

BRETSCHNEIDER:

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Early European Researches into
the Flora of China!

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ARTICLE I.

EARLY EUROPEAN RESEARCHES INTO THE
FLORA OF CHINA.*

BY

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IT is proposed in the following pages to give a sketch of early botanical researches in China by European naturalists and at the same time to rescue from oblivion some curious ancient documents showing the early attempts to illustrate the botanical features of the Middle Kingdom. I have thought that a critical review of these accounts in the light of modern science and a republication of some of them, which I found hidden in ancient periodicals, now little known and difficult of access, would prove of some interest and be even practically useful to collectors of Chinese plants and writers on the same subject.

Although many of the celebrated Chinese vegetable productions are mentioned in the book of Marco Polo and by other European mediaeval travellers in China, I do not intend to trace our early acquaintance with Chinese plants back as far as the middle ages. In my investigations I shall start from that period when these regions became first known to us through the learned and hard-working Jesuit missionaries, the illustrious pioneers of Oriental studies in the far East. On the other side, I shall not extend the area of my researches beyond the Linnæan period.

* Read before the Society on the 19th November, 1880.

I.—BOTANICAL INFORMATION WITH RESPECT
TO CHINA SUPPLIED BY THE JESUITS.

I may premise, although these facts are generally known, that, after the Portuguese had made their appearance in Chinese waters in the beginning of the 16th century (Raphael Pestrello in 1516, Ferd. Andrade 1517), they subsequently established factories at Ningpo, carrying on trade also with Amoy. Besides this they settled near Canton and at Macao which latter place on account of its favourable situation soon became the basis and the starting point for the commercial enterprises of the Portuguese in Eastern Asia. It is also well known that *Franciscus Xavier* was the first Jesuit missionary, who ventured to visit China in 1552, but he died in the same year on an island called Sançian in sight of the Chinese coast. Nearly 30 years elapsed before a new attempt was made by the Jesuits to gain a footing in China. From 1581 to 1583 they sent successively four missionaries to Macao. One of them was *Matthæus Ricci*, who holds one of the most conspicuous places in the history of the Chinese missions. By persevering efforts he obtained permission to reside at Peking, where he arrived in A.D. 1600. At the time of Ricci's death, in 1610, the number of Jesuit missionaries in China had already considerably increased and we find them then working in many parts of the Empire, (besides *Peking*), namely at *Canton*, at *Shao chou fu* (Kuang tung province); at *Nanking*, *Shanghai*, *Su chou fu*, *Sung kiang fu* (all in the province of Kiang nan [Kiang su]), in which they then had altogether 90 churches; at *Hang chou fu* (Che kiang prov.); at *Nan ch'ang fu* (Kiang si prov.). In the provinces of *Hu kuang* and *Sze ch'uan* they had also built many churches and it appears, that at that time there were missionaries also in *Fu chou fu* and in some places of the province of *Shan si*. They were not only assiduously labouring to learn the language and to preach the gospel, but they employed themselves also in acquiring knowledge of the customs of the people and their literary works and they directed their attention likewise to the features of the country and its natural productions etc. The Jesuit missionaries have always had the well-merited reputation of great learning and of a classical and scientific education; and it seems that those, who were sent to convert the Chinese, had been especially trained with the object of convincing the latter, by means of striking experiments,

of the superiority of western science, and of demonstrating to them the accuracy of Europeans in observing natural phenomena, and their ingenuity in making the laws of nature serviceable to the purposes of industry, economy and the arts. The early success enjoyed by the propaganda of the Jesuits in China was principally due to the great authority they had acquired at the Court of Peking on account of their skill in astronomy, physics, chemistry etc. Many of these distinguished scholars used to investigate with a strong inclination objects of natural history, and thus we find in the collections of the letters and memoirs of the Jesuits in China a great number of articles treating of mineralogy, zoology, and botany, supplying a mass of most valuable information. The circumstances, in which they lived among the natives, becoming familiar with the language and adopting the native customs, gave them many more facilities for gathering information than travellers or naturalists of the present time, who are looked upon with suspicion, constantly watched, and often molested by the people. There are still in the interior of China many common Chinese plants, known to us only from the description of the Jesuits, as for example the tree, which yields the varnish for making the well known Chinese lacquered ware, or the *Illicium anisatum* of China (Loureiro). No specimens of these trees have, as far as I can judge from what has been published with respect to Chinese plants, come to the notice of later botanists.*) I need hardly say, that the accounts left by the early missionaries, concerning Chinese botany, have for the greater part no claim to be considered scientific papers in our modern sense. Their descriptions however of the plants applied by the natives to economic or other useful purposes, and also of wild-growing medicinal and other remarkable plants, are generally quite satisfactory and popularly correct. The Chinese names are often added. In most of the cases there can be no doubt what plant they meant and we are thus enabled to supply the respective scientific names, as far as these plants are known to botanists.

It does not seem, that any botanical collection was sent from China to Europe by the Jesuit missionaries previous to the middle of the 18th century. Father *d'Incarville*, who resided

* I shall treat at greater length of these and similar botanical questions relating to China in a more comprehensive treatise on Chinese botany, which is now in course of preparation.

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in Peking between 1740 and 1757, appears to have been the first who collected plants and seeds for his instructor Bernh. de Jussieu, as will be shown in a subsequent chapter.

The scope of this paper is not intended to give a full account of all that has been written by the Jesuits in China on botanical matters. That would unduly swell the limits of this chapter. I shall draw up merely a list of their works or scattered minor articles dealing with the vegetable productions of the Middle Kingdom, selecting only a few memoirs, presenting a particular interest for a more detailed review, reproducing occasionally the text in the original.

But before proceeding to a chronological survey of these publications of the ancient Jesuit fathers, one of the earliest works on China, published before their advent, deserves to be noticed here.

J. GONZALEZ de MENDOZA'S HISTORY OF THE GREAT AND MIGHTY KINGDOM OF CHINA was first printed in Spanish, in 1585, in Rome. An English version of the book (to which I refer) was published in 1853 by the Hakluyt Soc. Mendoza, an Augustin monk, had himself never seen China. The material for his book has been derived from the reports of some friars of the same order, who had found opportunity to visit China. He depends mainly upon the accounts furnished by the monk *Martin de Herrada*, who had been taken, in 1575, by a Spanish ship from Manilla to the Chinese port of *Ts'üan chou fu* (prov. of Fu kien) where he was allowed to spend three months. The information given in this little book with respect to the vegetable productions of China (I, 14. 15. 82.) are very meagre but not devoid of interest. The excellence of the Chinese *Chestnuts* is there praised and there is noticed also the great abundance of large *Melons*. We are further told that "the Chinese have a kind of *Plum*, that they call *leechias*, of an excellent gallant taste." This is, I think, the first mention made by Europeans of *Lichis* (***Nephelium Litchi*** Camb.). We are further more informed in the same work that the Chinese, besides Wheat, Barley, Millet (panizo), cultivate also the same **Maize**, which constitutes the principal food of the Indians in Mexico. This latter statement made at so early a date has a peculiar interest for us, for it is now a well established fact that Maize is not indigenous to China but has been introduced since the discovery of America.

One of the earliest accounts given of the Chinese Empire by Jesuit missionaries is that by **ALV. SEMEDO**. He was of Portuguese origin, born 1585, arrived in China in 1613,

and died in Macao in 1658.)* As he himself states in the preface to his **RELATIONE DELLA GRANDE MONARCHIA DELLA CINA**, he wrote this work about 1633, but it was first published only in 1643, in Rome. I quote in the following the French translation of it made by Coulon 1645, but translate the quoted passages into English.

The following are the remarks of Semedo concerning Chinese plants :

1. The **Peaches** of the province of Xensi (Shensi) are of prodigious size, some of them of a red color outside as well as inside, others yellow and resembling our peaches. The same province is also famed for its **Grapes**. (p. 8.)

2. The province of Honan produces the best **Apricots**. (p. 22.)

3. The prov. of Xan tung (Shan tung) abounds in large and excellent **Pears** (p. 29.)

These large pears are already mentioned by Marco Polo (Yule ed. 2. II 184.

4. There is a kind of fruit grown everywhere in China, which they call *su zu* in their language. The Portuguese use to term it *red Fig*. It bears however no resemblance to a fig, for it is of a red color outside, contains a gold-colored pulp and seeds resembling almond kernels. Its shape is that of an orange but it varies in size. It has the skin very soft and is of a delicious flavour. The best are grown in the colder parts of China, viz. in the provinces of Honan, Xensi (Shensi), Xian si (Shan si), Xan tung (Shan tung) and especially in the last named, where they use to dry them and send them off to the other provinces of the Empire. When dried this fruit resembles somewhat our figs, but it is superior in flavor. (p. 7.)

This is without doubt the **Diospyros Kaki** L. (*D. Schitze*. Bge.) a very common fruit tree all over China, where a great many varieties of it are cultivated. The Chinese name of the fruit is 柿子 *shi tsz'*, in the Amoy dialect *su tsu*.

5. The Jesuit Father *Ferraris* in his *Hesperides* (publ. in 1646) p. 430, describes an *Aurantium sinense olivae magnitudine figuraque olivae*, referring to Semedo. This is probably **Citrus japonica** Thb., var. fructu elliptico, of which Semedo seems to have communicated some account to Ferraris.

* The biographical notices given in this paper concerning the Jesuit missionaries, are for the greater part derived from the pamphlet published in 1872 by the Jesuits at Shanghai under the title of: *Catalogus Patrum ac Fratrum e Soc. Jesu qui in Sinis adlaboraverunt*.

6. The province of Han chu (probably *Hang chou fu*, the capital of Chekiang, is meant), produces a peculiar fruit called *yam mai* by the natives. It is of the size of a plum, of a globular shape and resembles in color and taste the mulberry. The tree to which this fruit belongs bears however no resemblance to the mulberry tree. (p. 8.)

The author means the *Myrica sapida* Wall., a common fruit in Chekiang, in Chinese 楊梅 *yang mei*.

7. The province of Peking produces Maize, Wheat and some Rice for the use of the Emperor's court, the mandarins and the soldiers. An excellent kind of rice, which they eat boiled in water, without other ingredients, comes from Nanking. (p. 5. 30.)

This is the rice known under the name of *glutinous rice*. In Peking it is called 江米 *Kiang mi*.

8. The island of Hai nan produces the famous odóiferous *Eaglewood* and the wood called *hua li mo* by the natives, *Rosewood* by the Portuguese. (p. 13.)

According to Loureiro (Fl. cochin. 327.) the *Aloewood* (or *Eaglewood*) of Cochinchina is yielded by *Aloexylon Agallochum*, but nobody after Loureiro has seen this tree. In India *Aquilaria Agallocha* Roxb. is said to produce *Aloewood*.—The wood which the Chinese call 花梨木 *hua li mu* is well known in this country and sold even at Peking, but the tree by which it is produced is unknown to botanists.

