery and other hemorrhages from the bowels.

TYPHONIUM GIGANTEUM. 獨脚蓮 (Tu-chio-lien). The identification of this plant is uncertain, it having been confounded with *Arisëma heterophylla* (Henry and Faber), *Podophyllum versipelle* (Ford and Crow), and *Diphylleia* (Japanese). See the article on *Dibhylleia*.

U.

ULMUS CAMPESTRIS.—榆 (Yü). This is *Ulmus sinensis*. Also called 零榆 (Ling-yü), and the white variety is called 枌 (Fên). Li Shih-chên says that there are very many varieties of *elm*. The inner bark, 1554, is used in medicine, and for this purpose is dried and ground up into a meal. This meal is used for a variety of other purposes, among which is the manufacture of incense sticks. A kind of paste was formerly made of it, and in times of great scarcity the ground bark, the leaves, and the membranous fruit are all used as food. Demulcent, lenitive, diuretic and antifebrile properties are attributed to it. It is applied with oil and vinegar to various parasitic and porriginous eruptions. Poultices are made of it also in caked breast, abscesses, and swellings. Advantages are taken of its demulcent properties in diarrhœas, bladder difficulties, and gonorrhœa. The leaves of the elm are used in the green state as a sort of pot-herb and are supposed to be antilithic and counter-poisonous. A decoction is used as an application to wine nose, and also in the treatment of bilious difficulties. The flowers are used in the nervous affections of children and their fevers. The kernels of the seeds are made into a porridge and eaten, and are said to promote sleep, to control menstrual discharges, and to be anthelmintic. Another kind of bark is found in the Customs Lists under the name of 香榆皮 (Hsiang-yü-p'ï), 430. A fungus growing on the elm tree, and called 榆耳 (Yü-erh), is given in the Customs Lists as 榆蘑 (Yü-mo), 1553. The last character is not found in any of the dictionaries, and the entry must refer to an exidiaceous growth referred to in the article on *Fungi*. If so, it is an edible fungus, and has no special medical properties.

ULMUS MACROCARPA.—燕蕒 (Wu-i). The name of the tree is 榲 (P'ien), which has been by some observers mistaken for *Lindera*. Li Shih-chên says that there are two varieties, but seems to confound one with the fruit of the common elm. The fruit of this species is used in medicine, and

has a fetid odor. For this reason it is sometimes called 臭蕪莢 (Ch'ou-wu-i), which is found mentioned in the Hankow List of Medicines (p. 7), and is described as "a small lentil-shaped seed, of a very disagreeable and strong odor. The flesh of the berry generally adheres to the seed." The Customs Lists call the *Wu-i*, 1457, "a medicine cake," the characters used being the same as appear at the head of this article, and also 武夷 the name of the "Bohea" hills in Fukien. The medicinal properties attributed to these seeds are antifebrile, anthelmintic, digestive, counter-poisonous, and prophylactic. They are also used externally in parasitic skin diseases.

ULMUS PARVIFOLIA.—榔榆 (Lang-yü). The similarity of this tree to *Ulmus campestris* is noted. The bark is mucilaginous, and the fruits ripen in the autumn. The bark is used as an antifebrile, antilithic, diuretic, soporific, and quieting remedy.

ULMUS KEAKI.—檉柳 (Chü-liu). See *Pterocarya stenoptera*.

UMBILICUS FIMBRIATUS, *Cotyledon fimbriata*.—昨葉荷草 (Tso-yeh-ho-ts'ao), 瓦松 (Wa-sung), 向天草 (Hsiang-t'ien-ts'ao). This grows upon old tile roofs to the height to a foot or more, and at a little distance looks like a pine branch; hence one of the Chinese names. The plant is dried in the sun for medical use. It is used as a styptic in dysentery, as an ointment in falling out of the eye-brows, as a stimulant in suppressed menstruation, in gravel, and in dog bite.

UMBILICUS MALACOPHYLLUS, *Cotyledon malacophylla*.—屋遊 (Wu-yu), 瓦衣 (Wa-i), 瓦苔 (Wa-t'ai), 瓦蘚 (Wa-hsieu), 博邪 (Po-hsieh). This is similar to the last, but does not grow so tall. Its medical uses are also similar, but it is more particularly used as an antifebrile and quieting remedy. A decoction, to which salt is added, is used in fever-sores of the mouth, gumboils, and nosebleed. It is also recommended in dog bite.

UNCARIA RHYNCHOPHYLLA. — 鈎藤 (Kou-t'êng). It is also called 弔藤 (Tiao-t'êng), on account of its hooked thorns. It is common in the mountains of Hunan, Hupeh, and Kiangsi, and it is a climber, varying in length from eight to twenty feet, hollow, and about the thickness of a finger. It is said that thieves use this hollow stem with which to syphon out spirits from wine jars without having appeared to have disturbed the latter. It is the *Nauclea sinensis*, and has been identified by Tatarinov as the *Uncaria gambir*. This identification is somewhat doubtful. The task set for himself by Hanbury, of identifying the various gambir and catechu extracts with their respective plants has not, so far as we are able to find, yet been accomplished. No mention is made in the *Pêntsao* article of any extract from this plant. Whether it is that the Chinese have not recognized the identity of the plant with that of the Indian Archipelago, from which pale catechu is derived, or whether it is really not the same plant, has not been determined. The drug is found in China under the name of 孩兒茶 (Hai-êrh-ch'a), or 烏爹泥 (Wu-tieh-ni), being confounded with the product from *Acacia catechu* (which article see). Short pieces of the shrub constitute the form in which the drug is found in Chinese commerce, 612. Each piece is of a dark, or reddish-brown color, and contains a node from one half an inch to one inch in length, with two sharp stiff recurvent stipules. These spines are sometimes found in commerce as representing the form of the drug employed. The drug is used in infantile fevers and the nervous disorders of children. In adults, dizziness, motes in vision, and bilious disorders are treated with it. A tincture is made of the nodes of this plant, which seems to have the properties of tincture of catechu. Another plant is spoken of in the same article in the *Pêntsao* called 倒掛藤 (Tao-kua-t'êng). There is no description of the plant, except that it grows deep within the mountain valleys, has long pointed leaves, and recurved spines by which it hangs to the branches of the trees. It is recommended as an astringent in all post-partum difficulties.

GAMBIR or *Pale Catechu* of commerce. While it is not certain that the plant under consideration is really *Uncaria gambir*, an account of the manufacture of this substance and

its appearance in commerce is here given. Dr. Williams says that is made "by boiling the leaves for five or six hours, until a strong decoction is formed. They are then taken out and strained above the caldron. The decoction is evaporated almost to dryness, when it is cooled and the water drawn off. A soapy substance remains which is dried and cut up." It occurs in cubes, or cakes formed by the coherence of these cubes. They are about an inch square, porous, externally of a brown color, and internally of a brick-red or ochreous color. The pieces become much darker with age. Gambir is seven or eight times richer in tannin than oak bark, and is perfectly soluble in boiling water. The solution is bitter, astringent, and its after-taste is slightly sweet. The decoction should not be very smooth to the taste, nor should it give a blue color with iodine. The drug is imported into China from Singapore, principally for dyeing purposes. It is probable that this drug is often found mixed with that derived from *Acacia catechu*, *Areca catechu*, and other substances.

URTICA SCORPIONIDES. 蝎子草 (Hsieh-tzŭ-ts'ao). This is a name given by Porter Smith to a Chinese nettle described in the *Kuang-chiün-fang-pu* as being formidable to all animals, except the camel, on account of its stings. In man the sting swells and turns red, resembling the bite of a scorpion. It is not used in medicine.

URTICA THUNBERGIANA. 葶麻 (T'an-ma); also called 毛蕤 (Mao-hsien). This is said to have originally come from the mountain valleys of Kiangningfu (Nanking). It has a prickly stalk two or three feet high, and the leaves are green, or purplish, and hirsute, and the prickles on the leaves produce a sting whenever touched with the bare hand. It is said that if these leaves are thrown into water, they will poison fish. The taste is bitter and cooling, and the action of the plant is emetic. It is used only externally, bruised, in snake bite, and applied to pemphigus-like skin difficulties, which it is said to cure in one night.

UVULARIA GRANDIFLORA. 貝母 (Pei-mu). See *Fritillaria thunbergii*.

V.

VALLISNERIA SPIRALIS.—苦草 (K'u-ts'ao). This *tape-grass*, or *eel-grass*, grows to the length of two or three feet in ponds and marshes. There is no farther description of the plant. It is prescribed in decoction in leucorrhœa, and is used together with sesamum to increase the appetite, in which case it is made into a tea, or the dry drugs are masticated together.

VERATRUM.—藜蘆 (Li-lu); also called 山葱 (Shan-ts'ung), "mountain onion." This term also includes *Veratrum album* and *Veratrum nigrum*. It grows in north-central China. The description in the *Pên-tsao* agrees with this identification. The name in Chinese refers to the black color (黎) of the root-stock, as does the word *Veratrum* (vere-atrum, truly black). As found in the market, the drug consists of the root-stock, terminated with the radicals and embraced by a bundle of hairy, coir-like fibers. The Chinese recognize its poisonous properties, and consider it to have errhine, emetic, expectorant, evacuant, and anthelmintic effects. It is given in apoplexy as a rousing emetic, and is used as an ointment for itch and other parasitic skin diseases. It is also used in skin diseases of the horse. As an appendix to this article in the *Pên-tsao*, there are given three other plants as resembling, in some respects, *Veratrum*. One is 山葱石 (Shan-tzŭ-shih), which by Faber is identified as *Tulipa edulis*. It is used in menstrual difficulties. The second is 參菓根 (Shên-kuo-kên), which is used in corroding ulcers. The third is called 馬腸根 (Ma-ch'ang-kên), which is used in the *Ku* disease, the *Fêng* disease, and in scabious ulcers.

VERBENA OFFICINALIS.—馬鞭草 (Ma-pien-ts'ao), 807. This is a common plant in low grounds, having a square stem, opposite leaves, and bearing in autumn small purple flowers in spikes. Another name for it is 龍牙草 (Lung-ya-ts'ao). The plant is often confounded with *Leonurus* on account of its square stem and other similar characteristics.

The stalk and leaves are thought to act on the blood, relieving congestion, obstructions, dropsical effusions, and hematoceles, and is also accredited with emmenagogue, anthelmintic, and antiscorbutic properties. It is administered in malarial difficulties. The root is considered astringent, and is employed in dysentery.

VIBURNUM DILATATUM.—蒺藜 (Chia-mi); also called 槩迷 (Hsi-mi). The leaves are like to those of *Hibiscus syriacus*, and the fruits resemble those of *Deutzia gracilis*, red in color and sweet in taste. The tree grows in mountain valleys. The fiber of the internal bark is used in making ropes. The twigs and leaves are used in making medicine, and are considered anthelmintic and corrective. A decoction is used as a wash to maggoty sores, destroying the maggots, and acting as an astringent and stimulant to the sore.

VIBURNUM OPULUS.—雪 毬 (Hsüeh-ch'iu). This "snowball" plant is mentioned in the *Kuang-chün jang pu*, but is not used medicinally. It is known in Europe as the *Gülde rose*, but in China it is confounded with the *Hydrangea*, which is called 洋繡球 (Yang-hsiu-ch'iu), and which also is not used medicinally. This confounding is liable to lead to disastrous results, since the leaves of the latter are sometimes used for tea, while the leaves of *Viburnum* are said to be emetic and drastic.

VICIA FABAE.—蠶 豆 (Ts'an-tou). This is the *Windsor bean*, or *horse bean*, of England. Equally with *Pisum sativum*, it is called 胡 豆 (Hu-tou), because it comes from abroad. This bean is extensively cultivated, especially throughout the south and west of China. The tender shoots are eaten as a pot-herb. The description given in the *Pentsao* is quite good. The beans are supposed to benefit all the viscera. The shoots, boiled in oil and salt, are said to be very efficacious in arousing a drunkard from his stupor.

VICIA GIGANTEA.—At Peking the character 薇 (Wei) is applied to this, and in the *Pentsao* the description under this title seems, in most cases, to indicate a leguminous plant,

and there is given as an alternative term 野豌豆 (Yeh-wan-tou), which in Japan is *Lathyrus maritimus*. But *Wei* also refers to a fern, and both in China and Japan the term is so used. It is impossible, therefore, to distinguish the medical uses of this from those of *Osmunda regalis*, which are the same as those of *Pteris aquilina* (which articles see).

VICIA HIRSUTA.—翹搖 (Ch'iao-yao), 搖車 (Yao-ch'e), 小巢菜 (Hsiao-ch'ao-ts'ai). The fine leaves of this purple plant can be eaten. It grows commonly everywhere, but is cultivated in Szechuan. Its leaves are likened to those of *Sophora japonica*. The beans are small, and the pods resemble those of peas. Their medicinal action is considered to be beneficial to the blood, strengthening to the flesh, and they can be eaten a long time without one's losing a taste for them. They are recommended in chronic malarial difficulties.

VINCETOXICUM ATRATUM.—白微 (Pai-wei), 969. This is a common plant in central and north China. It has leaves resembling willow leaves, red flowers, and a yellowish-white root. The root is used in medicine as an antifebrile remedy in malarial fevers, and in all fevers attended by delirium, which it is thought to quiet. It is also diuretic, and is used in diseases of the urinary organs, especially incontinence of urine.

VINCETOXICUM PURPURASCENS.—白前 (Pai-ch'ien), 939. This grows freely in central China to the height of a foot or more. Another name for it is 嗽藥 (Sou-yao), "cough medicine," referring to its chief medicinal use. It is recommended in all forms of bronchial and lung troubles, and especially in chronic cough with bloody expectoration.

VINEGAR.—醋 (Ts'u). Other names for this are 酢 (Tso), 醃 (Hsi), and 苦酒 (K'u-chiu). Vinegar is made in China from rice, wheat, leaven, chaff, must, fermented sweetmeats, peaches, grapes, dates, cherries, and various other fruits. Old rice vinegar is the kind most highly valued in medicine, but other kinds are also used. Li Shih-chên gives an account of

the manner of making vinegar from many of these substances. The corrective and condimental uses of vinegar are fully discussed in the *Pên-tsao*, and as it is the only acid with which the Chinese have had any definite acquaintance, its solvent and oxidizing properties are also referred to. It is believed to spoil the teeth and to make people thin. The reviving effects of the fumes of vinegar, as in parturition, are understood by the Chinese. It is believed to be cooling, astringent, antidotal, stomachic, alterative, anti-emetic, and discutient. It is especially recommended as a wash in foetid exudation in the axillæ and groin, where hot-water and soap would probably be more efficacious. It is also used in insect bites of all kinds, and to aid in the expulsion of a dead fœtus or retained placenta.

VIOLA PATRINII.—紫花地丁 (Tzŭ-hua-ti-ting), 1272, 1411. See *Fumaria officinalis*.

VIOLA PINNATA.—胡堇草 (Hu-chin-ts'ao). This wild violet resembles the *Viola sylvestris*, has a purple flower, and the plant is often used as a pot-herb, having a slightly acid taste. It is considered nourishing, purifying to the blood, and anodyne. Bruised and applied to ulcers and foul sores, it is considered cleansing, and is mixed with turpentine, olibanum, ashes from burnt hair, charcoal from mulberry twigs, and made into a pill for use in dispersing cancerous tumors.

VIOLA SYLVESTRIS.—堇菜 (Chin-ts'ai). In the *Pên-tsao* this is confounded with *Apium graveolens*, being considered to be a sort of wild celery. The plant is considered to be counter-poisonous, and is used as an application in horse bites, reptile bites, and cancerous sores. Its ingestion is also thought to benefit in tubercular troubles and cholera. This same character 堇 (Chin) is used for *Aconite*, *Sambucus chinensis*, and *Ranunculus sceleratus*.

VISCUM.—桑上寄生 (Sang-shang-chi-shêng), 1067, 松蘿 (Sung-lo), 寄生 (Chi-shêng), 58, 雜寄生 (Tsa-chi-shêng), 1320. These terms usually refer to loranthaceous plants, although all kinds of epiphytes and parasitic plants are really

included in the third and fourth. These epiphytic plants are found growing upon the fir, poplar, oak, elm, willow, peach, mulberry, liquidamber, *Pterocarya stenoptera*, and other trees. Some of the authorities in the *Péntsao* say that it is the same plant, only differing in its root according to the tree upon which the plant lives. But it is more than probable that more than one genus is represented by these many varieties of epiphytes. According to Henry, *Loranthus yadoriki* is found in Hupeh, and the Japanese find *Loranthus (Viscum) kœmpferi* in Japan on *Larix*, *Abies*, and some species of pine. Whatever description of the two plants is given in the *Péntsao*, together with their medicinal uses, will be found under the article on *Loranthus*.

VITEX CANNABIFOLIA.—牡荆 (Mu-ching). This includes also *Vitex negundo*, which is called 黃荆 (Huang-ching). The classical name for the plant is 楚 (Ch'u). The character *Ching* was the name of one of the nine provinces into which the empire was divided under the Great Yü. *Ch'u* also was the name of a state which occupied the same territory as the province of Ching. What reference these characters may have to the name of this plant, if any, is not clear. At Peking the *Vitex incisa*, which is there called 荆子 (Ching-tzū) or 荆條 (Ching-t'iao), is a very common shrub. It is also used for fuel and for making charcoal. In the mountains where it is allowed to grow for several years it becomes quite a tree, although ordinarily the tree does not attain to very large size. The flowers are produced in the axils of the leaves, and the fruit is about the size of coriander. They are used in rheumatic difficulties, coughs, colds, angina, leucorrhœa, hernia, deafness, and gonorrhœa. The leaves are used as an astringent and sedative in cholera, gravel, and moist eczemas of the lower extremities. The root is employed in colds and rheumatic difficulties; the twigs, in decoction, as a dressing in burns and scalds. An infusion, called 荆瀝 (Ching-li), is made of the twigs of the plant, and is considered to be a very efficacious remedy in all forms of headache, dizziness, convulsions of children, coughs, and mental unrest, and at the same time it is said to promote wakefulness.

VITEX TRIFOLIA.—蔓荆 (Man-ching), 819. This is the same as *Vitex incisa*. The description in the *Pentsao* agrees fairly well with this identification. The branches are slender and weak, somewhat resembling a vine; hence the Chinese name. It is found plentifully in north China. The berries are the part used in medicine, and as they appear in drug shops are globular, black, nucumentaceous, about two or three lines in diameter, and usually covered with the remains of the calyx, or mixed with the dried leaves of the plant. The interior is white, ligneous, and made of four carpels in a state of adhesion. They have little taste or smell, and must be nearly inert. They are prescribed in headache, catarrh, and watery eyes, and are said to promote the growth of the beard, that great desideratum of the middle life of every Chinese man. Cancer of breast is also treated with it.

VITIS BRYONIÆFOLIA.—蓼蓂 (Ying-yü). This is also called 山葡萄 (Shan-p'u-t'ao) and 野葡萄 (Yeh-p'u-t'ao). It is the wild grape, which is found growing in the Peking mountains, bearing small, edible, black fruits. *Vitis labrusca* is also represented by this title. The fruits are considered cooling and beneficial to the complexion and breath. The vine is thought to be diuretic, and is used in typhoid with a view to checking nausea. The root is recommended in gravel and pain in the lower abdomen, especially in women.

VITIS CORNICULATA.—紫葛 (Tzŭ-ko). This grows in mountain valleys, the vine being more than ten feet long, the root purple in color and two or three inches in diameter. The bark of the root, which is the part used in medicine, is employed in an acetous decoction in cancerous and other swellings, and is considered eliminant. It is also used after labor for relieving thirst, and as an application in all sorts of wounds.

VITIS FLEXUOSA.—千歲藥 (Ch'ien-sui-lei). This is also called 常春藤 (Ch'ang-ch'un-t'êng), and has a vine resembling the grape-vine, yielding in the fourth month a white sap, sweet in taste, and in the eighth month bearing fruits which are greenish-black with a tinge of red. These fruits are used medicinally, and are supposed to be strengthen-

ing and constructive. The sap of the vine is one of the many drugs supposed to restore youth and black hair. The root is considered warming to the sinews.

VITIS INCONSTANS.—常春藤 (Ch'ang-ch'un-t'êng). It is also called 龍鱗薜荔 (Lung-lin-pi-li), "dragon scale fig." This is a creeper upon bushes and trees, bearing a round berry of a pearl color. The stalk and leaves are bitter and the fruit is sweet. All are used in medicine as a tonic and constructive remedy, and in the treatment of inflammatory swellings. A decoction of the fruit is recommended in obstinate epistaxis.

VITIS PENTAPHYLLA.—烏蕨莓 (Wu-lien-mei). On account of its five pointed leaf it is also commonly called 五爪龍 (Wu-chao-lung), "five clawed dragon." This grows in hedges as a vine, has a greenish white flower, an angled stalk, and bears fruits somewhat resembling the berries of *Solanum nigrum*. The root is mucilaginous, and is the part used in medicine. It has special reputation in the treatment of cancerous sores, boils, insect bites, and all sorts of inflammatory swellings. It is also diuretic, and is used in the treatment of hemorrhage from the bladder.

VITIS SERIANÆFOLIA.—白蕨 (Pai-lien), 954. Other names for it are 白根 (Pai-kên) and 貌兒卵 (Mao-êrh-luan). It is a common plant in mid-China, having a tuberous root with reddish black skin, white flesh, and collected together in a mass like a nest of duck's eggs. The medicinal virtues of the different parts of the plant are the same, but the root is the part commonly employed in medicine. It is used in inflammatory swellings of all kinds, being considered anodyne and cooling. It is also recommended in the nervous disorders of children, ague, swelling of the genitals in women, and menorrhagia.

VITIS VINIFERA.—葡萄 (P'u-t'ao). As this name is also written 蒲桃 (P'u-t'ao), being different characters of the same sound, it is entirely probable that these represent some foreign name. Indeed it is said in the history of the Han dynasty that the famous general Chang Chien introduced them

from western Asia about B.C. 120-125. Li Shih-chên notes that the grape was known in China from very early times, but he probably confounds other species of *Vitis* with the domestic grape. It is certain that this vine has not been cultivated very extensively in China to the present time. No improvement in the original species has taken place under Chinese cultivation, and good western varieties have only been introduced within recent times by missionaries. The description in the *Péntsao* is fairly good, and the appreciation of the virtues of this fruit is fully shown in its medicinal applications. The fruit is considered strengthening, cooling, constructive, diuretic, and anthilithic. It is recommended to bring out the eruption in small-pox. A decoction of the root, vine, or leaves is recommended in the vomiting of cholera, vomiting of pregnancy, and threatened abortion. It is also diuretic and useful in dropsy.

WINE.—葡萄酒 (P'u-t'ao-chiu). With the Chinese there are two kinds of grape wine; the fermented and the distilled. The former is called 釀葡萄酒 (Niáng-p'u-t'ao-chiu) and the latter 燒葡萄酒 (Shao-p'u-t'ao-chiu). The fermented is produced by mixing the expressed juice with leaven in the usual manner which the Chinese use, or the dried grapes may be used. The distilled is fermented in the same manner, but is afterwards distilled by the usual method employed by the Chinese, resulting in a form of weak brandy. However, it is strong enough to be considered very poisonous, producing inebriation much more quickly than the ordinary Chinese is accustomed to. Foreign brandies are also mentioned, some of them being considered stronger and some weaker than the native product. One of these is called 哈喇火 (Ha-la-huo), which may be a transliteration of "hollands," or maybe of "alcohol." The fermented wine is considered warming, and is recommended in kidney affections and for improving the color. The stimulating properties of the distilled wine are fully recognized, and it is used to prevent hunger, stimulate the intellect, and quiet the centers, which all know it seems to do. But the Chinese have a certain amount of prejudice against grape-wine on account of its heating properties, which are supposed to be given to it by the reputed origin of the grape from the volcanic districts of Turfan.

W.

WAHLENBERGIA MARGINATA.—細葉沙參 (Hsi-yeh-sha-shên). See *Adenophera*.

WICKSTRÆMIA CHAMÆDAPHNE.—芫花 (Yüan-hua). See *Daphne genkwa*.

WICKSTRÆMIA JAPONICA.—堇花 (Jao-hua). There is not much description of this plant, and what there is is somewhat conflicting. There seem to be two kinds, one with white and the other with yellow flowers. It is regarded as poisonous, and is used medicinally in typhoid fever, ague, coughs, and its action is regarded as diuretic.

WISTARIA CHINENSIS.—紫藤 (Tzū-t'eng). The description given in the *Pên-tsao* is sufficient to identify this plant, and in some parts of China it is called 招豆藤 (Chao-tou-t'eng). The seeds, if placed in wine, are said to preserve it from spoiling, and if put into wine that is already spoiled will restore its good qualities. It is considered slightly deleterious, and is prescribed as a diuretic and in a disease of the heart called 癰 (Yin).

WOODWARDIA JAPONICA.—狗脊 (Kou-chi), 606. This is the Japanese identification which Faber refers to *Woodwardia radicans*; but this is evidently a mistake, so far as the genuine *Kou-chi* plant is concerned. See *Polypodium barometz*.

WOODWARDIA RADICANS.—貫衆 (Kuan-chung), 647. This entry in the *Pên-tsao* refers to *Aspidium*, *Nephrodium*, *Onoclea*, and other ferns, as well as to *Woodwardia*. A number of Chinese names is given, such as 貫節 (Kuan-chieh), 貫渠 (Kuan-ch'ü), 百頭 (Pai-t'ou), 草鴟頭 (Ts'ao-ch'ih-t'ou), 黑狗脊 (Hei-kou-chi), and 鳳尾草 (Fêng-wei-ts'ao). The last is said to be the name of the herbage, and the first the name of the root, referring to the manner in which the rootstock is seemingly strung together. Exact identifications are exceedingly difficult, especially as the Chinese confound both genera and species. Medicinal uses are given under *Nephrodium filix mas*.

X.

XANTHIUM STRUMARIUM.—象耳 (Hsi-êrh). This is a common weed throughout China. At Peking, and also in the south, it is called 蒼耳 (Ts'ang-êrh), 1328. Another name is 卷耳 (Chüan-êrh); but this in Japan is *Cerastium glutinosum*. The fruits are said to look like a woman's ear pendant, and for this reason are called 耳璫 (Êrh-tang). Because the fruits are prickly and adhere to the fleeces of sheep that are being driven about the country for pasturage, the plant is scattered widely, and for this reason it is sometimes called 羊負來 (Yang-fu-lai), "sheep-carried-it-here." A number of other names are given, being applied in different parts of the country, and on account of various resemblances or uses. The leaves are eaten, and also used for dyeing yellow. The fruits are considered slightly deleterious, and are used as a tonic, anti-strumous, anti-rheumatic, anti-periodic, and diuretic remedy. The shoot and leaves have cooling and quieting properties ascribed to them, and are used as an astringent and hemostatic. The root, 1329, is not mentioned in the *Pêntsao*, except as being combined with the leaves in the preparation of an extract (see *Extracts* in the Appendix). The flowers are recommended in the Appendix of the *Pêntsao* as a remedy in colds.

XANTHOCERAS SORBIFOLIA.—文光果 (Wên-kuang-kuo). This beautiful tree grows wild in Tartary, is cultivated in Peking, and is now found in most of the botanical gardens of Europe and America. The Chinese name is found in the *Pêntsao* in a foot-note to the article on *Ficus carica*; but there is no description of the plant, and none of the fruit, except that it resembles the fig and tastes like the chestnut, being ripe in the fifth moon. No medicinal virtues are ascribed.