9. Belle-Isle. (thus Semedo terms Formosa) produces *Pepper* which grows in the forests. *Cinnamon* is found there in the mountains. The *Camphor trees* of this island attain an extraordinary height. *China-root* and *Salsapariglia* are also found there. (p. 15.)

Camphortrees (*Cinnamomum Camphora*. Nees) are indeed a prominent feature of Formosa. Chinese Cinnamon (*Cinnamomum Cassia* Bl. and other species) is known to grow in the provinces of Kuangsi and Kui chou. I am not aware that modern travellers have noticed it in Formosa. *China-root* is *Smilax China*, L. and other species.

10. The *Rhubarb* plant is found in the province of Xensi (Shensi). It grows to a considerable height. Its leaves are larger than those of cabbage. (p. 23.)

At the time of the Ming dynasty the present department of *Si ning fu*, still famed for its *Rhubarb*, belonged to the province of Shensi.

11. In the province of Liao tung a root is produced which is sold at the double price of its weight in silver. It is a marvellous medicine, which is able to increase the strength of the frame and to restore the exhausted animal powers. The Chinese call it *Gin sém*. (p. 31.)

This is it seems the earliest mention made by a European author of the celebrated *Gin seng* **Panax Ginseng** C. A. Mey., sin. 人參 *jen shen*.—Liao tung is an ancient name for the present Shin king or Chinese Manchuria.

12. They have a kind of fragrant flowers, called *la mui*, which appear in winter after the leaves have fallen. They are of a yellow color and waxlike appearance.

Chimonanthus fragrans. Lindl. sinice: 蠟梅 *la mei*. It puts forth its flowers in December, in Peking. (p. 9.)

13. They have also a kind of lily (*Lys.*) which they term *tiao hoa* and keep it in their houses. For these plants thrive and blossom in the air with their imperishable roots out of the ground (p. 6.)

According to Bridgman's Chin. Chrestom. (resp. Dr. Williams) p. 452 (5). 吊花 *tiao hua* (hanging flower) is the Chinese name for the Airplant. The latter is a general name for several species of **Aërides** and **Vanda**, possessing the peculiar property of existing many months suspended in air.

14. Large boats loaded with *Lamp-wicks* are frequently met on the rivers in China. These lamp-wicks are made from the pith of a rush, which the Chinese know how to take out.

This rush is, as Dr. Hance has first proved, (Journ. of Botany 1875 p. 106) the **Juncus effusus** L.

15. Semedo is the first of the missionaries who notices the *Tea* plant in China and who gives some account of the preparation of the leaves and their use. He states that *Cha* (茶) is the name of the leaf of a tree, which resembles the Myrtle etc. (p. 27.)

16. Semedo mentions also (p. 7.) among the fruits of Canton and Fukien the *Lichi* (**Nephelium Litchi**, see above Mendoza) and first speaks of the *Lum yen* (**Nephelium Lungan**. Camb. sin: 龍眼 *lung yen*.)

17. Finally Semedo reports (p. 4.) that the Chinese have an excellent *Varnish*, which they call *charam*, and which is yielded by a tree.

There can be no doubt, that S. means the famed Chinese varnish, sin. 漆 *t'si*, produced by a kind of *Rhus*, but I am not prepared to give any explanation, with respect to *charam*, which cannot be a Chinese name. He repeats the same name on p. 12. Constancio in his Dicionario da lingua Portugueza states that this term, still in use in Portugal to designate Chinese Varnish, is of Asiatic origin.

We come next to **MARTINI's** famous **ATLAS SINENSIS**. *Martinus Martini* was born in 1614 at Trent (Southern Tyrol, Austria). He arrived in China 1643, returned in 1653 to Europe by way of Batavia and landed at Amsterdam, where he made arrangements for publishing his

work. After this he proceeded to China again and died at Hang chou fu (Che kiang) in 1661.

The first edition of Martini's *Novus Atlas Sinensis*, published in Latin, bears no date but the concession for printing is dated Vienna January 7. 1655. This work is a short geographical description of the provinces of China, translated it seems from a Chinese work, but the author has added also many of his personal observations. I shall extract those passages relating to the vegetable productions of the different provinces.

1. Territorium urbis Peking producit optima *Poma, Pyra, Pruna, Frumenti ac Milii* non parum, *Leguminum omnia* fere genera. *Nuces* adhaec habet et *Castaneas*, nec non *Ficus* et *Uvas*, ex quibus tamen vinum non coficiunt. (p. 32.)

2. Provincia Xantung, (Shan tung) producit optima varii generis *Pyra, Castaneas*, *nucesque alias, Prunorum verum vim tantam*, ut siccata ea sicuti et *pyra recentia*, cum reliquis communicet provinciis: ad haec *pomi ibi genus est, su cu* vocant incolae, quod licet in aliis reperiatur provinciis, illic tamen abundat magis. (I omit the detailed description of the fruit.) (p. 53.)

By Martini's Plums we have probably to understand *Jujubes* for which the province of Shantung is famed as well as for the *shi tsz* (*su tsu*, comp. above Semedo 4.). The description Martini gives of the *Diospyros Kaki* is in accordance with Semedo's account of the same fruit.

3. Urbs Tung chuen (Sz' ch'uan prov.). *Magnus Castanearum ac Prunorum ubique proventus*, sed et *Saccari cannas fert.* (p. 70.)

4. Urbs Quei te (Honan prov.). *Granata hic sunt praestantissima a quorum copia ac praestantia ultima civitas Xe ching nomen habet, quasi dicas pomorum granatorum moenia.* (p. 60.)

The Chinese name of the Pomegranate is 石榴 *shi liu*, but the name of the city to which M. evidently alludes is 柘城 *che ch'eng hien* and this name has nothing to do with the pomegranate.

5. Urbs Tali (prov. Iunnan). In hoc tractu *Ficus nascuntur Europeae, quas Sinae vu hoa quo dicunt, ex eo indito nomine, quod nullo praevio flore ut reliqui fructus solent crescat. Vu hoa enim "sine flore" significat, "quo" vere fructum.* (p. 158.)

The common Fig, *Ficus Carica* L., sin. 無花果 *wu hua kuo* (fruit without previous flower) is cultivated throughout China, but is not indigenous there.

6. Martini speaks of the superior quality of the *Grapes* in the prov. of Shansi. The natives do not use them for making wine, as the missionaries do, but only dry them in order to sell these raisins all over China. (p. 37.)

7. Urbs Focheu (prov. Fo kien). Maxima est in australibus hujus provinciae partibus et praecipue in hujus urbis territorio copia fructus illius quem *Lichi* vocant, Lusitani Macaenses *Lichias* dicunt. Nascitur in magnis procerisque arboribus, quarum folia Lauri imitantur, e ramorum summitatibus racemi prodeunt, in his ut in uvis fructus est, sed rarior ac longioribus pedunculis dependet. Fructus figura omnino croculum refert, magnitudine nucem aequat juglandem, parvum strobulum seu nucem pineam repraesentat, squamoso sed non adeo crasso cortice, nam ad membranae tantum crassitiem accedit, adeoque vel sola manu facile detrahitur. Intus succulentus est nucleus albi coloris saporis ac odoris rosacei suavissimi, cum maturus est fructus purpurei est coloris, videaturque ipsae arbores purpureis circumquaque quasi cordibus ornatae, amoenissimo adpectu astantium oculis arridere. Os seu calculum caro intus ambit, ac circumdat, qui quo mole minor est, eo censetur fructus melior ac praestantior. Recte hunc fructum regem fructuum dici posse, saepe ego mecum cogitavi, qui quasi esui ac spectantium voluptati natus tantum esset, ita delectat, ut numquam satiet. (p. 122.)

Urbs Ping lo (prov. Quang si). Lichiarum fructus magna ubique copia, cujus arbores *Li pu* civitati nomen dederunt. (p. 145.)

Alter etiam fructus quidam rotundus est, cortice superiori haud absimilis, *lung yen*, hoc est draconis oculus, vocant; superiori mole non aequalis est, paulo minor ac rotundior, ut cerasa fere nostra majora, pelle tamen aliquantulum lichi duriori magisque squamosa constat. Utrumque etiam Sinae exsiccant et ex hac provincia (Fo kien) per totum imperium ad delicias etiam siccus distrahitur, nullo tamen modo cum recentibus comparari potest, cum suavissimus ille succus totus fere exhalarit. Ex lichia etiam exprimitur liquor, quem vinum Sinenses vocant, suave satis sed rarius (p. 122.)

Est et fructus in hoc territorio quem Sinae *Mui jin li* vocant, i. e. pulchrae mulieris pruna eaque magna sunt ac praeclara quae Damascena illa magnitudine ac praestantia superant, figura rotunda magis sunt quam elliptica aut ovali. (p. 122.)

The fruits here mentioned *Nephelium Litchi*. Camb and *Nephelium Lungan-Camb*. The 美人李 *mei jin li* is evidently a Plum.

8. Urbs Chang cheu (prov. Fo kien). In hujus ac superioris urbis (Ts'üan chou fu) territorio uberrime proveniunt *Poma aurea* nobilissima, mole ac magnitudine Europaeis majoribus paria, odore, suavitate atque amoenitate ea omnia longissimo superant intervallo; nec arboris figura aut modus a nostratibus

multum discrepat, sed fere par est, fractus vero in eo differt, quod comestus uvam omnino referat, quam muschatam vocant, ejusdem enim plane odoris ac saporis est, adeo ut suavius quidquam in hoc genere nec Italia hactenus, nec Hispania viderit aut gustarit. Ita vero hic fructus a natura est comparatus ut aureum suum densioremque corticem facile dimittat, pulpa vero intra pelliculas, quibus vestitur ac distinguitur, eadem facilitate in particulas suas dividitur. Eundem fructum simul cum cortice inter asseres pressum saccharo condiunt, totoque anno adservant neque Sinas suos tantum, sed et externos his deliciis pascunt ac recreant. (p. 125.)

Urbs Chang te. (prov. Hu quang). *Poma aurea* omnis generis profert, inter quae illa sunt quae hyberna a Sinis vocantur. Cum enim jam cessant reliqua, haec primum hyeme maturescunt et suavissimi sunt saporis. (p. 80.)

The first of the Orange here described is that known among European residents in China under the name of *Mandarin-orange*, the rind of which separates spontaneously from the pulp. The other may be the so-called *Coolie-orange* known by its closely adhering skin.

9. Provincia Quang tung. *Poma aurea* hic ac *Citria* omnis generis sunt, etiam praestantissima illa quae supra in prov. Fo kien descripsimus. Unum praeterea genus est particulare, *Yeu qu* Sinæ vocat, Lusitani *Jamboa*, Hollandi *Pampelmoes*. In spinosis arboribus ut limonia poma solent nascuntur, arbores tamen illis majores sunt, flores etiam similes omnino albosque proferunt suavissimi odoris ex quibus aqua etiam fragrantissima destillatoria arte elicitur; fructus autem citria omnia etiam illa maxima longe superat magnitudine, quippe qui capitis humani molem aut aequet aut excedat. Cortex reliquis pomis aureis similis est colore, pulpa interna rubescit, dulcedinem aliqua aciditate permixtam obtinet uvamque sapore refert non omnino maturam, proptereaque ex eo etiam liquor pro potu exprimi solet, uti in Europa ex cerasis, pyris ac pomis pro sicera: suspensus domi fructus ad annum perdurat. (p. 131.)

This is the *Citrus decumana*. L. sin: 柚子 *yu tsz'*.

10. Urbs Chang te (prov. Hu quang). Habent etiam *Cedros* illas, quas *Idoli manum* vocant, extremitates enim illarum in caudulas aliquas ceu in digitos ac pedunculos desinunt. Esui apti non sunt, at domi intra cubiculum suspensi suavissimum exhalant odorem, quam obrem sacculos reticulato opere ex serico artificiose contextunt. (p. 80.)

Citrus medica, var. *chirocarpa*. Lour. sin: 佛手 *fo shou* (Buddha's hand.)

11. Urbs Kiun cheu in insula Hai nan. Crescunt hic ubique *Nuces Indicae majores ac minores*, fructusque ille vulgo habitus totius orbis maximus, quem *Jaca* in India vocare solemus, qui ob eximiam magnitudinem non in ramis arborum, quamvis illi quoque ingentes sint, sed ipsi trunco adnascitur, quasi ex metu, ne tantum onus rami ferre detrectent quantumvis firmi aut robusti fuerint. Fructu cortex adeo durus crassusque est, ut securi aperiendus sit. Innumerae intus domunculæ seu folliculi sunt, in quibus pulpa est flavi coloris, quæ nucem veluti castaneam ambit; illa uti maturuit suavissima est; hæc igne tostas castaneas nostrates refert. (p. 140)

1. *Cocos nucifera* L.—2. *Areca catechu*. L.—3. *Artocarpus integrifolius* L.

12. Prov. Quang tung. Fructus quoque hic ubique plurimi sunt et præstantissimi, Europæi non pauci: *Poma granata*, *Uvae*, *Pyra*, *Nuces*, *Castaneae*, at hisce terris proprii ac singulares: *Musae*, *Nuces indicae*, *Ananas*, *Lichia*, *Luang yen*, *Poma aurea* etc. (p. 131.)

13. Urbs Gu cheu (Martini means Wu chou fu in Kuang si.) Nascitur arbor *Quang lang* vocata, hæc pro medulla mollem pulpam obtinet farinae simillimam, quin et farinae usum præstat, saporisque non ingrati est, ad quævis esculenta adhibetur. (p. 145.)

Sin: 光榔 *kuang lang*. *Caryota*.

14. Urbs Kia hing (prov. Che kiang). Nascitur per totam hanc regionem in stagnantibus aquis fructus figura rotundus, *Peci* Sinae vocant, cujus magnitudo castaneam nucem haud multum excedit, pellis subtilissima pulli coloris nucleum vestit, cujus intus candidissima caro est plena succi, gratique saporis, durior est quam pomorum vulgarium, ac parumper acida. Si simul cum hoc fructu cupream monetam ori immiseris, dentibus eadem facilitate qua fructum comminues, ac in pulpam comestibilem rediges, mira naturæ vi, mihique alias ipso experimento sæpe comperta. (p. 113.)

This is *Eleocharis tuberosa*. Schult. sin: 蒻薹 *pi ts'i* cultivated throughout China.

15. Urbs Xun te (Shun te fu, prov. Chili). *Talo* lacus magnus fructu aquatico *Lin kio* dicto celebris. Hic fructus tribuli fere habet figuram, ad instar triangularis pyramidis undequaque prominens, cortice viridi crassiorique est, ad apices rubescente, dum siccatur nigrescit, interior substantia albissima est, sapore castaneæ nucis, magnitudine tres quatuorve castaneas aequat. In stagnantibus aquis per totam Sinam seritur. Planta foliis est exilibus longissimo tractu per aquæ

summam superficiem proserpentibus, fructus multiplices sub aquis latitant. (p. 34.)

Trapa bispinosa. Roxb., extensively cultivated in the lakes and rivers of Northern China. Sin: 菱角 *ling kio*.—The marsh of *Ta lu* 大陸澤 is situated in the southern part of Chili.

16. Prov. Kiang si. On p. 87 Martini gives a detailed description of the *Lien*, a waterplant found in all parts of China. The roots and the seeds of it are eaten. This is *Nelumbium speciosum*. W. sin: 蓮. *lien*.

17. Prov. Quang tung. Non tamen hic praetereunda *Rosa sinica* est, illa nimirum, quae diebus singulis bis colorem mutat, purpureaque modo tota, modo rursus omnino alba evadit. Caret suavitate odoris, in arbore nascitur. (p. 132.)

Hibiscus mutabilis. L.

18. Urbs Iengan (Yen an fu in Shensi). Florem profert *Meutan* dictum maximeque estimatum a Sinis, quasi florum regem diceret, rosa nostrate major est, hujus tamen figuram imitatur, sed folia magis expandit, odore quidem cedit, at pulchritudine superat, spinis caret, coloris est magis albicantis quasi ex purpureo et albo misti. Rubri etiam et flavi reperiuntur. In virgulto nascitur Sambuco nostrati haud absimili. Per totam Sinam hic flos in divitum viridariis colitur, idque magna arte et diligentia in calidioribus quippe locis aestate contra solis ardores regi debet. (p. 51.)

According to Chinese authors the 牡丹 *mu tan*, or *Paeonia montan* Sims., is found in a wild state in the mountains of the southwestern part of Shensi. Martini is the first European who notices this handsome Chinese flower introduced into European gardens only in 1789.

19. Urbs Kin hoa (prov. Che kiang.). Nascitur hic flos ille quem in India Lusitani *Mogorin* vocant. (Latinum illius nomen nusquam reperio.) In parva nascitur arbuscula, flos albus Gensemino non absimilis nisi quod plura habet folia. Odorem exhalat suavissimum Gensemino multo nobiliorem. Est apud Sinas in magna aestimatione. (p. 114.)

This is *Jasminum Sambac*. Ait., the 茉莉花 *mo li hua* of the Chinese.

20. Urbs Quei lin (prov. Quang si). Maxima ex parte nomen habet a *Quei* floribus, qui licet per totam reperiantur regionem Sinarum, nullibi tamen copiosiores sunt quam in hac provincia, maximeque in hujus urbis territorio unde urbi Quei lin nomen inditum, quod *Quei* florum sylvam sonat. Nascitur autem *Quei* flos in procera arbore, quae folia habet lauri, aut Cinnamomi. Flos minimus est, ac flavi coloris, in racemulos dispergitur, suavissimi plane odoris; flos apertus in ipsa

arbore longo admodum tempore perstat integer, minimeque flaccescit, ubi decidit, interjecto mensis unius spatio denuo arbor repullulat, novumque florem gignit autumnali tempore; tam fragrantem gratumque exhalat odorem, ut regionem totam cui arbor vicina est, a suavitate recreet atque perfúndat. Latinum illius nomen nusquam reperio: is ipse autem flos est, quem Turcae limonum succo maceratum ad crines equorum tingendos adhibent. Ex eodem Sinae multa bellaria ori ac naribus gratissima adornant. (p. 143.)

The tree here described is the 桂花 *kui hua* of the Chinese, the *Olea fragrans* Thb. of botanists. M. is wrong in supposing it to be the *Henna* of the Mohammedans, which is *Lawsonia alba* Lam., also cultivated in Southern China.

21. Urbs Cin cheu (prov. Quang si). *Cinnamomum* profert praestantissimum, a Ceilani cinnamomo in eo tantum differt quod odoris sit fragrantioris, majorisque mordacitatis, dum linguae imponitur. (p. 146.)

Cinnamomum Cassia Bl., *C Burmanni* Bl. and perhaps other species furnish the Cassia bark of China.—By Cin cheu M. means 漳州府 *Sin chou fu*. In the same prefecture near the town of Tai wu, according to Mr. Moss (Narrative of an exploration of the West river. 1870.) the best Cassia bark is produced.

22. Provincia Yun nan (Yun nan). Mo pang munimentum maxime australem ac occidentalem hujus provinciae partem occupat. *Piper* profert. (p. 165.)

23. Provincia Kiang nan. *Cha* folium (p. 106). A good description of the *Tea* plant, its cultivation, preparation of the leaves etc. The best quality is said to be that of *Sung lo*.—On p. 158 M. notices the tea of the prefecture of Ta li in Yün nan.

I have omitted Martini's treatise on tea (茶 *cha* in Chinese) for the subject is too well known and M. not the first European who mentions tea. The 松蘿 *sung lo* mountains separating the provinces of Che kiang and An hui, are still famed for their superior quality of tea.

24. The province of Kiang nan (Kiang su and An hui) famed for its *Cotton* and manufacture of cotton cloths, especially the cities of Sung kiang and Shanghai. (p. 94. 101. I omit the details.)

25. Urbs Nan kang (prov. Kiang si). Producit haec urbs *Cannabim* ex qua vestes aestivas contra calorem ac sudorem aptissimas texunt. (p. 88.)—Urbs Xao (Shao) wu (prov. Fo kien). Textit hujus urbis plebs pannos praestantissimos ex crudo *Cannabe*, qui aestati tempore ob frigiditatem et quia sudore

madefacti non sordescunt, citoque siccantur, vulgo expetuntur et in pretio sunt. (p. 128.)

Boehmeria nivea. Hook. et Arn., from the fibre of which the so called Chinese *Grasscloth* is manufactured.

26. Urbs Li ping (prov. Quei cheu). Pannos conficiunt incolae ex cruda Cannabe, seu herba Cannabi prorsus simili. *Co* Sinae vocant. Ex his vestes pro tempore aestivo eximiae plane sunt, ac commodissimae. (p. 152.)

Pueraria Thunbergiana Benth. (*Pachyrhizus Thunbergianus* S et Z.) Sin: 葛 *Ko. P. trilobus* D.C. has the same Chinese name. It seems that both of them are textile plants.