XYLOSMA RACEMOSUM.—冬青 (T'ung-ch'ing). See *Ilex pedunculosa* and *Ligustrum lucidum*.

Z.

ZANTHOXYLUM AILANTHOIDES.—食茱萸 (Shih-chiu-yü). This is also called 越椒 (Yüeh-chiao) and 辣子 (La-tzü). A common name by which it is described in the *Pentsao* is 攥子 (Tang-tzŭ). It is said to grow in Fukien and is a lofty tree, resembling *Ailanthus*, but is thorny. The fruits are pungent and are eaten by the people as a substitute for the ordinary red-pepper. The tree also grows in other parts of China, has a mottled bark and yellow flowers. The fruits are green in color, and are gathered by the people in the eighth month, bruised together with lime and the juice expressed, which is called 艾油 (Ai-yu) or 辣菜油 (La-t'sai-yu), and eaten as a condiment. Medicinally, the fruits are considered to be slightly deleterious, but their virtues are regarded as practically identical with those of *Boymia rutæcarpa*, with which this product is frequently confounded. Carminative, tussic, stimulant, and counter-poisonous virtues are ascribed, and the drug is prescribed in diarrhœas, leucorrhœa, and chronic dysentery.

ZANTHOXYLUM BUNGEI.—秦椒 (Ch'in-chiao); also called 大椒 (Ta-chiao) and 花椒 (Hua-chiao), 492. As indicated by the first name, this originally came from Shensi, and the drug consists of the small, red, tuberculated carpels, called 椒紅 (Chiao-hung), inclosing the black, round, shining seed. By abortion, the carpels, normally four in number, are reduced to two, and the slender pedicles attached to the carpels are often found mixed with the delisced carpels. The drug has an aromatic odor, and a peculiar, pungent, and terebinthinate flavor, with a benumbing, acrid after-taste, faintly resembling that of aconite. The properties which render it condimental and medicinal are probably due to the oleo-resin of the tubercles of the pericarp. The leaves are also collected and used with the fruits as medicine. They are also employed for feeding silk-worms. The resemblance of this fruit to *Zanthoxylum piperitum* is noted, but the fruits are said to be larger and the seeds smaller than in the latter. It occurs in

different parts of the country in both the wild and cultivated state. Its medicinal virtues are considered to be carminative, stimulant, sudorific, emmenagogue, astringent, and anthelmintic. Its use as a condiment is regarded as highly beneficial to all the vital processes. An infusion in vinegar dropped into the ear is said to be able to drive out every form of bug or worm that may have invaded that cavity.

ZANTHOXYLUM PIPERITUM.—蜀椒 (Shu-chiao), commonly called 川椒 (Ch'uan-chiao), 241, and also 南椒 (Nan-chiao). As the name indicates, this is the Szechuan species, and is much cultivated in western China. It is a shrub from four to five feet high, spiny, with hard, shining leaves, and fruits appearing in the axils of the twigs and leaves. These fruits are the size of a small pea, have a purplish-red skin, and contain a shining, black seed, resembling the pupil of the eye, and for this reason called 椒目 (Chiao-mu), "pepper eyes." It is not always clearly distinguished from *Zanthoxylum bungei*. The carpels, which are called 椒紅 (Chiao-hung), are considered somewhat deleterious. It is probable also that they are sometimes confounded with some other acrid drug, as it is said that the kind which closes the mouth (benumbing or acrid) will produce death. The prolonged use of these carpels is said to produce imbecility and to injure the blood vessels. Medicinally, they are carminative, stimulant, warming, tussic, antimalarial, and prophylactic. They are recommended in dysentery, spermatorrhœa, galactorrhœa, and polyuria. Externally, they are used as a stimulant to the skin and as a parasiticide. The seeds are considered diuretic, and are used in dropsies, diseases of the kidney and bladder, and in asthma. The leaves have properties similar to those of the fruits, and are prescribed in similar cases. A decoction of these is recommended in varnish-poisoning. The root is made into a decoction and used in kidney and bladder difficulties, and externally in ecchymoses and other skin affections.

ZANTHOXYLUM SCHINNIFOLIUM.—崖椒 (Yai-chiao); also called 野椒 (Yeh-chiao). This is a wild species,

resembling *Zanthoxylum piperitum*, but having gray, dull seeds, instead of black. The seeds are parched, and fed to chickens and ducks. The carpels of this plant are mixed with wild ginger and administered with wine as a remedy for asthma and coughs.

ZANTHOXYLUM *Sp.*—蔓椒 (Wan-chiao). This is a Yunnan species, is a creeper instead of a shrub, and is also called 豬椒 (Chu-chiao), "pig pepper," 狗椒 (Kou-chiao), "dog pepper," and 金椒 (Chin-chiao), "golden pepper." It grows wild in thickets, and has a pliant stem. The natives eat it. The fruit, root, and stem are all used medicinally in colds, coughs, dropsy, and externally as a wash to hemorrhoids.

地椒 (Ti-chiao). This is a still smaller creeper and comes from Shangtang in Shansi. It has a very small stalk and leaves, and purplish-white flowers. The leaves are boiled with mutton to give a flavor. The medicinal properties of the fruits are anodyne and anthelmintic.

ZEA MAYS.—玉蜀黍 (Yü-shu-shu); also called 玉高粱 (Yü-kao-liang). This came from the west, and the description given in the *Pêntsao* is characteristic. Common names for the *Indian corn* are 八路 (Pa-lu) and 六粟 (Liu-su), "the sixth grain." The corn is regarded as nutritious and stomachic. A decoction of the root and leaves is used in urinary difficulties, strangury, and gravel.

ZELKOWA KEAKI.—檉柳 (Chü-liu). See *Pterocarya stenoptera*.

ZINGIBER MIOGA.—蘘荷 (Jang-ho). Henry refers these characters to *Lilium giganteum*, but without doubt the description given in the *Pêntsao* indicates *Zingiber*. There seems to be two sorts, one with a red root, the other with a white. The leaves are said to resemble those of the banana, and the roots are like ginger roots, but more succulent. The roots are often pickled in the same manner as ginger. They are considered to be slightly deleterious, and are prescribed in malaria,

malacia, insect and scorpion bites, and the decoction as a wash in inflamed eyes. The leaves have similar virtues, and in addition to the uses already indicated, are used as a prophylactic.

ZINGIBER OFFICINALE.—薑 (Chiang), 574. In the *Pêntsao* this is given in two articles, one on 生薑 (Shêng-chiang), "fresh ginger," and the other on 乾薑 (Kan-chiang), "dry ginger." Originally, the whole was discussed under the latter title, but Li Shi-chên, for some reason best known to himself, separated them in this manner, and discusses under *Shêng-chiang* 乾生薑 (Kan-shêng-chiang), "dry fresh ginger." He does not succeed in making out any essential difference between the two articles discussed. The character *Chiang* is explained by 疆 (Chiang), which would indicate that ginger was not originally a native product, but came from the Mongolian borders. The product is very well described in the *Pêntsao*. It is largely cultivated in the central provinces, and is much eaten in the green state as a condiment and corrective. That grown in the southern provinces is much less mucilaginous than that grown in the Yangtse valley, and consequently is better adapted for making preserves and sweetmeats. Most of the preserved ginger found in the market, therefore, comes from the south. It is called 糖薑 (T'ang-chiang). Dry ginger, such as is found in the west, is not easily made from the Chinese root, as the skin does not readily separate by maceration. What is known as dry ginger in China occurs in flat pieces, of an inch in length, much shrivelled and wrinkled. The taste is much inferior to that from the West Indies and other gingers. The fresh ginger is used to correct fetor, stimulate the digestive organs, quiet nausea, check cough, and act as a carminative and astringent remedy in dysentery. It is also thought to overcome the poison of mushrooms. The dried ginger has similar properties, and is also used in urinary difficulties, hemorrhages, constipation, and perverted lochia. The ginger skin, 薑皮 (Chiang-p'i), 77, is also used as a carminative remedy and in opacity of the cornea. The ginger leaves are bruised and the juice used as a digestive stimulant and as a local application in ecchymoses.

An oil of ginger, 薑油 (Chiang-yu), 80, is made in Kuang-tung and used as a condiment. Indian ginger, 天竺乾薑 (T'ien-chu-kan-chiang), is also mentioned in the *Pêntsao* in a foot note to the present article. *Kan-chiang* is also called 白薑 (Pai-chiang).

ZIZANIA AQUATICA.—菰 (Ku). See *Hydrophyrum latifolium*.

ZIZYPHUS JUJUBA.—酸棗 (Suan-tsao). This is the wild, spinous form of *Zizyphus vulgaris*, which in its cultivated state has no spines. This wild form is a very thorny shrub, producing small, spherical, sour, edible fruits, having a globular pit. It is used for hedges. The dried, crushed, red drupes of this and other rhamnaceous trees are sold in the shops under the name of 棗皮 (Tsao-p'i), 1337, and 棗肉 (Tsao-jou), 1336, and these are said to be stomachic and tonic. The kernels of these fruits and also of *Rhamnus saporifer*, if indeed these are not the same, are sold under the name of 酸棗仁 (Suan-tsao-jên), 1205. As the name *Suan-tsao* is also used for *Diospyros lotus*, it may be that these refer also to the kernels of that fruit. They are used as sedatives. From the fact that the tree grows in the mountains it is sometimes also called 山棗 (Shan-tsao). The fruits are considered cooling, anodyne, and tonic. If eaten frequently, they are said to increase the flesh and strength. They are recommended in rheumatic difficulties and especially in sleeplessness, whether from weakness or from pain.

ZIZYPHUS VULGARIS.—棗 (Tsao). This is the common cultivated *jujube*. It is grown in different parts of China, and has been cultivated from most ancient times. Those growing in the north are known as 北棗 (Pei-tsao), and those in the South as 南棗 (Nan-tsao). The green dates are said to produce fever, and those who are in low flesh should not eat them. The large dates, 大棗 (Ta-tsao), are also called 甘棗 (Kan-tsao), 美棗 (Mei-tsao), and 良棗 (Liang-tsao). They are much used in medicine, especially in the preparation of pill masses and confections. They are considered nourishing, beneficial to the viscera, tonic, quieting, and laxative. They

are thought to be antagonistic to *Aconite*, and are recommended in nausea and vomiting, ague, abdominal pain in pregnancy, and as a poultice in cancrum oris. The three-year old kernels of the stones are considered especially efficacious in abdominal pain and as an application to wounds. The leaves of the tree are regarded as diaphoretic, and are prescribed in the typhoid fever of children. The heartwood of the tree is recommended in marasmus, or the disease known as 蠱 (Ku), and a decoction of it is said to have a beneficial action on the blood. The root is used in the eruptive fevers of children, and to promote the growth of hair. The bark is used in decoction, together with mulberry bark, as a wash to old inflammations of the eyes.

ZIZYPHUS Sp. or *Rhamnus Sp.*—仲思棗 (Chung-ssü-tsau), also called 仙棗 (Hsien-tsau). A fairy (仙) named (仲思) discovered this tree, hence the name. The fruit resembles the jujube, is two inches long, purple in color, striated, has a small stone, and is sweet in taste. It is regarded as tonic, moistening to the tissues, expectorant, and gives a good color to those who eat it for a long time.

苦棗 (K'u-tsau). This also has a Buddhist name, 躑泄 (Chüeh-i). It is said to grow almost everywhere, has a fruit green and small, intensely bitter, and therefore it cannot be eaten. Its virtues are said to be antifebrile, diuretic, and purgative.



APPENDIX.

Since the first half of this work was in press, the identifications of other plants have been found; and owing to the alphabetical arrangement of the work, it is necessary to place those belonging to the first half of the alphabet in an appendix. There are also other drugs considered by the Chinese to be important, but which have not been fully identified. These are also placed here. It was not originally intended to include pharmaceutical preparations in the work; but it was afterwards thought desirable to do this. Therefore *Decoctions*, *Essences*, and *Extracts* will also be found here. Finally, a list of the rare drugs mentioned in the *Pentsao*, but which have not been identified, is placed at the close of the Appendix. In the interests of the study of botany, it is hoped that many of these will be identified in the near future.

ABUTILON AVICENNÆ.—苘麻 (Hsiang-ma). The first character is usually read Mêng; but in this case the sound is taken from the *Tang Pentsao*. Another name is 白麻 (Pai-ma), and the classical name is 蘋 (Ch'ing). The plant is the same as *Sida tiliæfolia* and grows commonly in northern China both in the wild and cultivated state. Its fiber is used for making cloth and cordage. It grows to the height of from four to seven feet, and has leaves resembling those of *Boehmeria nivea*; it bears a yellow flower and seeds like the hollyhock, but black. The name "white hemp" refers to the color of the fiber, which is very flossy and inflammable. Children sometimes eat the seeds of the plant. The fruits are prescribed in dysentery, and are used in opacity of the cornea and entropion. The root is also used for the same difficulties.

ÆGLE SEPIARIA.—枸橘 (Kou-chü); also called 臭橘 (Ch'ou-chü). This is a citrus-like tree, thorny, bearing in the second month white flowers with green stamens, and not fragrant. Its fruit resembles that of *Citrus fusca*, but with a more horny rind. The plant is grown as a hedge, and the rinds of

the fruit are sometimes substituted for green orange peel. The leaves are prescribed in dysentery with mucous and bloody stools, and in derangements of the digestive organs generally. The thorns are used in tooth-ache. The seeds are also prescribed in fluxes, and the bark of the tree in colds. Also see the article on page 19.

ALLIUM VICTORIALIS.—山蒜 (Shan-suan); also called 澤蒜 (Ts'ê-suan), and the classical name is 藟 (Li). This is a common plant in the north of China. It has a root like garlic, and a leaf like the leek. The plant is used as a carminative and in profuse menstruation. Also see page 26.