27. Urbs Ping lo. (prov. Quang si) Conficitur hic pannus ex foliis *Musarum rubrarum*. (p. 145.)

In the *Yi t'ung chi*, the great geography of the Ch. Empire, the 紅蕉布 *hung tsiao pu* (cloth made from the red *Musa*.) is mentioned as manufactured in the prefecture of Ping lo. Perhaps the *Musa coccinea*. Andr., introduced into European gardens from China in 1792, is meant. I am not aware whether the appellation of red *Musa* could be applied to *Musa textilis* Nees.

28. Urbs Cin cheu (prov. Quang si). Incolae ex herba *Yu* conficiunt pannos, quorum praestantia sericum ipsum superat, majorique quam istud in pretium sunt. (p. 146.)

The plant *yu* and the fabric manufactured from its fibres seem to be unknown to Europeans. In the *Yi t'ung chi* I find under *Sin chou fu* (vide supra 21) a cloth mentioned there produced which they call 紵布 *chu pu* or 鬱林布 *yü lin pu*.

29. Provincia Xan tung (Shan tung). Rarum est, et omnino nimium quantum beneficae in eam gentem naturae argumentum, filum sericum ibidem in arboribus ac campis sponte sua nasci, quod non a domesticis bombycibus, sed a vermibus contextitur crucis haud absimilibus, non in globum aut ovum ductum, sed in longissimum filum paulatim ex ore emissum, albi coloris, quae arbusculis dumisque adhaerentia, atque a vento huc illucque agitata colliguntur, atque ex illis, uti ex vera bysso, panni conficiuntur serici qui licet radiiores nonnihil sint serico domestico, firmitate tamen ac robore superant. (p. 53.)

Martini alludes here to the wild silkworms feeding on the leaves of different oaks and producing the silk from which the so called Shan tung Pongee is woven (繭綢 *kien chou* in Chinese.) Comp. Dr. Hance's interesting article on Northern Chinese silk worm oaks, Journ. Linn. Soc. X. XIII and Du Halde, la Chine II 207.

30. Martini explains (p. 39) the method adopted by the Chinese in the production of *Weeping Willows* by bending down large branches of the *lieu* or Willow tree, which generally has upright branches, and causing them to take root in the ground.

I may observe, that *Salix babylonica* L. in Europe and Western Asia is generally seen with its branches hanging down, whilst in China (in Northern China at least) where this tree, 柳樹 *liu shu* in Chinese, is very common, its branches shoot originally upwards. In a similar way the Chinese produce artificially the tree known in Europe as *S. phora pendula*, in causing two young trees of *S. japonica*. L., growing close together, to join by grafting, and then turning upwards the roots of one of them.

31. Urbs Chao king (prov. Quang tung). Multa odorifera ligna producit: *Aquilum* nimirum et illud quod Lusitani *Pao de Rosa* seu rosaceum vocant, quo ad capsulas, mensas, sedes, similiaque conficienda frequentissime utuntur, quoque vix aliud est praestantius, coloris ex nigro rubicantis, venis quibusdam intercisum et artificiosa benigne obstetricantis naturae quasi manu depictum. (p. 137.)

Urbs Kiun cheu in insula Hai nan. *Aquila lignum* crescit in montibus, uti et *Ebenum*, *lignum Rosae*; et illud quod *Brasilum* vulgo vocant, quod ad tincturam per totam Sinam passim adhibent fullones. (p. 140.)

With respect to Eaglewood and Rose wood compare Semedo 8, note. The Ebony of China is probably yielded by the tree described in Loureiro's Fl. cochin. under the name of *Ebenoxylon verum*, but it seems that after Loureiro no botanist has had opportunity of observing it.—Brazil wood is *Caesalpinia Sappan*. L. (Comp. Yule's M. Polo 2d edition II 260.)

32. Urbs Cin cheu (prov. Quang si). *Ibidem arbor illa ferri* est, buxo nostrate multo durior. (p. 146)—Urbs Chao king (prov. Quang tung). *Cao leang* mons prope *Te king* ex eo celebris, quod ingentes arbores, quae ferreas seu *lignum ferreum* vocant profert.

The mountain 高良 *kao liang* in the district *Te king* chou. The tree producing the Chinese *Iron wood*, sin: 鐵梨木 *tie li mu* seems to be unknown to botanists. Comp. Loureiro Fl. cochin. 326. *Baryxylum rufum*. There are probably several trees going under the same Chinese name. I have myself seen in Canton a red and a grayish green wood, both of them termed *tie li mu* and extremely hard.

33. Urbs Chu cheu (prov. Che kiang). Luyeu (?) rivus prope King ning (景甯) magnis *Arundinarum* sylvis virescens. Sinae eas communi nomine *Cho* dicunt, licet quam plurimae earum sunt species, Lusitani in India *Bambu* vocant, aliae aliis majores sunt. Harum omnium durities prope ferrea est, adeoque saepe crassae sunt, ut duabus tribusve manibus stringere nequeas: quamvis autem intus vacuae sint, suisque nodis articulisque distinctae, firmissimae tamen sunt, ac securissime imposita onera sustinent. Altitudo saepe trium aut plurium cannarum est, minores aliae mediam haud excedunt, aliae sunt trunco ac ligno viridi, aliae nigerrimo, atque hae plerumque

solidae quales in India Bambu marem vocant. Amoenissimum adspetum praebent tum folia oblonga forma gladioli, summatibus nonnihil inflexis atque incurvis: tum quia toto anni tempore virides sunt. Licet autem adeo durae sint arundines facile tamen in licia tenuissima, ac veluti membranulas ab artis peritis dissecantur, ex quibus storeas, capsulas, pyxides, pectines aliaque simili utensilia minutissima subtilissime contexunt. Ex eisdem domos suas facile construunt eisque par aedium minorum postibus utuntur; ex tenuioribus hastilia fiunt cuspidate praeferrata atque ad sexcentos alios usus, quorum nimis prolixa esset narratio adhibentur. Ad aquarum canales ductusve struendos, cum a natura perforatae sint, aptissimae sunt: ac pro tubis opticis longioribus ob levitatem, rectitudinem, crassitiam ac firmitatem excellentes prorsus ac singulares. Cum recens haec canna absecta comburitur, aquam emittit, uti ligna omnia, plurimum a medicis expetitum: epota namque putrescentem sanguinem locoque motum vel casu, vel percussione, e corpore expellit. Tenera ac primum nata, priusquam folia emittat cum carne adhibetur pro cibo veluti rapae, aut cocti cardui, quin et aceto macerata toto anno servatur tamquam condimentum, seu obsonium ad delicias, non secus ac minores apud nos cucumeres, aut foeniculum. (p. 116.)

Urbs Hoai gan (prov. Kiang nan). Ad urbis orientum est Hung lacus (洪澤) et palus ingens. In eo nascuntur *Cannae* illae palustres altissimae, quibus lignorum loco tota utitur regio. (p. 104.)

Urbs Hoi cheu (prov. Quan tung). In monte *Lo fou* (羅浮山) longissimae *Arundines* nascuntur caedem crassissimae, quae reliquas fere omnes superant, trunci circumferentia decem subinde aut plures palmos aequat aut etiam superat. (p. 136.)

竹 *chu* is the general term for Bamboo in Chinese. Munro in *Transact. of Linn. Soc. XXVI* (1868) enumerates 12 species of *Bambusa*, known from China. It is not certain whether *B. arundinacea* Retz (*Arundo Bambus* L.) occurs in China.

34. Urbs Lui cheu (prov. Quang tung). In omnibus hisce terris vimen illud mirabile nascitur quod Sinae *Teng*, Lusitani *Rota* vocant, funem a natura contortum esse credas, in maximam enim longitudinem extenditur, ac veluti funis per terram ac montes prorepit; spinis horridum est, folisque oblongioribus viret, crassitie vix digitum aequat, et tamen saepe ad integrum stadium diffunditur, tantaque per montes copia ut inter se intricatae stirpes etiam cervis iter impervium reddant. Lentissimum prorsus vimen est, maximeque fractioni resistit,

quamobrem ex eo rudentes, funesque pro navibus confieri solent; imo illud in licia vittulasque tenuissimas minutissime partiri solent, ex iisque corbes, crates, sedilia aliaque similia contexere, maxime vero subtilissimas ac molissimas illas storeas, in quibus Sinenses plerique ad ipsem Regem nudi, dum somnum capiunt, decumbere consueverunt, quae res mundissima est et acotate perfrigida, et Sinensibus, tametsi eae storeae vel nudis asseribus instratae sint, sat commoda videtur ob longam ita decumbendi assuetudinem. Ex iisdem viminibus ipsos lectulos efformant, ac pulvinaria, quae rebus quibusdam odoratis infarciunt ad delicias. (p. 139.) Vimen etiam seu Rotam tota insula Hainan profert. (p. 140.)

Calamus Rotang. L., *C. rudentum*. Lour., *C. verus*. W. C. *viminalis* W. and probably several other species, growing in India, the Archipelago and Cochinchina furnish the Rattans so commonly employed for different purposes. As to the species of Southern China they are very imperfectly known, but some of the above mentioned species may occur also in China. The Chinese character 藤 *t'eng* denotes not only Rattans, but is also applied to other climbing plants.

35. Urbs Nien cheu (M. means Yen chou fu, prov. Chekiang.) Plurimum colligitur Gummi illius seu glutinis *Cie*, quod stillat ex arboribus, persimileque est lachrymae terebinthi. Aestate colligitur, purgaturque a Sinis, et quo volunt colore inficitur: optimum est quod aureo flavescit, proximum quod nigerrimum. Cum nondum siccatum est, venenatam quandam emittit exhalationem, cui non adsueti intumescunt ac pallent vultu, sed facilis est curatio. Cum tinguntur arculae tardius siccatur, nisi in humido sit loco, semel autem exsiccatum numquam amplius liquefit. Quam vero res fit elegans munda ac splendida jam pridem didicit Europa ex capsulis quae e Japonia atque ipsa Sina plurimae fuerunt advectae (p. 113.)

漆 *ts'i*, the famous Chinese *Lacquer*, yielded by a species of *Rhus*. The plant however has not yet been examined by botanists, with the exception of Loureiro, who has named it *Augia sinensis*. See also above Semedo 17.

36. Urbs Kin hoa (prov. Chekiang). Quod mihi hic saepe admirationem movit pinguedo quaedam est ex arboribus nata, ex qua veluti ac sebo optimaе atque albae fiunt candelae, quae manus non inficiunt etsi tangantur, nec foetorem exhalant dum extinguuntur. A Sinis *Kieu yeu* vocari solet. Arbor sat magna est, pyros nostrates et foliis et forma refert, florem album emittit, ut cerasi, florem excipit bacca rotunda omnino, ceraso mole aequalis; tegit hanc subniger et tenuis cortex, alba intus caro est, quae, cum bacca matura est, disrupto cortice apparet. Has baccas colligunt ac aqua calida excoquant, tum caro liquefit, at frigida iterum omnino ut sebum solet, spissatur.