ANGELICA Sp.—都管草 (Tu-kuan-ts'ao). This is a plant which grows wild, and has a root resembling that of *Peucedanum*. Its leaves resemble those of *Aralia*, and the root is used in medicine, in the treatment of swellings, tumors, ecchymoses, throat difficulties, and centipede bites.

ANGELICA KIUSIANA.—鹹草 (Hsien-ts'ao). This is given in the *Péntsao* under the article on *Rhus semialata*, and is said to come from a women's kingdom located to the east of the country of Fulin, is fragrant, saline, and is eaten as a vegetable. Its leaves are said to resemble those of *Seseli libanotis*.

ANISONIA ELLIPTICA (?)—水甘草 (Shui-kan-ts'ao). This grows by the side of water streams, shoots up in the spring with green stalk and leaves, and is said to bear no flower. The herbage is decocted with licorice root, and used in the febricula of children.

ARACHIS HYPOGÆA.—落花生 (Lo-hua-shêng) The *peanut* or *goober* is not indigenous to China, having been introduced from abroad some time previous to the eighteenth century. The name is derived from the way the young pod has of thrusting itself into the ground at the time of the falling of the flower. In common use the name has been contracted to 花生 (Hua-shêng). Other names are 長生果 (Ch'ang-shêng-kuo) and 土豆 (T'u-tou). A very good description of the plant and its manner of cultivation is given in the Appendix to

the *Pêntsao*. It is said to have been introduced into China from the country of Fusang (扶桑) by a priest (僧) during the first year of the reign of Kanghsi. It was introduced into Fukien, and the nuts from this province are still regarded as the best, although they are now extensively grown in the Yangtze valley and other parts of China. There are two principal kinds raised in China, that known as the native peanut having a small, rough pod; but the beans being very sweet and tasty. The other kind, sometimes called the foreign peanut, which may be, and probably is, of later introduction than the other, is larger, and more resembles that grown in the southern United States, although not so large, nor is the plant so prolific. This is probably due to less favorable conditions of cultivation. Peanuts are regarded by the Chinese with much favor as an article of diet, and very large quantities are roasted and eaten by all classes of people. They are considered to be nutritive, peptic, demulcent, and pectoral; in the last case being recommended to be eaten raw. Cases are reported in which those affected with chronic coughs (phthisis?) have been fully cured by eating one or two ounces of raw peanuts daily for half a year. They are also shelled, crushed, and mixed with meat-broth for this purpose. The oil, 花生油 (Hua-shêng-yu), is made in many places in China, and is a fair substitute for olive oil. It is laxative and pectoral.

ARALIA SPINOSA.—榲木 (Ts'ung-mu). This grows in the mountain valleys of central China to the height of more than ten feet. It is the *Angelica-tree*, and is well described in the *Pêntsao*. The crown leaves are eaten by the people where it grows, and are called 吻頭 (Wên-t'ou). The tree is also called 鵲不踏 (Ch'iao-pu-tao), "the magpie does not perch," on account of the fewness of its branches and its thorny nature. The white bark is used medicinally, and is considered to be slightly poisonous. It is used as a diuretic, and also has sialagogue properties.

ARDISIA CRISPA.—硃砂根 (Chu-sha-kên). This "cinnabar-root" grows in the mountains of central China. It has a leaf like *Ilex*, but very red on the lower side. The

root, which is the part used in medicine, is also red. It is used in throat difficulties, being made into a gargle with vinegar and water.

ARDISIA HORTORUM.—百兩金 (Pai-liang-chin). This is a woody shrub not more than two or three feet high, growing in Yunnan. The leaves are at first green on both sides; but later the under side turns purple, and the shrub is only partially deciduous. It bears pearl colored flowers and fruits the size of a pea, which turn red when ripe. The root is red and fleshy. It is used in fevers, throat difficulties, and excessive salivation.

ARDISIA JAPONICA.—紫金牛 (Tzū-chin-niu). This grows in Fukien, has a leaf like that of the tea shrub, green on the face and purple on the back. The fruits are round and purplish-red in color. The root is used in medicine for influenza and as a carminative. It is said to render fluid the blood. 小青 (Hsiao-ch'ing) is also suggested as *Ardisia japonica*; but the descriptions do not agree.

ARISÆMA SURATUM.—攀倒甌 (P'an-tao-tsêng). There is no description of this except that it has a stalk and leaves like *Mentha arvensis*. It is antifebrile and thirst-relieving.

ASPARAGUS GIBBUS.—龍鬚草 (Lung-lsü-ts'ao). This term is found in the *Péntsao* in two places; but one seems to refer to a cyperaceous grass used to make mats, while the other refers to a sea-weed. *Asparagus gibbus* grows in the northern provinces, but it does not seem to be mentioned in the books.

BECKMANNIA ERUCÆFORMIS.—苧草 (Wang-ts'ao). The classical name is 皇 (Huang), and others are 守田 (Shou-t'ien) and 守氣 (Shou-ch'i). It grows in wet fields and resembles wheat, but is smaller. It is ripe in the fourth month and is used for food. It has some resemblance to *Hydrophyrum*. The grain is cooling, nutritious, and generally beneficial to the digestive organs.

BETA VULGARIS.—Since the article on page 68 was in print, the Chinese name has been found in the *Pentsao* with the first character wrongly written 菘. The plant was formerly used for making a fish condiment. The leaves are used by the people at the south as a pot-herb. Li Shih-chên gives a fair description of the plant, but does not clearly indicate its biennial nature. Medicinally, it is regarded as cooling, and is recommended in dysentery, as a hemostatic, stomachic, and constructive. It is specially recommended for women. The root acts on the blood vessels, is carminative and tussic. The seeds are used in the favus of children, and steeped in vinegar are considered a good application to the face to remove cosmetic powders. They are also used in bleeding piles.

BOCCONIA CORDATA.—博落迴 (Po-lo-hui). This grows in the mountain valleys of the Yangtze provinces, has a stalk and leaves like *Ricinus communis*, a hollow stem containing a yellow sap which is exceedingly poisonous. When dry, the stem may be used as a whistle. Being very poisonous, this plant is regarded as an admirable counter-poison in all forms of poisoned sores, abscesses, carcinoma, and the *Ku* disease.

CAKES, PASTRY, AND SWEET-MEATS.—The term 糕 (Kao) is applied to sweet cakes, puddings, and the like. They are usually steamed and made of glutinous rice, glutinous millet, or common rice flour. Those made of glutinous rice are called 粢 (Tzū), and those made of rice, beans, and sugar are called 餌 (Êrh). Those made of the common rice are considered the most digestible, while those made of common millet are thought to injure the spleen and should be forbidden to children. The former nourish the spleen, stomach, intestines, benefit the breath, and harmonize the centers. The latter benefit the breath, warm the centers, and assist in excretion. They are specially recommended in the diarrhœas of the aged.

糉 (Tsung) is the name of the three-cornered dumplings extensively used at the Fifth Moon feast. The character is commonly written 粽 (Tsung). Another name, referring to their shape and the substance from which they were made in ancient times, is 角黍 (Chio-shu). They are now most fre-

quently made of glutinous rice. Formerly, at the Fifth Moon feast, they were thrown into the river to feed the scaly dragon (蛟龍, Chiao-lung). They are considered to be an excellent adjuvant to anti-malarial remedies.

A kind of fried cake which was formerly made and eaten the day before the Feast of All Souls (about April 5th), and is still made to some extent, takes its name from the day above referred to, and is called 寒具 (Han-chü), "cold articles." It is said to keep for several months. Other names are 捻頭 (Nien-t'ou), "pick-ups," 環餅 (Huan-ping), "ring cakes," and 饊 (San). They are made of glutinous rice and flour, with a little salt, and are fried in sesamum oil. They are used as an antidote to tobacco smoking, are said to tone up the excretory organs, lubricate the intestines, warm the centers, and benefit the breath. Chronic dysentery is treated with them.

STEAMED CAKES, 蒸餅 (Chêng-ping), are made of wheat flour, and are of many varieties. They are usually raised with leaven, and are eaten both hot and cold, being included among the cold foods above referred to. They are considered to be peptic, nourishing, anhydrotic, and eliminative. They are recommended in chronic diarrhœa, menorrhagia, colliquative sweating, burns, scalds, fractures, and other injuries.

SWEET-MEATS are known by the names 餠餠 (I-t'ang) and 餠 (Hsing). They are made of a variety of grains and seeds; but that used medicinally is made of glutinous rice, with that made of maize sometimes employed. It is said to be best in the form of a thick treacle, like the Japanese *mitsu ame*. It is often made of malted grain, when it probably much resembles *glucose*. It is regarded as tonic, cooling, strengthening, carminative, and expectorant. It is also regarded as an antidote to aconite poisoning. Externally it is applied to virulent sores and wounds.

CAREX PACHYGYNA.—崖糲 (Yai-tsung). There is not much description of this. It is used with three unidentified plants 雞翁藤 (Chi-wêng-t'eng), 半天回 (Pan-t'ien-hui), and 野蘭根 (Yeh-lan-kên), as a woman's remedy in wasting diseases.

CHARCOAL, VEGETABLE.—炭 (T'an), 白炭 (Pai-t'an). The *Pên-tsao* directs that charcoal for medicinal use should be made of oak wood. The powder 炭末 (T'an-mo) is directed to be mixed with water and taken after the accidental swallowing of coins or metallic substances. Mixed with honey, it is given in acute diseases of the throat, or is combined with other drugs in the treatment of dysentery. Charcoal dust is mixed with sesamum oil and applied to burns and scalds. It is mixed with water and used as an antidote to poisoning by mercury or calomel. Chinese families make it a practice to burn a portion of charcoal in their houses on the last night of the year to drive away evil spirits and noxious effluvia. Doubtless the carbon dioxide has some influence as a disinfectant, which makes the house a little more sanitary for the New Year's day. There are frequent accidents from the inhaling of charcoal fumes; but they are fewer than would be expected from the frequency with which charcoal braziers are used in Chinese houses. Doubtless the open character of the house prevents this danger from being more serious than it is. Accidents of this kind to foreigners' servants, who often sleep in close rooms which they try to heat with a charcoal fire, are more common than in the Chinese houses.

SOOT is called 百草霜 (Pai-ts'ao-shuang), 966, and is used as an antifebrile, astringent, styptic, absorbent, alterative, deobstruent, and topical remedy. A ready supply is always found in the Chinese household, in that which may be scraped from the bottom of the ordinary cooking pot, and which is called 釜臍墨 (Fu-chi-mo).

CHENOPODIUM Sp.—Several Chinese plants may be referred to this classification, 野菠菜 (Yeh-p'o-ts'ai), 羅漢菜 (Lo-han-ts'ai), 藜藿 (Shang-t'iao), and 藜 (Li). None of these are described in the *Pên-tsao* except the last. This character is also applied to *Veratrum* and *Aconitum*; but in this place is made the equivalent of 菜 (Lai), which seems to be *Chenopodium*. This is also called 紅心灰藿 (Hung-hsin-hui-t'iao), "red-hearted-goose-foot," 鶴頂草 (Hao-ting-ts'ao), "crane's crest vegetable," and 臙脂菜 (Yên-chih-ts'ai), "cosmetic vegetable." It resembles *Chenopodium album*, but

has a red heart. When young, it is used as food. When old, the stalk can be used as a staff. It is also called 藜藿 (Li-luo), and a remark made by Li Shih-chên suggests that this name was also applied to *Sorghum vulgare* (高粱, Kao-liang), and it may have been this which Fa Hsien saw, and by it recognised that he had once more reached the shores of China. The leaves and the stalk of the species under consideration are used in medicine; the former as an anthelmintic and insecticide, and the ashes of the latter as an escharotic in unhealthy granulations and to remove warts.

CONGEE.—粥 (Chou), 糜 (Mi). When this gruel has been boiled thick it is called 饘 (Chan), and when thin the name is 醴 (I). The number of these gruels is very large, and they are made from any of the cereal grains and other substances, sometimes used alone and sometimes with an admixture of other drugs. The common congee is made of rice or millet, that made of the former being also known as 稀飯 (Hsi-fan). This is almost the universal staple of the Chinese breakfast, being eaten with a relish of salted vegetables or bean curd. It is easily digested and fattening, and as a diet for the sick it is most excellent, being demulcent, cooling, easily digestible, and nourishing. When a demulcent is needed, as in bowel or bladder difficulties, there is nothing better, as it can easily be diluted by adding boiling water, it can be strained, or meat broth, wine, or other substances can be added to it. It readily takes the place of, and excels, barley broth or barley water. To prepare it, a relatively small quantity of rice should be put to boil in a sufficiently large quantity of water, so that no water need be added to make the gruel of the right consistency. For this reason, it is better to use too much water rather than too little, as it rather improves the congee to boil it a long time until the water has sufficiently evaporated. The gruel used for breakfast is usually much thicker than that given to the sick. Two places where this gruel finds very practical use is in the case of nursing mothers, to increase the supply of milk, and in the case of hand-fed infants, as a useful addition to and diluent of cow's milk. It should always be freshly made for this latter purpose.

Wheat Congee, 小麥粥 (Hsiao-mai-chou), is considered to be cooling and is used in feverish conditions.

Apricot Kernel Congee, called 寒食粥 (Han-shih-chou), is made of apricot or peach kernels and certain flowers. It is recommended for coughs, as a carminative, and stomachic.

Congee made of glutinous rice, (糯米, No-mi), glutinous *Setaria italica* (秠米, Shu-mi), and glutinous *Panicum miliacum* (黍米, Shu-mi), is used as a demulcent in diarrhœas, and vomiting, and is employed as a local application in small-pox in children.

Congee made of ordinary rice (粳米, Kêng-mi), Annamese rice (秈米, Shan-mi), Indian corn (粟米, Su-mi), and *Sorghum vulgare* (梁米, Liang-mi), is considered to be diuretic, thirst-relieving, and nutrient.

Congee of Phaseolus radiatus beans, 赤小豆粥 (Chih-hsiao-tou-chou), is diuretic, resolvent in dropsies, and curative in gout.

Congee of Phaseolus mungo beans, 綠豆粥 (Lu-tou-chou), is cooling and thirst-relieving.

Congee of poppy seeds, 御米粥 (Yü-mi-chou), relieves vomiting and benefits the large intestine.

Congee of the kernels of Coix lachryma, 薏苡仁粥 (I-i-jên-chou), is considered curative in rheumatism and beneficial to the digestive organs.

Congee of lotus seed meal, 蓮子粉粥 (Lien-tzŭ-fên-chou), is tonic to the spleen and stomach, and astringent in diarrhœa and dysentery.

Congee prepared of the meal made from the seeds of Euryale ferox, 芡實粉粥 (Ch'ien-shih-fên-chou), also called 鷓頭粥 (Chi-tou-chou), is regarded as tonic and constructive, improving the vision and hearing.

Congee made of the meal of the water chestnut, 菱實粉粥 (Ling-shih-fên-chou), is beneficial to the digestive organs, and cooling to the viscera.

Chestnut Congee, 栗子粥 (Li-tzŭ-chou), is tonic to the kidneys and strengthening to the loins and legs.

Congee of Dioscorea quinqueloba, 薯預粥 (Shu-yü-chou), is strengthening to the kidneys and virile organs, as well as to the digestive organs.

Taro Congee, 芋粥 (Yü-chou), is regarded as very nutritious.

Congee made of the flour of *lily bulbs*, 百合粉粥 (Pai-ho-fên-chou), is moistening to the lungs and harmonizing to the centers.

Radish Congee, 蘿蔔粥 (Lo-po-chou), is digestive and beneficial to the diaphragm.

Carrot Congee, 胡蘿蔔粥 (Hu-lo-po-chou), is carminative and peptic.

Purslane Congee, 馬齒莧粥 (Ma-ch'ih-hsien-chou), is recommended for rheumatism and swellings.

Rape Congee, 油菜粥 (Yu-ts'ai-chou), is harmonizing to the centers and carminative.

Pond weed Congee, 荇蓬菜粥 (Chün-ta-ts'ai-chou), is strengthening to the stomach and beneficial to the spleen.

Spinach Congee, 菠薐菜粥 (Po-lêng-ts'ai-chou), is harmonizing and moistening to the viscera.

Shepherd's-purse Congee, 薺菜粥 (Chi-ts'ai-chou), brightens the eye and benefits the liver.

Celery Congee, 芹菜粥 (Ch'in-ts'ai-chou), is cooling in summer and beneficial to the intestines.

Mallow Congee, 葵菜粥 (K'uei-ts'ai-chou), is moistening in feverishness and peptic.

Mustard Congee, 芥菜粥 (Chieh-ts'ai-chou), expels phlegm and prevents evil effluvia.

Leek Congee, 韭菜粥 (Chiu-ts'ai-chou), is warming to the viscera.

Salted onion Congee, 葱豉粥 (Ts'ung-shih-chou), is diaphoretic and lubricating to the muscles.

Congee made of the meal of *Pachyma cocos*, 伏苓粉粥 (Fu-ling-fên-chou), is a general tonic and nutrient.

Pine-nut kernel Congee, 松子仁粥 (Sung-tzŭ-jên-chou), is moistening to the heart and lungs, and harmonizes the large intestine.

Wild jujube Congee, 酸棗仁粥 (Suan-tsao-jên-chou), relieves fever and benefits the gall.

Congee made of the seeds of *Lycium sinense*, 枸杞子粥 (Kou-chi-tzŭ-chou), is tonic to the blood and beneficial to the kidneys.

Scallion bulb Congee, 薤白粥 (Hsieh-pai-chou), cures "cold diarrhœa" in the aged.

Ginger Congee, 生薑粥 (Shêng-chiang-chou), is warming and antiseptic to the viscera.

Red-pepper Congee, 花椒粥 (Hua-chiao-chou), prevents malaria and cold.

Fennel Congee, 茴香粥 (Hui-hsiang-chou), harmonizes the stomach and cures hernia.

Congee made with black pepper, 胡椒粥 (Hu-chiao-chou), *Congee of Boymia rutæcarpa*, 茺萸粥 (Chu-yü-chou), and *Smart-weed Congee*, 辣米粥 (La-mi-chou), are all carminative, and are recommended for pain in the bowels.

Congee made of hemp seed, 麻子粥 (Ma-tzŭ-chou), *sesamum seed*, 胡麻粥 (Hu-ma-chou), or the kernels of *Prunus japonica* 郁李仁粥 (Yu-li-jên-chou), are all moistening to the intestines and cure rheumatism.

Congee made of the seeds of Perilla ocymoides, 蘇子粥 (Su-tzŭ-chou), is carminative and benefits the diaphragm.

Congee with bamboo-leaf decoction, 竹葉湯粥 (Chu-yeh-t'ang-chou), is thirst relieving and purifies the heart.

Congee with pig's kidney, 豬腎粥 (Chu-shên-chou), *sheep's kidney*, 羊腎粥 (Yang-shên-chou), or *deer's kidney*, 鹿腎粥 (Lu-shên-chou), is thought to be strengthening in all wasting diseases of the kidneys.

Congee with sheep's liver, 羊肝粥 (Yang-kan-chou), or *chicken's liver*, 鷄肝粥 (Chi-kan-chou), is similarly used in diseases of the liver.

Congee with mutton broth, 羊汁粥 (Yang-chih-chou), or *chicken broth*, 鷄汁粥 (Chi-chih-chou), is recommended in wasting and injuries.

Congee with duck broth, 鴨汁粥 (Ya-chih-chou), or *carp broth*, 鯉魚汁粥 (Li-yü-chih-chou), recommended in dropsy.

Congee with milk, 牛乳粥 (Niu-ju-chou), is recommended for the thin and emaciated.

Congee with milkcurd and honey, 酥蜜粥 (Su-mi-chou), is considered beneficial to the heart and lungs.

Congee to which has been added deer's horn glue, 鹿角膠入粥 (Lu-chio-chiao-ju-chou), is eaten to benefit the vital principle and as constructive food.

Congee to which *browned flour* has been added, 炒麵入粥 (Ch'ao-mien-ju-chou), is used to cure "white dysentery."

Congee with *baked salt*, 燒鹽入粥 (Shao-yên-ju-chou), is recommended in the treatment of bloody flux.

Rehmannia glutinosa Congee, 地黃粥 (Ti-huang-chou), is made by boiling the root with rice, and when it is nearly done adding curds and honey and boiling dry. The mixture is afterwards boiled in water and eaten as a tonic to the blood and general constructive.

COPAL.—It is not certain that true copal has been brought to China in the past. Neither of the genera *Trachylobium* nor *Hymenæa* have been observed in this country, and if the substance itself has been brought in, it has not been distinguished from *gum animi*, *gum elemi*, or *dammar*.

CORCHOROPSIS CRENATA.—田麻 (T'ien-ma). This grows in wild places, along water courses. The leaves are used in the treatment of cancerous sores, boils, and abscesses.

CYNACHUM CAUDATUM.—白兔藿 (Pai-t'u-huo). Also called 白葛 (Pai-ko). This is a creeper growing in mountainous districts, and it somewhat resembles *Metaplexis stauntonii*. It is not quite certain whether the root or shoot is used; one authority giving the former, another the latter. Its virtues are antagonistic to all forms of animal virus, and it is therefore used in all kinds of bites and stings. It is employed internally in all kinds of infections.

DAMMAR.—吧嗎油 (Pa-ma-yu). This is the transliteration of a Malay name, and is properly applied to the product yielded by *Dammara australis* and allied species. But without doubt it is often used for *gum animi*, *gum elemi*, *copal*, and other substances used in boat-caulking. In this way it came to be applied to *coal tar*. Dammar is imported into China from Borneo, Singapore, and indirectly from India, for caulking seams in boats. Coal tar now largely takes its place. It is not mentioned in the *Pêntsao*, is not known to be used in medicine, and is only mentioned here because it is sometimes confounded with gum elemi.

DECOCTIONS.—湯藥類 (T'ang-yao-lei). While the character 湯 is most commonly used for this class of preparations, 煎 (Chien) is also very frequently used, and with considerable less frequency we find 羹 (Kêng) and 飲 (Yin), while 茶 (Ch'a) and 汁 (Chih) are sometimes used for the same purpose. Most Chinese medicines are administered in decoction or infusion, but there are certain of these that have more or less of an officinal standing, of which the following are given in the *Péntsao* :

Resolvent Decoction, 治中湯 (Chih-chung-t'ang), composed of ginseng, *Atractylis ovata*, ginger, and licorice, and used in all diseases of the viscera, especially of the heart, lungs, and spleen.

Tonic Decoction, 四君子湯 (Ssü-chün-tzŭ-t'ang), composed of ginseng, *Atractylis ovata*, *Pachyma cocos*, dried licorice root, ginger, and dates, and it is used in all conditions of wasting or weakness.

Citrus-Atractylis Decoction, 枳朮湯 (Chih-shu-t'ang), composed of *Atractylis ovata* and *Citrus fusca*, and prescribed in indigestion, flatulence, and derangement of the vital functions.

Artemisia capillaris Decoction, 茵陳羹 (Yin-ch'ên-kêng), is recommended as a diuretic in fevers, especially in typhoid and malaria.

Snow-fever Decoction, 傷寒雪湯 (Shang-han-hsüeh-chien), composed of *Ephedra vulgaris*, apricot kernels, and rhu-barb, boiled in snow-water by a complicated process, and evaporated to the consistence to form pills. This is administered in typhoid and other fevers, and is said to produce diaphoresis and to check diarrhœa.

Rehmannia glutinosa Decoction, 地黃煎 (Ti-huang-chien), made by decocting the root and evaporating the decoction to the consistency to form pills. This is tonic, and is administered in hematemesis, hemoptysis, and cancerous swellings. Another decoction of the same is called 地髓煎 (Ti-sui-chien), and is composed of *Rehmannia* root, stag's bone glue, ginger, honey, spirits and seeds of *Perilla* ocyroides. This is taken in the form of decoction as a tonic remedy.

Polygonum bistorta Decoction, 紫蓼湯 (Tzū-shên-t'ang), composed of the root boiled together with licorice root, and used in dysentery.

Anemone cernua Decoction, 白頭翁湯 (Pai-t'ou-wêng-t'ang), composed of the root of this plant, Coptis teeta, Phellodendron amurense, and Fraxinus pubinervus. It is prescribed in inflammatory dysentery. In the case of post-partum bloody stools, licorice root and the medicinal glue known as 阿膠 (A-chiao) are added.

Ophiopogon spicatus Decoction, 麥門冬煎 (Mai-mên-tung-chien), composed of the fresh root and white honey decocted together, and prescribed as tonic and general constructive remedy.

Eclipta alba Decoction, 金陵煎 (Chin-ling-chien), composed of this herb, raw ginger, and white honey. It is said to have the power of renewing a youthful appearance by changing grey hair to black.

Ague-checking Decoctions, 截瘧諸湯 (Chieh-nio-chu-t'ang). Several formulæ for antimalarial decoctions are given, and the principal ingredient in these is Orixia japonica. The other ingredients vary with each prescription.

Three cycle Decoction, 三建湯 (San-chien-t'ang), is composed of the three forms of aconite recognised by the Chinese decocted together with ginger. It is considered to be vitalizing and depurative, and is recommended in difficulties marked by turbid urine.

Roasted beans Purple Decoction, 炒豆紫湯 (Ch'ao-tou-tzū-t'ang), is made by roasting black beans, and digesting in clear spirits until the latter has a purple color. It is regarded as solvent to the blood, but can have no virtues except those of the spirits.

Pien Chiao's three bean Decoction, 扁鵲三豆湯 (Pien-ch'iao-san-tou-yin). Pien Chiao was a famous physician, and this is one of his prescriptions. It is composed of Phaseolus mungo beans, Phaseolus radiatus beans, Glycine hispida beans, and licorice root decocted together, and one may either eat the beans or drink the broth. It is supposed to be prophylactic to small-pox.

Decoction of Orange peel, 橘皮湯 (Chü-p'i-t'ang), is composed of orange peel and fresh ginger, and is prescribed in typhoid fever, vomiting, and cold hands and feet.

Quickening the diaphragm Decoction, 快隔湯 (K'uai-ko-t'ang). This is composed of the peel of the unripe orange fruit, part of it having been digested in salt water for three days, part in plain boiling water, part in vinegar, and part in spirits, after which it is taken out and shredded and then roasted with salt to a brown color. This is afterwards decocted with tea, and taken for hiccough and fullness after drinking wine.

Fragrant Orange Decoction, 香橙湯 (Hsiang-ch'êng-t'ang). is made of coolie orange peel, fresh ginger, *Artemisia vulgaris*, and sandal-wood. It is first made into a sort of confection, and when it is wanted, a piece is taken and steeped in boiling water. It is carminative and antispasmodic.

Red Dragon bark Decoction, 赤龍皮湯 (Ch'ih-lung-p'i-t'ang). This is a simple decoction of oak bark, which is used on sores and ulcers.

Belonging to the spleen Decoction, 歸脾湯 (Kuei-p'i-t'ang). This is composed of lungan fruits, date kernels, *Astragalus hoangtchy*, *Atractylis ovata*, *Pachyna cocos*, *Aplotaxis lappa*, and licorice root. It is recommended in mental anxiety, and nervous difficulties.

Decoction of Roses, 金櫻子煎 (Chin-ying-tzŭ-chien). The flower heads are taken and decocted continuously until the decoction assumes the form of a syrup. A teaspoonful is used at a dose in the treatment of sluggish circulation and anæmia.