Nucleus dein remanet, hunc oleo plenum, ut olivas nos, macerant et oleum non ad cibos, sed ad lucernas aptum exprimunt. Hyberno tempore folia, quasi cuprea essent, omnino rubescunt; amoenus mihi horum foliorum saepe visus est conspectus, cum quasi integrae sylvae rubrae appareant: demum folia decidunt, et quia pinguedine quadam praedita sunt, gratissimum ovibus ac vaccis cibum praestant, ex quorum esitatione egregie pinguescunt. (p. 114.)

Martini's account of the *Tallow tree*, *Stillingia sebifera*. Mich., in Chin.

相 *kiu* (the vegetable tallow is called *kiu yu*), is correct, with the exception of the description of the flowers. The tree is very common in Central and Southern China.

37. Urbs Tegan (prov. Hu quang). Est in hac regione rarum quid, *Alba Cera*, quae a vermiculis elaboratur eo fere artificio quo apes favos suos struunt. Sunt autem hi favi multo minores ac candidissimi, nec vermiculi culti sunt, aut domestici, sed inculti atque agrestes. Ex collectis favis candelas ut ex communi nostrate cera conficiunt, at longe magis albae sunt, a magnatibus, quod majori constant pretio, fere tantum adhiberi solent: nam praeter candorem odorem etiam suavem emittunt cum comburuntur, nihilque sordibus inficiunt aut foedant, licet guttae liquefactae in vestes incidant. Lumen etiam clarissimum, maximeque temperatum reddunt. (p. 76.)

Urbs Ping lo (prov. Quang si). In hujus urbis territorio reperitur *cera illa alba* ab animalculis illis insectis elaborata, de quibus supra dixi. (p. 145.)

This is it seems the earliest notice given by an European observer with respect to *Chinese Insect Wax* produced, as is well known now, by the *Coccus pela* Westw. living upon the branches of *Fraxinus chinensis* Roxb. and other species, and also on *Ligustrum lucidum* Ait. (See Hanbury's scient. pap. p. 60.)

38. On p. 108 and 88 of Martini's *Atlas sinensis* an account is found of the breeding of silkworms and the planting of *Mulberry trees* in the provinces of Chekiang and Fukien.

39. Urbs Iung ping (prov. Chi li). Magna ibi copia est nobilissimae radices tota Sina celebratissimae *Ginseng*, Japonibus *Nisi*. Nomen sinicum illi a figura divaricatis quippe cruribus hominis formam refert (*gin* porro hominem significat.), *Mandragoram* nostratem credas, nisi quod ea multo minor sit, quin illius tamen species sit aliqua, nullus dubito, quippe quae et formam et vim habeat. Folia ejus mihi hactenus videre non contigit. Siccata radix flavescit, fibras seu capillos vix aut ne vix quidem habet. Cum manditur dulcedine ingrata est nonnulla admista amaritiae, sed tenui. Auget plurimum vitales spiritus, suavem corporis calorem excitat. Fortioris calidiorisque

naturae qui sunt ejus sumptione vitae periculum adire solent nimium auctis exundantibusque spiritibus; debilibus, fatigatis, vel morbo diuturniori, aliave de causa exhaustis ad miraculum prodest. Moribundis ita vitales quandoque vires reddit. (p. 35).

Panax Ginesng, C.A. Mey., a plant now confined to Manchuria, not met with in the prefecture of Yung ping, as M. asserts. Yung ping fu is situated near the Manchurian frontier. It appears however from the ancient Chinese records that in former times Ginseng was gathered even in the mountains of North China. Comp. also Semedo ii.

40. Provincia Xensi (Shensi) multa praeclara suppeditat medicamenta, *Rheubarbarum* imprimis, quod non sylvestre est, ut putant quidam, sed diligenti culturae arte indiget. Sinae vulgo *Tai hoang* vocant. Radix est sat solida, tuberibus hinc inde prominentibus, foliorum forma haud ita procul abest a caulibus nostratibus, quos tamen magnitudine superant. Radices uno pertusas foramine in umbra suspendunt at siccant: nam in sole suspensae vim amittunt. Ex hac et Suchuen altera provincia, est magna ex parte *Rheubarbarum*, quod ad nos in Europam defertur, nimirum per mare indicum vel Cascar, Astracianam et Russiam vel per Tebet, Mogor et Persidem: nemo enim est magnopere rerum peritus (quod equidem sciam) qui in illis regionibus nasci *Rheubarbarum* velit, sed inde nos habere asserunt, quia ab illis affertur emiturque nationibus, et ex Sina allatum esse ignoratur (p. 43. 45).

M. is correct in stating, that Rhubarb in its native country is cultivated. Przewalsky reports the same. But it seems that the greater part of the drug collected for sale grows wild in the mountains of Si ning fu and those surrounding lake Kukonor. Comp. also above Semedo 10, note.—There is in Kircher's *China illustrata* (French ed. 1667) p. 249 an engraving representing the "*Rheubarbarum verum*." Kircher states, that this drawing has been made from a plant grown in the garden of Mr. Juste Nobelar in Leyden at the time when Father Martini, in June 1654 passed through this city. He then had declared, that it was the true Rhubarb of China. But at the time here spoken of *Rh. rhaponticum* L. was the only Rhubarb known and cultivated in European gardens, and Kircher's drawing seems indeed to represent this species.—Dapper in his *Description of China* 1670 (see further on) gives a good drawing of a Rhubarb plant, which he terms *Rhabarbarum Witsoniarum*. I know nothing about this name, but the plant represented seems also to be *Rh. rhaponticum*.—The Chinese name of Rhubarb is 太黃 *tai huang*.

41. Prov. Su chuen. Vera *Radix Sina* in hac provincia sola reperitur, sylvestris ubique, *Folin* utramque Sinae vocant, ac fere sola sylvestris ad nos affertur, cujus medulla rubicundiori colore quodammodo tincta est, ad verae autem magnitudinem non accedit, neque efficaces adeo habet vires, quamvis non omnino illius effectu careat. Vera autem uti dixi radix in hac sola nascitur provincia, idque sub ipsa terra, uti fere phalli

Hollandici (an ancient name for *Phallus impudicus*. L.) aut apud Indos Patatas nasci propagarique solent, maxime in annosis pinorum sylvis, und eam ex glutine seu pice pinea produci scribunt, quae in terram delapsa radices agat, atque herba fiat longo tractu per terrae superficiem serpens, continuoque tuberosas radices sub ipsa terra emittens subinde ad capitis puerilis magnitudinem, figura ac mole magnas nuces indicas, quas Cocos vocamus aequat, nec cortex colore abludit, quamvis non adeo durus crassusve sit, sed mollior omnino ac tenuior. Corticem replet nucleus seu caro alba ac spongiosa, hanc Sinae magni faciunt et in suis medicinis adhibent, tametsi cum hac carent, sylvestrem illam non respuant, at effectu non aequo bono. (p. 65.)

Martini's *Radix Sina vera* is a fungus which has been described under the botan. name *Pachyma Cocos* Fries. (Hanbury scient. pap 201, 267) in Chinese 茯苓 *fu ling* or 白 11 *pe fu ling*, i.e. white *fu ling*; whilst his *Rad. Sina sylvestris* is to be referred to *Smilax China* L. and other species yielding the drug we call China root and the Chinese 土 11 *tu fu ling* i. e. common *fu ling*. Martini at first distinguishes the two plants but in the discription confounds them.

42. Urbs Hang cheu (prov. Che kiang). Ex monte Tien mo infinita vis *Fungorum* per totam Sinam defertur, quos sale conditos exsiccant (p. iii).

The 天目山 *T'ien mu* mountain is situated N. W. of Lin an hien.

43. Urbs Kiun cheu in insula Hainan. Est herba quam *Chi fung*, seu ostendentem ventum nominant. Nautae enim ex illa quo mense, et quot toto anno futurae sint tempestates, colligere se posse asserunt, idque ex nodulis seu geniculis ipsius; quo enim nodi pauciores sunt, eo pauciores illo anno futurae sunt tempestates, ex distantia autem nodorum a radice scire, aut colligere posse se autumnant, quo mense accidere tempestas debeat. (p. 140)

The plant 指風 *chi feng* is noticed in the Chinese Botany Kuang kün fang p'u XCII fol. 24.

44. Urbs King chou (prov. Hu quang). Hic reperitur *Herba* quam mille annorum vocant quin et immortalem esse scribunt. Haec aqua macerata, ac epota albos crines in nigros commutat atque ad vitam producendam conducit. (p. 77.)

千歲藟草 See the great geography Yi t'ung chi sub King chou.

45. Urbs Cung chang (prov. Xen si). Ad *Cin* civitatem in *Po chung* monte herbam nasci scribunt *Hoa co*, quae comesta steriles reddit. (p. 50.)

The Yi t'ung chi notices the plant 花骨 *hua ku* on the mountain 蟠冢山 in 秦州.

46. Urbs Ching yang (鄖陽, prov. Hu quang.) Stirps quaedam hic nascitur quae ut Hedera nostra in altum serpit, flores producit luteos et nonnihil albicantes. Extremitates ramorum subtilissimae sunt, velut fila serica: ajuut ramusculum nudae carni allegatum somnum suavissimum conciliare, ideoque *Mung hoa* dicitur i.e. somnii flos (p. 82.)

I have not been able to find the 夢花 *meng hua* noticed in Chinese works.

In the year 1656 a treatise was published at Vienna under the pretentious title of **FLORA SINENSIS**, the author of which was Father **MICHAEL BOYM**, a Pole, born in 1612. He left Europe as a Jesuit missionary for China in 1643, returned to Europe (Lisbon) in 1652, reembarked for China in 1656 and died in the province of Kuang si in 1659.

The original work of Boym's *Flora sinensis* published in Latin is a very rare book. I have seen it in the great Vienna library. It is issued in folio, Viennae Austriae, typis Matthaei Rictij, 75 pages with 23 engravings. Several prefaces, dedications and poetical essays occupy a considerable part of the book, which has no claim to research into Chinese botany, as the name of the treatise would seem to indicate. Boym gives an account of 22 plants, of which more than one half are rather plants of the Indian Archipelago. 21 of them are represented by tolerably well executed engravings and the Chinese characters added to the names. The *Flora sinensis* is followed by an account of some Chinese mammals, birds, reptiles etc with 2 engravings. The book concludes with an appendix on the Inscription of Si an fu. Boym's *Flora sinensis* has been translated into French by Bayer and appeared also in Thevenot's *Relation des Voyages*. 1696 sec. partie p. 15-30. The greater part of the engravings have been reproduced in Kircher's *China illustrata* and in Dapper's *Description of China* (see further on.)

I shall give in the following pages a list of the plants described by Boym, reproducing occasionally the original text or a part of it.

1. *Yay cu* 椰子. Palma persica et indica seu sinensis, vulgo **Coco** vel **Nux Indorum**. (no engraving.)

2. *Pim lam* 檳榔. Fructus **Areca** et **Bethel** folium. (no engraving.)

Drawings representing the Areca palm and Betel pepper are found in J. Bontius, *Historia natur. et med. Indiae orient.* (1629.) p. 90. 91.

3. *Fan yay wu* 反椰樹. Arbor *Papaya* in India dicitur, copiose in Sinarum Haynan insula progignitur nec non in Iunnam, Quamsy, Quantum, Focien, australibus provinciis.

The first character in the Chinese name is evidently wrong. In the Chin. Botany *Chi wu ming shi t'u k'ao* XXXI, fol. 54, *Carica Papaya* L. is represented in a drawing and termed 番瓜樹 *fan kua shu* (foreign melon tree). A drawing of it is also found in Bontius l. c. 96.

4. *Pa cyao wu* 芭蕉樹. *Ficus indica* et *sinica*. Integro anno fructus iste reperitur in Indiis et apud Sinas in regnis australibus. In Brasilia fructus vocatur **Banana**.

5. *Kia giu* (seu *Ka giu*) wu 欖如樹. Fructus indicus, apud Sinas non reperitur, verum in regnis quae Sinarum olim fuerant abundanter provenit et crediderim allatum in Iunnam et Quamsi posse produci. Arbor est magna foliis pulcherrimis et semper virentibus. Fructus imitatur pomum flavum vel rubicundum, ubi maturescit odoriferum, verum pomi succus agrestis est, et caro si comedatur guttur mordet. Fructus nullum semen habet, sed in vertice illius ad instar nuclei prominet, quem cortex glaucus, albam carnem et solidam recondens, instar castaneae vel amygdalae nucis cooperit, saporem earumdem si elixetur referens. Indi et Lusitani nucleis dictis loco amygdalarum utuntur.

The above description and the accompanying drawing of the fruit leave no doubt that *Anacardium occidentale* L. is meant. The Chinese characters render, it seems, the Indian name of it, being *Caju* (Watson names of Indian plants etc.). Comp. also Loureiro 304, Bontius l.c. 193.

6. 7. *Lici* 荔枝 et *Lum yen* 龍眼 fructus. **Nepheium Litschi**. Camb and **N. Lungan**. Camb. (V. supra Martini 7.)

8. *Giambo* 攬波. Fructus duplicem habet speciem, nam et rubri et albi coloris in India, subflavi rosarum fragrantium redolens odore in Malacca, Macao et Sinarum insula Hiam-xan reperitur. Prior species florem purpureum, posterior alboflavum habet. Folia pulcherrima laevia ac uno palmo longa triumque digitorum lata. Fructus ipse magnus plane sicut pomum, frigidissimae qualitatis.

Boym describes two species of the Rose-Apple, *Jambu* in India, viz: *Eugenia malaccensis* L. (purple flowers) and *E. Jambos* L. (yellowish white flowers). The fruit is well represented by the drawing.—The island Hiang shan is situated north of Macao. *E. Jambos* is naturalized in Hong-kong (Bth. fl. hong. 120.)

9. *Fun po lo mie* 反波羅密. **Ananas** fructus in australibus regnis Quantum, Quamsi, Iunnam, Focien et insula Hainan provenit abunde. Ad Indias orientales ex Brasilia dicitur fuisse apportatus.

The first Chinese character is again wrong and is to be read 番 (foreign).

10. *Manco* (Chinese characters illegible). In australibus terris producit uberrime.

A good description and drawing of *Mangifera indica*. L. Compare also Bontius l.c. 95.

11. *Pi pa* 枇杷.

Eriobotrya japonica Lindl.

12. *Cieu ko* 臭果 seu *Goyava* fructus. In provinciis australibus apud Sinas.

The Chinese characters mean: stinking fruit. Indeed the scent of the fruit of *Psidium Guyava* L. when too ripe is unpleasantly powerful. According to Dr. Williams in Bridgm. Chrest. 443 (18) the Chinese name of the Goava is 鷄屎果 *Ki shi kuo*, meaning: fowls dung fruit. Under the latter name it is represented in the *Chi wu ming* etc. XXXI 49.

13. *Po lo mie* 波羅密 seu *Giaea* ab Indis dictus fructus.

Artocarpus integrifolia. L. Jack fruit. Compare above Martini ii. The Chinese name *po lo mi*, under which it is also represented in the *Chi wu ming*, XXXI 44. is apparently a transcription of the Sanscrit *paramita* (excellence).

14. 柿餅 *Su pim*. Fructus sinicus. Arbor et fructus apud Sinas tantum nascitur, est aurei et purpurei coloris magnus, pomum excedit, carnem mollem ac rubeam cum simili pellicula refert, ossicula hinc inde interius abscondit. Cum siccatur ficibus Europæis simillimus est et per multos annos conservatur. In Quantum et Fokien regionibus Januario, Febuario, sed in Xensi et Honan aliisque septentrionalibus Junio, Julio et Augusto maturescit.

Diospyros Kaki, L. v. supra Samedo 4. The Chinese name given by Boym properly denotes the dried fruit, for the second character means cake.

15. *Ya ta xu* 亞大樹. Fructus *ya ta* in Indiis et popotissimum agro Malacensi reperitur, qui Sinis olim tributum pendebat, ideoque sinicus fructus optime dici potest et quod etiam in sinense solum translatus uberrime germinet. Viridem corticem et piniferum habet, sed interius carnem liquidam nivis ad instar albam, sapore superat dulciarium, quod Lusitani appellant mangiar reale. In multis cellulis ossicula nigrâ solida recludit. Alicubi Octobre et Novembre, alicubi Febuario et Martio mensibus maturescit.

The drawing given by Boym of this fruit represents *Anona spumosa* L. By *ya ta* (*a ta* in the Southern dialect) the Singhalese name of it, being *atta* (Watson l.c.), is rendered. At Canton the Chinese call it *fan li chi*, foreign Li chi (Bridg. l.c. 443 (10)).

16. *Du li am* 土利? Fructus hic in Java, Malaca, Macaca (vulgo Celebe.) et Siam regnis ac insulis olim tributariis Sinarum reperitur. Caro illius alba. Sicca caro fructus instar lactinis coagulati in alias partes deportatur venalis, quae nucleum interius ad modum albuminis ovi cooperit.

This is the famed *Durian*, *Durio Zibethinus*. L. a tree of the Indian Archipelago and Siam. I do not think that it is cultivated in Macao as Grosier (la Chine II. 539.) reports. It seems to me that Grosier, who

refers to Boym, took *Macaca* mentioned by the latter to be Macao. But *Macacas* is an ancient name for Macassar (Crawford Diet. Ind. isl. 90.). Bontius l. c. 118 seems to confound the Durian with the Jack fruit, at least he gives Durian and Jaca as synonyms. His drawing of the fruit could be referred to the Jack as well as to the Durian, it does not represent leaves.

17. *Innominatus Fructus*. Illius nominis sinici non memini. Vidi illum primum in insula Hainan et postea in provincia Quantum. Arbor procera, folia maxima, quae medium hominem contegere possunt, producit. Hoc admirabile habet, quod media radice telluri inhereat, ex alia autem parte radicis patente flores rubros et simul fructus, similes Europaeis ficibus prognerat, qui cum maturescunt, rubent paululum; sed interior caro et sapor illorum figuram et saporem ficium repraesentat. Julio et Augusto maturescunt.

It would seem from this description and the drawing accompanying it, that *Cynometra cauliflora* L. is meant, a tree of the Malayan Archipelago, which I have seen myself in Java. The fruits of it grow on the stem or about the roots.

18. *Hu cyao* 胡椒 *Piper nigrum*. L. (v. supra Martini 22.)

19. *Fo lim* 茯苓 *Radix Sinae* (v. supra Martini 41.)

20. *Tay hoam* 太黃 *Rhabarbarum* (v. s. Martini 40.)

21. *Quei pi* 桂皮 *Cinnamomum* (v. s. Martini 21.)

22. *Sem kiam* 生薑 *Zingiber*.

A good drawing of Chinese Ginger is found also in Bontius l.c. 189.

As the late D. Hanbury has proved in the introduction to his Notes on Chin. Materia medica, the treatise, which is generally quoted under the name of **CLEYER'S SPECIMEN MEDICINAE SINICAE**, published in 1682, consists of translations from Chinese medical works by Father *Boym*. They were only edited by *Andreas Cleyer*, a physician in the service of the Dutch E.I. Comp., well known as the first European botanist, who studied the Flora of Japan. One section of the specimen medicinae sin. of 30 pages, is entitled: *Medicamenta simplicia quae a Chinensibus ad usum medicum adhibentur*. It is nothing more than an enumeration of 289 Chinese drugs, for the most part of vegetable origin, giving the Chinese name of each written according to the Portuguese orthography, without the Chinese characters. The medical properties of each drug according to the Chinese ideas, are explained. In some cases the author adds the European name. Although the greatest part of these drugs can now be ascertained from the Chinese names added, the treatise is altogether devoid of interest and may be quoted only as a bibliographical curiosity.

In the same year, 1655, when Martini's *Novus Atlas Sinensis* was published in Europe, the Dutch E. I. Company sent an embassy to Peking and appointed *Goyer* and *Keyser*, two merchants of Batavia, as envoys. **J. NIEUHOE**, who accompanied them as steward of the mission, published ten years later a work under the title: **LEGATIO BATAVICA AD MAGNUM TARTARIAE CHANUM SUNG TEIUM,* SINAE IMPERATOREM.** Amst. 1665. It is illustrated by a great number of engravings representing views, plants, animals and other things relating to China, and has been translated into several European languages. This book may well stand as a model of the most impudent plagiarism and imposture in the literature of travels in the 17th century. As N. quotes no previous books on China, the reader cannot but suppose that all the rich information he furnishes with respect to that Empire, had been gathered by himself in China. But in reality it is only the diary of the embassy's journey from Canton to Peking, partly by land and partly by river and the Grand Canal, which N. can claim as his property, and there is nothing in it to boast of, for the whole narrative abounds in errors and intentional misrepresentations. As far as I can judge the drawings in this work, representing Chinese scenery, are all pure creations of fancy. The cities and villages of North China, through which they passed, appear there as overshadowed by lofty Cocoanut trees, and even Peking, of which a large view is given, with the great wall close behind the city, has not been exempted by the artist in this respect. As to the rest of the accounts found in this work, they are a reproduction of Martini's valuable *Atlas sinensis*, and that is precisely the case regarding the chapter dealing with Chinese plants, animals, etc. The engravings representing plants have been borrowed from Bontius and Boym. Some of them seem to be the production of the artist's imagination.