Decoction of Lycium chinense, 枸杞煎 (Kou-chi-chien). In the spring and summer the stalk and leaves are used, and in the autumn and winter the root and seeds. The drug is decocted several times and the decoctions put together and evaporated to the consistency of a syrup. It is prescribed as a tonic and antifebrile remedy. It is also said to abort cancerous swellings.

Golden Marrow Decoction, 金髓煎 (Chin-sui-chien). Seeds of *Lycium chinense* are digested for two months in clear spirits, and this is evaporated on a sand bath until of a syrupy consistency. It is considered to be tonic and revivifying.

Decoction of Lindera and Lign-aloes, 烏沈湯 (Wu-ch'ên-t'ang). The two substances are decocted together with ginseng and licorice root, and the preparation is used in a great variety of difficulties as a counter-poison, tonic, anodyne, antirheumatic, and antimalarial remedy.

Decoction of Xylosma racemosa, 柞木飲 (Tso-mu-yin). The leaves of this tree, lotus leaves and petioles, root of *Hemerocallis minor*, licorice root, and *Poterium officinale*, are boiled together for the treatment of all kinds of swellings and abscesses.

ESSENCES.—各種藥露 (Ko-chung-yao-lu). Chinese druggists use the characters 花露 (Hua-lu) on their sign-boards to indicate the more aromatic of these preparations. But 露 is not confined to volatile and aromatic extracts, but includes any preparation in which the ethereal part of the drug is supposed to reside. So some of these preparations are more or less fanciful, while in most cases their therapeutical applications are based on imaginary virtues. The essences found mentioned in the Appendix to the *Pêntsao*, and which are those most commonly used, are given below. The method of preparing the aromatic essences by distillation was brought from the west at a comparatively late date, probably with the beginning of Dutch or Spanish commercial relations with China. The importation of foreign perfumes and essences is mentioned, as well as the fact that these come packed in bottles and jugs. It is said that these were to be distinguished from each other, not by the color, but by the odor.

Gold and silver Essence, 金銀露 (Chin-yin-lu), was distilled from the flowers of *Lonicera japonica*, and is used medicinally as a stomachic, carminative, antifebrile, and antiseptic remedy. It is especially recommended in small-pox.

Essence of Peppermint, 薄荷露 (Po-ho-lu), is distilled from the fresh leaves of *Mentha arvensis*, and used as a carminative and antispasmodic. It is said that the weak should use it sparingly.

Essence of Rose, 玫瑰露 (Mei-kuei-lu), is made by distilling the flowers of *Rosa rugosa*. Its medicinal action is upon the liver, stomach, and blood. It drives away melancholy.

Essence of Citrus cheirocarpa, 佛手露 (Fo-shou-lu), is distilled from the fresh fruit, and is considered antispasmodic and warming.

Essence of Citrus medica, 香櫞露 (Hsiang-yüan-lu), does not differ materially from the last, either in method of preparation or medicinal uses. It is also used as a tussic.

Essence of Cinnamon flower, 桂花露 (Kuei-hua-lu), is distilled from the flowers of *Osmanthus fragrans*, and is used as a deodorant for fetid breath, in toothache, and as a remedy in liver diseases.

Essence of Jasmine flowers, 茉莉露 (Mo-li-lu), is distilled from the flowers of *Jasminum sambac*, and is considered generally beneficial to the viscera. Prolonged use is apt to produce nasal catarrh.

Essence of Rosa indica, 薔薇露 (Ch'iang-wei-lu), is brought from Indo-China, Java, and the Mohammedan countries. Its foreign name is 阿刺吉 (A-tz'ü-chi.) It is used as a heart remedy and in the treatment of melancholy. There is also a native product which is used as a warming and antiseptic remedy.

Essence of Eupatorium flowers, 蘭花露 (Lan-hua-lu), is used as a stimulant only.

Essence of Ginger, 薑露 (Chiang-lu), is warming, antiseptic, antimalarial, and expectorant.

Pepper Essence, 椒露 (Chiao-lu), is stomachic, peptic, stimulant, and tonic to the spleen.

Clove Essence, 丁香露 (Ting-hsiang-lu), is warming and antispasmodic.

Essence of Plum-flower, 梅露 (Mei-lu), is made of the fresh buds of the flower, and is considered counter-poisonous in epidemics, and is added to wine to impart a fragrance.

Essence of Lycium chinense root, 骨皮露 (Ku-p'i-lu), is regarded as tonic to the muscles and bones.

Essence of Betony, 藿香露 (Huo-hsiang-lu), is distilled from the leaves of *Lophanthus rugosus*. It is a remedy in sunstroke.

Essence of White Lotus flower, 白荷花露 (Pai-ho-hua-lu), is a remedy in coughs and hemoptysis.

Essence of Mulberry leaves, 桑葉露 (Sang-yeh-lu), is used in diseases of the eye and colds.

Essence of Brunella vulgaris, 夏枯草露 (Hsia-ku-ts'ao-lu), is used in scrofulous glands and corroding ulcers.

Essence of Eriobotrya leaves, 枇杷葉露 (P'i-p'a-yeh-lu), is a remedy in coughs and lung diseases.

Essence of Chamomile, 甘菊花露 (Kan-chü-hua-lu), is a stimulant and sedative in headaches, dizziness, and colds.

EUPHOLIA LITCHI.—龍荔 (Lung-li). This is found in Faber's list. *Eupholia* is the same as *Nephelium*, and the drug is mentioned under *Nepheliüm Sp.* (which see). It is probably not the lichee, but an allied species or variety.

EXTRACTS.—藥膏類 (Yao-kao-iei). The character 膏 is used equally for an extract and a plaster. 藥膏 also means opium; but this is in line with its meaning of extract. In practice, there is not much difference to the Chinese between an extract and a pill mass; many of their extracts being administered as pills. However, there are a few of their extracts, simple and compound, that ought to be mentioned.

Extract of Ginseng, 人參膏 (Jên-shên-kao). This is a watery extract made by fractionally decocting ginseng in water, and evaporating to a pasty consistency in a silver or porcelain vessel. The extract is kept in a closely sealed vessel until wanted for use, when it is combined with decoctions of other drugs, to bring out its tonic and constructive properties. Marvelous stories are told as to how this extract saved the lives of those in extremis.

Extract of Aristolochia recurvilabra, 白朮膏 (Pai-shu-kao). This is also made by fractional decoction in an earthenware vessel. It is tonic and curative in diarrhœa and dysentery.

Extract of Atractylis ovata, 蒼朮膏 (Tsang-shu-kao). This is prepared by various washings, digestings, and decoctings, until an extract is procured, which is to be mixed with honey and the juice of *Pachyma cocos*, to be taken as a tonic, stomachic, and constructive remedy.

Extract of Ginseng and Aristolochia, 參朮膏 (Shên-shu-kao). The drugs are taken in the proportion of four ounces of

the former to one catty of the latter. The extract is combined with honey and used as tonic.

Extract of Leonurus sibiricus, 益母膏 (I-mu-kaō). The whole plant, including the root, is taken, dried, cut into pieces, and decocted in water. The decoction, after straining, is evaporated to a syrupy consistency, and it is taken in all forms of puerperal and post-partum difficulties, fractures, internal injuries, and obscure diseases.

Myriad Crises Extract, 萬應膏 (Wan-ying-kaō). This is so named because the Chinese have such a fear of inflammatory swellings, all of which this preparation is supposed to cure. It is made of the root and leaves of *Xanthium strumarium* in the usual manner, care being taken to thoroughly strain the decoction and to evaporate over a slow fire. It is used in boils, felons, carbuncles, infected sores, abscesses, cancers, and the like.

Jade Extract, 瑤玉膏 (Chü-yü-kaō). This is made of the juice of fresh *Rehmannia glutinosa*, ginseng, *Pachyma cocos*, and white sugar, and is properly a confection. It is credited with marvelous restorative powers in all wasting diseases, sterility, and cancerous swellings.

Extract of Asparagus lucidus, 天門冬膏 (T'ien-mên-tung-kaō). This is prepared in the usual way, honey is added, and the preparation is used in obstructions, coughs, hemorrhages, intestinal worms, and as a preventive in epidemic fevers.

Extract of Seaweed, 石花膏 (Shih-hua-kaō). This is little more than a gelatine preparation, sweetened with white sugar. It is recommended as a demulcent in diarrhœas, hemorrhoids, especially those of heavy drinkers, and similar difficulties.

Expectorant Extract, 消痰止嗽膏 (Hsiao-t'an-chih-so-kaō). This is made of a strong decoction of Hyson tea, leaf-lard, and white sugar. It is properly a confection, and is used ad libitum for the relief of cough.

Counter-hemorrhagic Rose Extract, 治吐血玫瑰膏 (Chih-t'u-hsüeh-mei-kuei-kaō). The flowers are decocted twice, the decoctions mixed and evaporated, and then mixed with white sugar. This is administered in hemoptysis, and is said to 救生苦海, "save the life of this mortal existence."

Cocoanut Extract, 椰膏 (Yeh-kaò). The natives of Namao are said to make an extract of the cocoanut shell, which they employ as an application to ringworm.

Substitute for Ginseng Extract, 代參膏 (Tai-shên-kaò). The fresh root of *Aristolochia recurvilabra* from Hangchow is combined with *Pachyma cocos*, and an extract made, which is regarded as a fair substitute for ginseng, when the latter cannot be procured.

FICUS ERECTA.—天仙果 (T'ien-hsien-kuò). This grows in Szechuan to the height of eight or nine feet, the leaves are likened to those of the lichee, but smaller. Like the *Ficus carica*, it is said to have no flower, and the fruit is likened to the cherry, borne in the axils of the branches, and is very sweet. It may be used for the same purposes as the fruit of *Ficus carica*.

FICUS RELIGIOSA.—菩提樹 (P'u-t'i-shu). This is the tree of intelligence, the *bodhidruma*, called by the Buddhists the *Bo* tree under the shade of which Buddha spent seven years in penance. The Japanese call this *Tilia miqueliana*. It is not mentioned in the *Pêntsao*, but the *Kuang-chün-fang-pu* gives a full description. It comes from Magadha, from the original temple of Buddhism. It is said not to shed its leaves ordinarily, but when Buddha underwent the metamorphosis (died), its leaves fell off and its bark changed color. About a thousand three hundred years ago, the first tree brought to China came by sea in a ship, and was planted at Canton in the court yard of the 光孝寺 (Kuang-hsiao-ssü) monastery. It is not used in any way medicinally.

GRACILLARIA LICHENOIDES.—石花菜 (Shih-hua-ts'ai). Quite a number of algal plants are found in China. This one is commonly known as *Ceylon moss*, and is used extensively in the East as food. It is included in the *Pêntsao* under the article on *Tricomanes japonica*. It is a demulcent, and is recommended in intestinal and bladder difficulties. It is also recommended in jaundice.

GUM ANIMI.—This East Indian form comes from Borneo and Sumatra. It is said to be produced from certain dipter-

aceous trees. It exudes from the tree in a liquid form, and gradually becomes hard and dark with age. When fresh, it makes an excellent varnish. Dr. Williams says: "There is a hard sort, found in big lumps under the trees, or on their trunks, in large quantities. It is mixed with a softer kind to make it less brittle. It is brought to China in native vessels." This is of a reddish yellow color, friable, and of a waxy luster. It is possible that it is sometimes confounded with *dammar*, and therefore goes by the name of 吧嗎油 (Pa-ma-yu). If so, it is used for caulking ships. No other use is given.

GUM ELEMI.—欖香 (Lan-hsiang). This is the product of *Canarium commune*. While it is probably the same as *Manila elemi*, it is not so clear as the latter, and is described in the *Pêntsao* as a black, glue-like substance. It is used for caulking boats. See *Canarium* and *Dammar*.

GUM LAC.—紫 錘 (Tzū-k'uang), 赤 膠 (Ch'ih-chiao), 紫 梗 (Tzū-kêng). This is produced by the *Coccus lacca* on a species of *Erythrina*. It is given in the *Pêntsao* under insect products, and will not be further mentioned here.

HERMODACTYL.—貝 母 (Pei-mu). See *Fritillaria*.

ILLCIUM RELIGIOSUM.—莽 草 (Mang-ts'ao). The first character is also wrongly written 芒 (Mang); but this is *Erianthus japonicus*. Another name is 茵 草 (Mang-ts'ao), and still another 鼠 莽 (Shu-mang). This is a poisonous plant, producing unconsciousness in those who eat the leaves, and these are said to be used to destroy rats. There is considerable confusion in regard to the plant, some writers considering it an herb, while others say it is a tree or shrub. The leaves are the part used. They are employed as a counter-poison, anthelmintic, parasiticide, and anodyne. The decoction should not enter the eye, but the reason for this caution is not stated.

IPOMŒA HEDERACEA.—牽 牛 子 (Ch'ien-niu-tzū). This is the same as *Pharbitis hederacea*. In Japan the Chinese term is applied to *Convolvulus vulgaris*. Another name is 黑 丑 (Hei-ch'ou), 289, on account of the color of the seeds. The

horary character 丑 belongs to the zodiacal constellation Taurus, the ox. So this character is used instead of 牛. Li Shih-chên describes both the black and the white (白丑, Pai-ch'ou) kinds, the latter of which is frequently cultivated, and is *Ipomœa nil*. This has cordiform, tomentose leaves, while the black kind has trilobed leaves. Both kinds bear a beautiful blue flower. The fruit, which is a capsule, is gathered while still unripe and roasted in honey, to be eaten as a sweet-meat. It is called 天茄 (T'ien-ch'ieh), which is also a name for *Solanum nigrum*. As seen in the Chinese shops, the seeds of the two kinds are usually found mixed together. Their properties are regarded as diuretic, anthelmintic and deobstruent, and they are prescribed in dropsy, constipation, to promote menstruation, and to produce abortion. The seeds have a sweetish and subacid taste, and contain an essential oil and brown, purgative resin. In the Indian Pharmacopœia, they are recommended as a substitute for *jalap*. Several preparations of the black seeds, which there go by the name of *Kaladana*, are found in India.