In 1670 Dr. **DAPPER**, published in Dutch a **DESCRIPTION OF THE CHINESE EMPIRE**, appended to his narratives of the second and the third Dutch embassy to the Chinese Court, in 1662 and 1666-1668. This is also nothing more than a translation of the *Atlas sinensis*, often misunderstood, undigested and indigestible. Nearly twenty pages in it are devoted to the Botany of China. The greater part of the drawings of Boym's *Flora sinensis* are here reproduced and, of course, no sources are adduced.

* Emperor *Shun chi* 1644-62.

There is another well known ancient work on China, **KIRCHER'S CHINA ILLUSTRATA**, published in 1667. This has also little claim to originality. The author, who had never been in China, draws from Martini (who had been his pupil,) Boym, and the writings of other missionaries, but he quotes honestly his sources and compiles with criticism, displaying a great knowledge of the subject he treats of. *Athanasius Kircher*, a German, born in 1601+1680, was also a Jesuit, at first Professor at Würzburg; he subsequently resided in Avignon and in Rome.

After Boym the next Jesuit missionary in China I have to notice as a writer on matters of natural science is **GABRIEL DE MAGALHAES**, a Portuguese. He was born in 1609, arrived in China in 1640, died at Peking in 1677. He is the author of a work entitled: **NOUVELLE RELATION DE LA CHINE**. The original M.S. was in Portuguese. It was translated into French and published in 1668. On p. 173 we find an interesting account of the Chinese, White Wax, *ye lu* (白蠟), produced by insects in the provinces of Shan tung and Hu kuang, and of the trees on which these insects use to live. Compare above Martini 37.

Some remarks on Chinese plants are found also in **LE COMTE'S NOUVEAUX MEMOIRES SUR L'ETAT DE LA CHINE**. Paris 1696. 2 vol.

Louis Le Comte, a Frenchman, born in 1655, joined the Jesuit mission in China in 1687. He died in Bordeaux, in 1729.

1. We learn from *Le Comte* (I. 173.) that the first *Orange* tree, which had been introduced by the Portuguese from China, then (i.e. at the end of the 17th cent.) still existed in the garden of Count St. Laurent in Lisbon.

It is known, that the sweet *Orange*, now extensively cultivated in Southern Europe, was unknown there before the middle of the 16th cent., when it was introduced by *Juan de Castro*. It is in allusion to its Chinese origin, that the orange in Dutch is styled *Sinaas appel*, and *Apfelsine* in German.

2. *Le Comte* saw in the province of Shensi a kind of small yellow *Melon*, which the Chinese eat, without peeling off the skin. He notices also *Melons* the same in size as those cultivated in Europe and large *Watermelons* with red or white pulp (I. 132.)

An excellent globular *Melon* of the size of a small fist with a thin skin is also seen in Peking and known there under the name of 甜瓜 *t'ien kua* or 香瓜 *hiang kua*. The peel is yellow, or in another variety green. *Loureiro*, Fl. coch. 726, speaks of *Melons* of large size in Southern China. I have not seen large *Melons* in Peking.

3. A good description of the *Tea plant*, its culture, etc., in the Province of Fokien is found I. 368. The author explains that the Chinese call the plant properly *Cha*, and that only in the dialect of Fokien the name sounds *Te*.

4. Le Comte reports that *Tobacco* is cultivated near Peking and in the provinces of Shansi, Shensi, Sz'ch'uan. (I. 168.)

Le Comte seems to be the first European, who notices Tobacco in China. It is now a well established fact, that Tobacco was first introduced into China through the seaports of Fukien at the end of the 16th or the beginning of the 17th cent.

5. Le Comte speaks (I. 178) of a peculiar Chinese *Onion* in the following terms: J'y ai vu une espèce d'oignon qui ne vient point de graine comme ceux d'Europe, mais à la fin de la saison on voit sortir de petits filamens sur la pointe ou sur la tige des feuilles, au milieu desquelles se forme un oignon blanc semblable à celui qui germe dans la terre. Ce petit oignon pousse avec le temps des feuilles comme celles qui le soutiennent, lesquelles à leur tour portent un troisième oignon sur leur pointe, de manière néanmoins que leur grosseur et leur hauteur diminuent à mesure qu'ils s'éloignent de la terre.

This seems to be the same onion as that described under the name of 樓子葱 *lou tz' ts'ung* (onion growing in stories) in the 救荒本草 *kuo huang pen ts'ao*, published at the end of the 14th cent; a good drawing of it is also given there. The description states that at the top of the leaves grow from 4 to 5 little onions and on these again other onions are produced constituting thus from 3 to 4 stories. These onion plants do not bear seeds.—We have here probably to do with a so-called viviparous variety of an Onion. *Allium Cepa*, *A. scorodoprasum* and other species show sometimes the peculiarity of their flowerstems being surmounted by small bulbs, instead of bearing flowers and seeds. These bulbs produce new plants.

6. The *black* and *yellow Peas*, to which Le C. refers (I. 168) as used in North China for feeding horses, are: the yellow, **Soja hispida** Moench. (*Glycine Soja*), the black, a variety of it.

7. Le C. speaking of the *Peci* (***Eleocharis tuberosa***. Schult. v. supra Martini 14.) refers to Martini's statement, that when chewed together with a copper coin, the latter is easily bruised by the teeth, a story we met also in Chinese books. But Le C. refutes this assertion, appealing to his own experience. (I. 179.)

8. The tree is described which yields the *Chinese Pepper* or *hoa tsiao*. (I. 177.)

Several species of *Zanthoxylon* are included under the name of 花椒 *hua tsiao* in China. In Peking this name is applied to *Z. Bungei*. Planch.

9. Description of the tree *ou tom chu*, a large tree of the appearance of the Sycamore. It has large leaves with long leafstalks, the seeds of it are produced on the edges of leaves, different however in shape from the true leaves. (I. 268). There is also a good drawing of this tree.

This is *Sterculia platanifolia*. Cav. a common tree in China, sin: 梧桐樹 *wu tung shu*. Its carpel opens into green follicles indeed much resembling leaves, with the seeds attached to the edges of the follicles.

10. Le C. states that besides Cotton, the Chinese use to wear in summer clothes made from *Nettles* and another kind, they call *Co pou*, which is much esteemed by them. The latter is obtained in Fokien from a plant called *Co*, a shrub-like creeper, which they allow to grow over the fields, often extremely long. It has roundish leaves larger than those of the Ivy. They are soft, green on the upper side but covered on the under side with a coating of white down. The stem attains the thickness of a finger. To obtain the textile fibres they soak the stems in water, as we do in preparing flax, and after having removed the outer skin, they use the fibres of the inner bark for making linen, which is very fine, transparent and cool. (I. 242.)

Pueraria Thunbergiana. Benth. already noticed by Martini (v. supra M. 26). 葛 *ko* in Chinese.

11. Le C. devotes also some pages to the celebrated *Ginseng*, describing the plant and the mode of its use as a medicine (I. 377).

A great amount of useful information with respect to China is stored up in the LETTRES ÉDIFIANTES ET CURIEUSES ÉCRITES DES MISSIONS ÉTRANGÈRES, a collection of letters written by the ancient Jesuit missionaries to their superiors or friends in Europe. There are several editions of this collection. The most convenient for reference is that published in the *Panthéon littéraire*, of which the letters received from the Chinese and Indo-Chinese Missions constitute vol. III and IV.

The following names of Jesuit missionaries appear there in connection with reports on botanical matters in China.

JOANNES LAUREATI, an Italian, born 1666, joined the Chinese mission 1697, died 1727 at sea.

He wrote a letter, dated Fokien, July 26, 1714, to the Baron of Zea, in which he gives some accounts of the vegetable productions of China, especially of *Tea*. (Panth. lit. III. 225.)

In the same letter he notices, that the Chinese use the fibres of a *Nettle* for making clothes and speaks also of *Tobacco* which in the beginning of the 18th cent. was largely cultivated in Fukien. (l.c. 228.)

FRANCIS XAVIER D'ENTRECOLLES, a Frenchman, born 1662, joined the Chinese mission 1698, + in Peking 1741. Many interesting notes on China from his pen have been preserved. The following relate to Chinese plants:

Letter to Father Du Halde, dated Peking 7 Jul. 1727 (l.c. III 544.) This letter contains an interesting treatise on the manufacture by the Chinese of artificial flowers made from the marrow of a Chinese plant, called *tong tsao*, of which the author gives a description translated from a Chinese work.

This is the 通草 *tung ts'ao* of the Chinese, a plant which is not only used in making artificial flowers, but is also the source of the *Rice paper*, erroneously so called. It was only in 1852 that European botanists became acquainted with this plant, a native of Formosa. Sir W. Hooker described it in his Journ. of Bot., 1852 and 1853 as *Aralia papyrifera*. It has been introduced subsequently into many tropical countries. When I visited Java, in 1872, I saw it already, escaped from cultivation, growing luxuriantly in the forest surrounding the botanical garden of Tjibodas.

In the same letter (l.c. 547) d'Entr. says a few words on the large *Citron*, called *Fo shou* or Buddha's hand by the Chinese (v. supra Martini 10.)

In another letter, dated Peking 6 Oct. 1736 (l.c. III 713.) he treats of several other famed Chinese plants and begins first with some interesting and correct accounts of the tree and fruit, which the Chinese call *si tze* or *chi tze*. (**Diospyros Kaki** as has already been stated, v. supra Semedo 4, Boym 14.) He had observed the tree at Peking and sent also seeds of it to Paris. He states that the provinces of Shan tung, Ho-nan and Che-kiang are famed for their excellent sitze fruits, which are of various sizes, colors and shapes in different parts of China. They are generally of an orange or red color, but those of Chekiang are green even when ripe. Some varieties of this fruit have the appearance of two apples joined together or a fruit of two stories. The fruits on grafted trees are devoid of seeds.

The author here refers to the Peking variety of the Kaki, the largest in size, which near the basis of the fruit is provided with a circular depression and contains rarely seeds.

E. further states that the Chinese claim to graft successfully peachtrees on the sitze.

I have found the same statement in ancient Chinese works but cannot confirm it.

After this E. speaks of the *Lichi* fruits (v. supra Martini 7.) and then proceeds to describe a kind of *Acacia*, called *hoai shu* by the Chinese. Its fruit is used as medicine, the flowers for dyeing yellow.

This is the *Sophora japonica*. L., a very common tree all over China, sin: 槐樹 *huai shu*.

E. next translates from a Chinese book some notes with respect to *Willows*, explaining the use of willow wool instead of cotton.