LICHENS AND MOSSES.—Some kinds of these are found mentioned in the *Pêntsao* as being used in medicine. One of them, 石蕊 (Shih-ju), is found growing on the top of mountains, especially the 蒙 (Mêng) mountain in Kwangtung, for which reason it is called 蒙頂茶 (Mêng-ting-ch'a). The description is not very clear. The plant may be a *Liverwort*. It is considered to be tonic, rejuvenating, and nourishing. Its use is recommended in fevers and as an expectorant.

桑花 (Sang-hua), 桑蘚 (Sang-hsien), is a lichen or moss growing on the bark of the mulberry tree. It is considered to be strengthening to the spleen, lubricating to the intestines, hemostatic in nose-bleed, hemoptysis, and menorrhagia, and is prescribed in coughs.

Another found on old pine trees is called 艾納 (Ai-na), and is similar to the above. One variety is used by Buddhist priests as food.

Another moss of lichen is known as 土馬鬣 (T'u-ma-tsung), and is likened to *Tricomanes japonicum*. The name means "earthy horse mane," on account of its appearance. It

grows on the shady side of old walls, in moist weather very luxuriantly. It is antifebrile, hemostatic, and diuretic. Locally it is used to cause the hair to turn black, and as a treatment for eczema of the auricle.

Dried Moss, 乾苔 (Kan-t'ai), is sea moss, or sea algæ, dried for use as food. Medicinally, it is recommended in the treatment of goiter, piles, intestinal worms, cholera, and vegetable and mineral poisons.

UNCLASSIFIED DRUGS found in the *Péntsao*.

長松 (Ch'ang-sung), 仙茹 (Hsien-mao).—This grows in mountain valleys, has a leaf resembling that of the pine, and this exudes a sort of viscid sap, which is sweet and is used by the natives. The root is fragrant and resembles that of *Peucedanum*. It is prescribed in colds, falling of the eyebrows, carious bones, and intestinal worms.

燕脂 (Yên-chih).—This is the *cosmetic pomade* used by Chinese ladies on their faces. Four kinds are described. One is made of the juice of the safflower (*Carthamus tinctorius*) colored with white lead cosmetic. The second is made of the juice of *Mirabilis jalapa* flowers colored with rouge. A third is derived from pomgranate flowers, and the fourth from fluid gum lac and cosmetic oil. The flowers of *Basella rubra* and *Impatiens balsamina* are also employed for this purpose. It is used medicinally in the earache of children (warmed and dropped into the ear), as an application to small-pox ulcers, cracked nipples, stomatitis in children, and excoriations of the vulva or anus.

箬 (Jo).—This is a plant of south China which has the appearance of a small bamboo, the shoots resembling seeds. The leaves are dark green on the face, but paler beneath, and are soft all seasons of the year. They are used for making hats, wrapping groceries, and rice dumplings. They are also put into the soles of shoes. In Japan the Chinese character is applied to *Bambusa kumasasa*. In the classics it is applied to the cuticle of the bamboo. Medicinally, the leaves are used in all sorts of hemorrhages, and the ashes are used in ulcers and virulent sores. Urinary difficulties are also treated with it.

石龍芻 (Shih-lung-ch'u). In Japan, this is *Juncus balticus*. It is a rush, much used in making mats. It is also

called 龍鬚 (Lung-hsü), and it is said that when Huangti ascended to Heaven on a dragon, his ministers held on to the latter's moustaches, pulling them out, and they dropped to the earth and produced this plant. There are also other legends in the books referring to it. The plant is still cultivated in China for the manufacture of mats. The rush is considered to be diuretic, carminative, tonic, and anthelmintic. It is prescribed in gravel, rheumatism, and indigestion, especially that produced by intestinal worms. Old mats are considered to be a good remedy for suppression of urine.

龍常草 (Lung-ch'ang-ts'ao) is a gramineous plant growing by river sides. It has a salty taste, and is used in rheumatism.

狗尾草 (Kou-wei-ts'ao) is a gramineous weed found growing in grain fields. Another name is 莠 (Yu). It may be *Setaria viridis*, as the latter Chinese name is applied to this plant at Peking, where it grows plentifully. Or, it may be *Setaria glauca*, as Henry thought to identify *Kou-wei-ts'ao* in Hupeh. It is used as a decoction in diseases of the eye, such as swelling of the lids, trichiasis, entropium, hordeolum, and the like.

榿藤子 (K'o-t'eng-tzū). The plant is a creeper growing in the south of the Kuang provinces. Its fruit ripens once in three years, the pod being sac-shaped, and the seeds about the size of a hen's egg, purplish-black on the outside, and lustrous. The kernel is used in medicine, in the treatment of hemorrhoids, dysentery, and as a general counter-poison. The seed is also called 象豆 (Hsiang-tou), "elephant-bean," in reference to its size.

預知子 (Yü-chih-tzū). This is evidently a leguminous plant, the pods resembling those of *Gymnocladus*, and the beans being a very dark red. Both the seeds and the root are used in medicine, the former as an anthelmintic, tonic, diuretic, and prophylactic remedy. It is directed to be used in epidemics, and locally in all sorts of bites and stings. The root is regarded as a sovereign remedy in the *Ku* poison.

黃環 (Huang-huan), 獾跋子 (Lang-po-tzū). This is a leguminous plant which grows in Szechuan. The first name seems to refer to the root and the second to the seeds. The

description is not at all clear. The *Huang-huan* is non-poisonous, and is considered to be antifebrile and counter-poison. It is also diuretic and is prescribed in dropsy, and also in profuse expectoration. The *Lang-fo-tzŭ* is poisonous (emetic), and is only used externally in parasitic skin diseases. It is said to be able to poison fish.

女萎 (Nü-wei). Li Shih-chên definitely says that this is not *Polygonatum vulgare*. There is no description, however, except to say that the plant is a climber. In the *Imperial Encyclopedia* there is a figure of the plant, which shows it to be a climber with two stems from a rhizome, with alternate, penniform, entire, acuminate, almost sessile leaves. It is said to resemble *Vitis serianæfolia*. The stalk is used medicinally for dysentery and as a digestive; also in cholera, colds, flatulence, and in all diseases marked by diaphoresis.

蓬草子 (P'êng-ts'ao-tzŭ). This is referred in the *Pên-tsao* to *Hydrophyrum setaria*. The first character is used for plants such as *Artemisia*, *Erigeron*, and others. In this case the grain is used for food, and its qualities are not different from those of ordinary rice.

苦瓠 (K'u-hu). The meaning is "bitter gourd." T'ao Hung-ching says that this is not a distinct species of gourd, but that among the sweet ones occasionally there is found some that have a bitter taste. Others say that he is very much mistaken, as this is a distinct kind. It may be *Momordica*. The pulp and seeds are used in medicine, and are considered to be poisonous. They are employed in dropsy and are emetic. Gravel, coughs, incontinence of urine, vomiting of nematode worms, chronic ulcers, parasitic skin diseases, and jaundice are treated with them. The flowers are used in scrofulous ulcers, and the vine in leprosy sores and favus in children.

無漏子 (Wu-lou-tzŭ). Some identify this as the true date palm, *Phoenix dactylifera*; but Faber's identification is *Cycas revoluta* (which see). It is probable that the former identification is the more nearly correct.

榲核 (Jui-ho), also called 白櫻 (Pai-sui), is the fruit (a nut) of a thorny shrub. It is not *Polygonatum*, as the first character might indicate, but this character refers to the drooping nature of the flowers. The tree grows in many

places in China, but has not yet been identified by its Chinese name. The kernel is used in medicine, and is said to be nourishing, cooling, and sedative. It is used in the treatment of eye diseases, epiphora, nasal polypus, nose-bleed, and constipation. Identifications suggested are *Berberis* or a *Prunus*.

欒荆 (Luan-ching), also called 頑荆 (Wan-ching), is probably either *Vitex* or *Rhododendron*. The trunk and branches are light colored and the leaves are small and evergreen. There are two kinds, one bearing white flowers and the other bearing purple. The seeds are used in medicine, and are slightly deleterious. They are used in nervous and epileptoid difficulties, and are regarded as sedative and parasiticide.

木天蓼 (Mu-t'ien-liao). The *Pentsao* describes three forms of this, a tree about twenty feet tall, a creeper, and a small shrub. They all grow in the mountain valleys of central China, have evergreen leaves, and agree in having a peppery taste like that of smartweed. The branches and leaves of the larger tree are slightly deleterious, and are recommended in colds and wasting diseases. The twigs and leaves of the smaller shrub are not considered poisonous, and are thought to relieve all forms of numbness and rheumatism, "the disease coming out of the skin as though it were a worm crawling out." The seeds are also tonic and corrective, and the root is used in decayed and aching teeth.

占斯 (Chan-ssü). Also called 木占斯 (Mu-chau-ssü), 炭皮 (T'an-pi), and 良無極 (Liang-wu-chi). Some say that this is an epiphyte growing on the camphor tree; others that it is the bark of a tree resembling the *Magnolia hypoleuca*, found growing in Shensi and Shantung. The fleshy hull of the walnut is also sometimes called *Chan-ssü*. It is counter-poisonous, antimalarial, eliminative, and healing to wounds. Its use is thought to promote fecundity, and to cure menstrual difficulties. Locally, it is applied to chapped feet and hands due to the action of water.

豬苓 (Chu-ling), 214. These are tuberiform bodies of an irregular size, and compared by the Chinese to pig's dung, 綴豬屎 (Chia-chu-shih). Other names are 豕藜 (Shih-t'o) and 地烏桃 (Ti-wu-t'ao). They are said to grow plentifully on the roots of *Liquidambar formosana* and other trees. They

are covered with a thin, dark brown, roughened cuticle, are often worm eaten, and are lighter than *Pachyma cocos*, which they somewhat resemble. The interior is of a yellowish-brown color, and very much resembles cork. They have no taste or smell, and do not contain starch. They are produced mostly in Hunan and Szechuan, and are considered counter-poisonous, antimalarial, diuretic, and constructive, and are administered in typhoid fever, epidemics, gravel, gonorrhœa, leucorrhœa, and incontinence of urine during pregnancy.

REMARKABLE DRUGS.—The Chinese use a number of peculiar substances, "not so nice by half" as those already mentioned. Most of these are derived from the animal kingdom; but some come from the vegetable kingdom, among which may be mentioned the following:

井口邊草 (Ching-k'ou-pien-ts'ao). This is the grass growing in the mouth of an old well. Dried and placed under a baby's sleeping mat, the mother will not hear the latter cry during the night.

樹孔中草 (Shu-k'ung-chung-ts'ao) is the grass growing in a hole in a tree. It is placed over the bed room door, to relieve colic in an infant and to stop its crying in the night.

產死婦人塚上草 (Ch'an-ssü-fu-jên-chung-shang-ts'ao). This is the grass from the grave of a woman who has died in child-birth. It is decocted and used as a mouth wash in aphthous sore mouth in infants.

燕蓐草 (Yên-ju-ts'ao) is the grass growing in a swallow's nest. It is dried brown, powdered, and swallowed for nocturnal incontinence of urine.

雞窠草 (Chi-k'o-ts'ao), or grass from a chicken's nest, is placed under an infant's mat to prevent night crying.

豬窠草 (Chu-k'o-ts'ao), grass from a pig's wallow, is used for a similar purpose.

牛齒台草 (Niu-ch'ih-t'ai-ts'ao) is a cow's cud, and is recommended in vomiting and choleraic difficulties.

城東腐木 (Ch'êng-tung-fu-mu), rotten wood from east of the city is considered to be astringent and carminative, and a decoction in spirits is applied in centipede bites and in numbness and prickling of the extremities.

東家雞棲木 (Tung-chia-chi-ch'ih-mu), the family chicken perch is burned, and the ashes taken with water for aphonia.

古厠木 (Ku-ssū-mu), the wood from an old privy is incinerated, and the ashes used as a preventive of evil effluvia and epidemics. It is a final resort in difficult labor and cholera.

古椁板 (Ku-ch'ên-pan) is the wood of an old coffin, the older the better, and it is thought to drive away all evil effluvia, especially if taken in decoction with an east-extending branch of a peach tree.

震燒木 (Chên-shao-mu) is the wood of a tree that has been struck by lightning, and is given to those who have been frightened by a conflagration. It is also hung at the door to prevent the house catching fire.

河邊木 (Ho-pien-mu) is drift wood, and if placed in wine, the latter will not cause intoxication.

UNIDENTIFIED DRUGS.—The following plants and medicinal substances are mentioned in the *Péntsao*, but are of lesser importance. Some of the Chinese names have already been mentioned, but they are again placed here so that the list may be complete. And as the same name is often used for different substances, notwithstanding the fact that a certain name has already been mentioned, the product may be a totally different one. The list suggests practical possibilities in systematic botany.

A-p'ò-lê	阿勃勒	Chi-hou-ts'ai	雞侯菜
Cha-êrh-ts'ao	剗耳草	Chi-li-ts'ao	吉利草
Cha-mu-p'í	柵木皮	Chi-mu	麂目
Ch'ai-tzū	柴紫	Chi-nieh	雞涅
Chan-t'ang-hsiang	詹糖香	Chi-wêng-t'êng	雞翁藤
Ch'an-tzū	槎子	Ch'i-p'ò-t'êng	祁婆藤
Ch'ang-li-chih-sh'êng	常吏之生	Ch'i-ts'ao	葩草
Chê-k'uei	赭魁	Ch'i-tun-kuo	齊墩果
Chê-shang-mu	折傷木	Ch'iao-ch'iao	雀翹
Chên-niao-chiang	鳩鳥漿	Ch'iao-i-ts'ao	雀醫草
Chi-chio-ts'ao	雞脚草	Ch'iao-mei	雀梅
		Chieh	芥

Chieh-ch 'ê-hsiang	藕車香	Chu-yao-tzū	猪腰子
Chieh-hsin-ts'ao	芥心草	Ch'uan-hung	舩虹
Chieh-hua	節華	Ch'ui-hu-kên	搥胡根
Chieh-p'ô-fu	疥拍腹	Chung-ts'ao	允草
Chien-chung-hsiao	見厝消	Chü-ts'ao	屈草
Chien-shui-ts'ao	建水草	Ch'ü-yü	區余
Chien-tzū	菡子	Ch'ü-shê	麝舌
Ch'ien-chin-li	千金鏢	Ê-hsiang-ts'ao	鵝項草
Ch'ien-chin-t'êng	千金藤	Ê-pao	鵝抱
Ch'ien-nien-ai	千年艾	Êrh-luan-ts'ao	耳環草
Ch'ien-sui-tzū	千歲子	Fan-hun-hsiang	返魂香
Chih-chang	知杖	Fang-chang-mu	放杖木
Chih-chu-hsiang	蜘蛛香	Fên-lan	放糞藍
Chih-han	質汗	Fêng-hua	封華
Chih-tê-lê	池得勒	Fêng-liu	楓柳
Ch'ih-chü	赤舉	Fêng-yên-mei	風延莓
Ch'ih-hei	赤赫	Fo-chang-hua	佛掌花
Ch'ih-nieh	赤涅	Fou-lan-lo-lê	浮爛羅
Chin-ch'uang-hsiao-		Fu-chi-tzū-kên	伏雞
ts'ao	金瘡小	Fu-fang-têng	扶芳藤
Chin-kên	金莖草	Fu-pi-kên	扶父陸
Chin-lêng-t'êng	金稜藤	Fu-pien-tzū	夫編子
Chin-ti-lo	錦地羅	Hai-chiang-yin-	
Chin-tzū-kên	筋子根	ming	海薑陰
Ch'in-ti-li	秦荻藜	Hai-hung-tou	海紅豆
Ching-fu-tzū	津符子	Hai-wu-tzu	海梧子
Ch'ing	慶	Hai-yao-shih-kên	海藥實
Ch'ing-fêng-t'êng	清風藤	Han-ch'un-t'êng	海含春藤
Ch'ing-tzū	青雌	Han-shui-t'êng	海含水藤
Chio-lo-mu-p'i	角落木皮	Ho-chien	河煎
Chiu-hsien-ts'ao	九仙子	Ho-hsü-mu	合新木
Chiu-li-hsiang-ts'ao	九里香草	Ho-t'êng-tzū	合榿子
Chiu-lung-ts'ao	九龍草	Ho-tzū-ts'ao	合子草
Chiu-niu-ts'ao	九牛草	Hcu-sao-tzū	侯騷子
Chiu-pei-t'êng-tzū	酒杯藤	Hsi-lo	犀洛
Chiu-shê-jên-chê	救赦人	Hsi-mi-tzū	繫彌子
Chiu-shu-ts'ao	九熟草	Hsi-wang-t'êng	息王藤
Chu-fu	竹付	Hsiang-niao	相鳥
Chu-lan-tzū	豬藍子	Hsiao-êrh-ch'üin	小兒羣

Hsiao-wên-chiu 孝文非
 Hsien-hsia-ts'ao 織霞草
 Hsin-chi-mu 新雉木
 Hsin-ts'ao 莘草
 Hsü-huang 徐黃
 Hsüeh-mu-ho 學木核
 Hsüeh-t'êng 血藤
 Hsün-ho 枸核
 Hu-chin-ts'ao 胡莖草
 Hu-mien-mang 胡面
 Hu-t'êng-lei 胡桐淚
 Hu-ts'ao 薺草
 Hua 腓
 Huai-mu 淮木
 Huan-ch'ang-ts'ao 環腸草
 Huang-hsiao 黃屑
 Huang-hu-ts'ao 黃護草
 Huang-hua-liao 黃花了
 Huang-huan 黃環
 Huang-liao-lang 黃寮郎
 Huang-pai-chih 黃白支
 Huang-p'i-kuo 黃皮果
 Huang-pien 黃辯
 Huang-shu 黃稜
 Huang-t'êng 黃藤
 Hung-mou-ts'ao 紅茂草
 I-chüeh-ts'ao 益決草
 I-nai-ts'ao 益妳草
 I-nan-ts'ao 宜南草
 I-t'ai-ts'ao 倚待草
 I-ts'ao 異草
 Jang-shih 讓實
 Jên-mien-tzũ 人面子
 Kan-chien-tzũ 甘劍子
 Kan-t'o-mu-p'i 乾陀木皮
 Kau-t'eng 甘藤
 Ko-chu-ts'ao 格注草
 Ko-kung 戈共
 Ko-mu 柯樹

Ko-shan-hsiao
 K'ò-ch'ü-shih
 K'o-yao
 Ku-huo
 Ku-lu-chih
 K'u-chieh-tzũ
 Kua-t'êng
 Kuan-ts'ao
 K'uang-shih
 Kuei-ch'ih
 Kuei-po-t'êng
 Kung-mai
 Kuo-kung-tz'ũ
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 Lei-pi
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 Liao-ch'iao
 Lieh-chieh
 Liug-ch'uang-shang-kuo-tzũ
 Ling-shou-mu
 Ling-yü-tzũ
 Lo-kuang-tzũ
 Lo-wang-tzũ
 Lo-yên-mu
 Lo-yên-ts'ao
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 Lu-ching
 Lu-chio-ts'ai
 Lu-ku-tzũ
 Lu-liang
 Lu-shih
 Lu-yao
 Lũ-mu
 Lung-chu

消實
 山聚藥
 隔可廬
 姑活
 骨路
 苦芥
 瓜藤
 灌草
 曠石
 鬼齒
 鬼膊
 積麥
 郭公
 藍藤
 類鼻
 荔枝
 離鬲
 緝樓
 良木
 蔘達
 烈節
 靈牀上
 靈壽木
 零餘子
 羅晃子
 羅望子
 落鴈木
 螺磨草
 露筋草
 盧精
 鹿角
 櫛罌
 鹿罌
 路石
 鹿藥
 龍珠

Lung-hsü-ts'ai 龍鬚菜
 Lung-shê-ts'ao 龍舌草
 Lung-shou-t'êng 龍手藤
 Ma-ch'ang-kên 馬腸根
 Ma-ch'i 馬蕪
 Ma-fêng 馬逢
 Ma-pin-lang 馬檳榔
 Ma-po 麻伯
 Ma-ssü-ta-chi 馬思答吉
 Ma-tien 馬顛
 Ma-yang-mu-kên-p'i 馬瘍木根皮
 Man-chiang-hung 滿江紅
 Man-yin-shih 滿陰實
 Man-yu-t'êng 曼遊藤
 Mao-chih-wu 茅質汗
 Mao-kao-ts'ai 茅膏菜
 Mei-chih-wang-mu 每始王木
 Mêng-niang-ts'ai 孟娘菜
 Mo-ch'u-tzũ 摩厨子
 Mo-t'ou-hui 墓頭回
 Mu-chu-tzũ 木竹子
 Mu-ho 木核
 Mu-hsi-hsing 木細辛
 Mu-kan-ts'ao 木甘草
 Mu-ma 木麻
 Mu-wei-tzũ 木威子
 Na-ch'i-hsi 那耆悉
 Nan-t'êng 南藤
 Niu-chih-lê 牛脂芳
 Niu-ling-t'êng 牛領藤
 Niu-nai-t'êng 牛妳藤
 Niu-shê-shih 牛舌實
 Nu-chê 奴柘
 Nu-hui-tzũ 奴會子
 Nu-ko-sa-êrh 奴哥撒兒
 O-êrh-chih 阿兒只
 O-hsi-êrh 阿息兒
 Pa-chi 巴棘

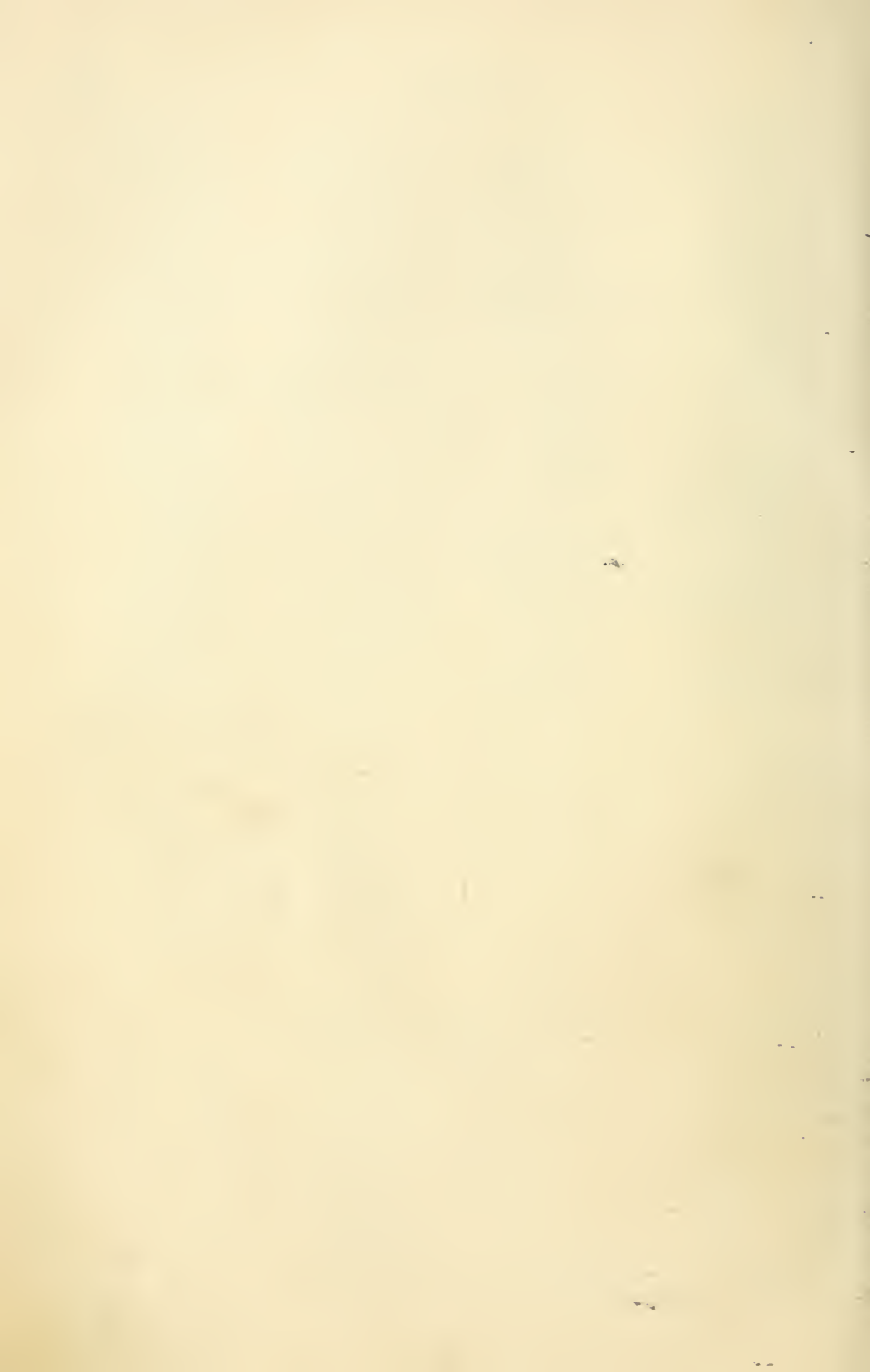
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 Pai-chang-ch'ing 百丈青
 Pai-hsing 白辛
 Pai-hua-t'êng 白花藤
 Pai-lêng-t'êng 百稜藤
 Pai-lung-hsü 白龍鬚
 Pai-lu-tzũ 白緣子
 Pai-ma-ku 白馬骨
 Pai-nü-ch'ang 白女腸
 Pai-peï 白背
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 Pai-shih 白石
 Pai-yao-tsu 百藥祖
 Pai-yên-ts'ao 白筵草
 P'ai-p'u-mu 排蒲木
 P'ai-ts'ao-hsiang 排草香
 Pan-chu-t'êng 班珠藤
 Pan-t'ien-hui 半天回
 P'êng-ts'ao-tzũ 蓬草子
 Pi-li-hsiang 必栗香
 Pi-o 必秘惡
 Pi-ssũ-lê 必似勒
 Pi-ssũ-ta 必思答
 P'i-hui-lei 辟虺雷
 P'i-li-ching 毗梨勤
 Pieh-chi 別鞞
 Pien-chi-ch'ai 籛箕柴
 Ping-k'u 并苦
 Po-lo-ch'iung 博落迴
 P'o-lo-tê 婆羅得
 Pu-li-ts'ao 布里草
 Pu-tiao-mu 不凋木
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 San-chio-fêng 三角風
 San-yeh 三葉
 Sang-kên-shih 桑莖實
 Shan-p'i-p'a-ch'ai 山枇杷
 Shan-tsao 山棗
 Shan-tz'ũ-shih 山山石

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Shih-ch'ui	石垂	T'ien-mu-ts'ao	田母草
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Shih-yün	石芸	T'so-shih-ho-ts'ao	撮石合草
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Shuang-t'ou-lien	雙頭蓮	Tu-chüeh-tzũ	獨都桷子
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Ti-ch'ieh-tzũ	地蒴	Tung-fêng-ts'ai	東風菜
Ti-chin	地錦	T'ung-ku-ts'ao	銅鼓
Ti-hsiu	帝休		

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