The author means *Salix babylonica*. L., also a very common tree in China. This reminds me of a statement of Professor Bunge, who, in his *Enum. plant. Chinae bor.*, writes that the female tree of *S. babylonica* is very rare at Peking. This is an error. The female tree is met here much more frequently than the male and in May or June, when the willow seeds ripen, the air in the neighborhood of some places, where the trees abound, is full of this white wool (cottony down, which envelops the seeds.) and d'Entrecolles reports the same. If I am not mistaken, in Europe the female tree only of *S. babylonica* is known. At Peking both male and female are met with.

In the same letter (l.c. 721) E. recommends, on the authority of Chinese authors, the roots of the *Belvédère*, *sao tcheou ts'ao*, termed *kie* in Chinese books, as substitute for food in times of famine.

The author commits an error. What the French call *Belvédère* is *Kochia scoparia*. Schrad., a salsolaceous plant in North China as common as in Europe. The *Pen tsao kang mu*, XVI. 44. calls it 地膚子 *ti fu tsz'* or 掃帚草 *sao chou ts'ao* (meaning broom plant.) But the 蕨 *kie* (*Pen tsao XXVII. 25.*) is not the same, this name being applied to a Fern, *Pteris aquilina*. L., the farinaceous rhizoms of which are used in China as food as is also the case in some parts of Europe.

Finally (l.c. 722) E. gives an account of the Chinese *Camphor tree* and the method used by the Chinese to obtain Camphor from it.

DOMINICUS PARENIN, a Frenchman, born 1665, came to China 1698, + in Peking, 1741.

In 1723 Parenin sent a few Chinese drugs to the Academy of Sciences in Paris, furnishing some explanatory remarks on them in an accompanying letter. (l.c. III 341.)

The first of these drugs he calls *hia tsao tum chom*, meaning as he explains: a plant in summer, and in winter an insect. It is produced in Tibet and also in the province of Sz' ch'uan, and considered among the Chinese a very powerful medicine. The Father had himself experienced the medical virtues of this drug.

It is known now, that the drug in question is a Fungus, *Cordyceps sinensis*, which grows upon the head of a caterpillar.

The plant next described, the *san tsi*, is said to grow in the mountains of the provinces of Yün nan, Kui chou and Sz' ch'uan. This is still unknown to botanists. The plant 三七 *san tsi* is treated of in the *Pen ts'ao XII b. 41.* The name

means: three and seven, and is explained by the distribution of the leaves.

After this P. gives some account of *Rhubarb*, and concludes by noticing an aromatic root, called *tam coue*, brought from Sz' ch'uan and much valued by the Chinese.

This is, it seems, the 當歸 *tang kui* of the Pen ts'ao, XIV. a 1. which is referred by Tatarinov with ? to *Radix Levistici chinensis*. I do not find this name in D.C. Prodr. It seems, that the Chinese plant yielding the drug tang kui is unknown to botanists.

In the same letter (l.c. III 345.) P. states, that during 18 years he had accompanied the Emperor Kanghi on all his frequent travels. As is known, Kanghi was an enthusiastic sportsman. His hunting expeditions were generally directed to Southern Mongolia and Manchuria. There were also other missionaries, who were associated with Parennin in these excursions. He mentions especially Dr. *Borghese* and *Baudin*. The latter, a clever apothecary and botanist, had been ordered by Kanghi to search in the mountains for *Gentian* and *Imperatoria* (Masterwort.) in order to prepare the celebrated *Theriaca Andromachi*. But *Baudin* did not succeed in finding these plants.

There is no Masterwort in North China or in Southern Mongolia, but as to *Gentiana*, there are 5 species of it growing in the Peking mountains, some of them even employed as medicine by the Chinese. The Chinese name for *Gentiana* is 龍膽草 *lung tan ts'ao* (dragon's gall plant.)

P. gives finally in the same letter a slight sketch of the botany of the mountains of Southern Mongolia. Among the trees and shrubs there he mentions *Oaks* of a dwarf size, *Pines*, the *Aspen*, *Elm trees*, *Hazelnuts*, wild *Roses*.

The Tartars and Mongols, who inhabit these regions, do not cultivate any fruit. There are also very few wild fruits. Two of them are worthy of notice.

The fruit *oulana*, as the Tartars call it, is of the size of a great red cherry and is produced on a little stem, 3 or 4 inches high. The other fruit has the appearance of small raisins. It is produced in clusters on a fine tree, 25 and more feet in height. After the first frost these berries become red and are then of an acidulated sweet taste.

Oolana is the Mongol and Manchurian name for *Prunus humilis*. Bge., frequent in the mountains of North-China and Southern Mongolia. As to the other fruit mentioned, it is difficult to say, what is meant, for P. gives no native name. Perhaps he saw *Sorbus aucuparia*. L.

P. mentions further the following herbaceous plants he met with in these mountains; a fine *Angelica*, *Dictamnus albus*,

Parsnip, Asparagus, Chelidonium, Potentilla, Agrimonium, Pimpernel (*Poterium sanguisorba*.), *Pouliot* (*Mentha*.), *Joubarbe* (*Sedum*.), *Artemisia, Absinthium*.

I have adduced the preceding particulars merely on account of the length of time that has elapsed since their publication, for the botanical features of the regions Parennin traversed about 180 years ago, are well known now. We can therefore account for the plants he speaks of.

Finally I may mention, that Parennin was the first European, who notices the elegant **Wisteria chinensis** D.C., well known now also in our gardens. The climbing plant *ten lo hoa* he speaks of (see Grosier: la Chine III. 66.) in a letter to Father Du Halde, with violet flowers hanging down in large bunches, is without doubt *W. chinensis*, sin: 滕羅花 *teng lo hua*, growing wild and also much cultivated in North-China.

PETRUS JARTOUX, a Frenchman, born 1668, joined the Chinese mission 1701, † in Peking 1720.

We owe to this missionary a very valuable article on the **Ginseng** plant (*Panax Ginseng* C.A. Mey.) contained in a letter addressed to the Procureur général des Missions des Indes et de la Chine, and dated Peking, 12 April, 1711. (l.c. III. 183.)

The Fathers Jartoux and Regis had been intrusted by the Emperor Kanghi with the survey of Manchuria and the eastern part of the Great Wall, and on this occasion Jartoux had opportunity to visit the very country where the finest specimens of this famous plant grow, near the frontier of Corea. Jartoux describes the plant and the mode of its collection and preparation for the Emperor's use, and adds also a drawing of it made by himself from nature. Du Halde in his great work on China reproduces this drawing. Jartoux here gives the first authentic account of Chinese Ginseng. Lamarek in his *Encyclop. Botan.* II. 714 gives an abstract of this memoir.

GASPAR CHANSEAUME, a Frenchman, born 1711, joined the Chinese mission 1746, † in the province of Kiangsi in 1761. He has left an interesting memoir, written about 1750, and published in the *Panth. lit.* III. 830, on **Chinese Insectwax**. Ch. who speaks from his own observation made in the province of Hu kuang, gives some very valuable information regarding the insects which produce the wax, as well as with respect to the trees upon which they use to live. (Comp. above Martini 37, Maghellaes.)

Father **J. B. DU HALDE**, in his admirable and comprehensive work: **DESCRIPTION DE L'EMPIRE DE LA CHINE**, published 1735 in French, and

translated into many other languages, devotes several chapters to Chinese Botany, viz: I 16-27 Fruits, trees, flowers, economic plants; II. 64. On Chinese Agriculture and the Cereals of China; II. p. 143-153. On the abundance of several productions in China. Finally, there is in vol. III 378-509 a long treatise on Chinese medicine, all translations from Chinese medical works, especially from the *Pen ts'ao kang mu*, the well known Chinese book on Natural History and Materia medica. We find there several descriptions of Chinese medicinal plants. According to Le Comte (I 368.) these translations are due to Father *Visdelou*, one of the most distinguished sinologues. (Born 1656 in France, joined the Chinese mission 1687, † in India 1737.)

As Du Halde has drawn all the information, brought together in his work, from the letters of the Jesuit missionaries, we meet in it most of the matter preserved in the *Lettres édifiantes*. He never quotes his sources, but gives in the preface a list of the names of the missionaries, who have contributed to the compilation of the work. I need not mention that Du Halde had never visited China. He was himself a Jesuit and it seems that he made use of many letters, which the missionaries in China addressed to him and which are not included in the collection of the *Lettres édifiantes*.

In the sequel I give a list of the Chinese plants spoken of in Du Halde's work, supplying the botanical names as far as these plants are known to me. I quote from the original French edition.

The fruit *Tsetse* (I. 16.) is *Diospyros Kaki*. (v. Semedo 4, Boym 14.) Oranges, Citrons, Lemons (I. 16 and II. 143.)

Litchi and *Long yen* (I. 16.) *Nephelium Litchi* and *N. Lungan* (v. Martini 7.)

Pampelmoose. yeoutse (I. 16. 17). *Citrus decumana*. L. (v. Martini 9.)

The fruits *Tcin lan* and *Quang lan*, resembling our olives (I. 16. 17.) are *Canarium Pimela*. Koen. sin: 青欖 *tsing lan*, and *C. album*. Räush. sin: 橄 | *kan lan*.

The *hoa tsiao*, Chinese Pepper (I. 17.) is *Zanthoxylum* (v. supra Le Comte 8.) I do not know what is meant by "arbre qui produit des pois" (I. 17.) perhaps *Robinia* or *Caragana*.

Some interesting particulars with respect to the Chinese *Varnish* tree, *Tsi chu* (I. 17, II. 174.) Comp. also above Martini 35.

In the Phil. Trans. vol. XXII. p. 525. (1700) is an article: On the way of making China Varnishes sent by the Jesuits in China to the Grand Duke of Tuscany, communicated by

Dr. W. Sherard, the well known botanist, who is said to have gained this information whilst in Rome with his pupil, the Duke of Beaufort.

The tree *tong chu*, with fruit resembling walnuts and containing a poisonous oil, used for painting, (I. 18.) is the *Aleurites cordata*. Müll. (*Elaeococca verrucosa* Adr. Juss., *Vernicia montana*. Lour.) sin: 桐樹 *t'ung shu*.

The Tallow tree (I. 18, II. 143.) v. supra Martini 36.

The *pe la chu* or Wax-insect tree. (I. 18.) Martini 37. sin: 白蠟樹 *pe la shu*.

The *tchou tze* or Bamboo (I. 19.) sin: 竹子 *ch'u tsz'*. Martini 33.

The *cha mou*, yielding an excellent timber wood (I. 19.) is the *Cunninghamia sinensis*. R. Br. sin: 沙木 *sha mu*.

The *nan mou*, a precious timber wood, much used for building the Imperial palaces (I. 19.) is, as my friend, Father David, kindly informed me, a species of *Laurus*. He saw the tree in Sz'ch'uan.

The *tse tan* or Rose wood, the *tie ly mou* or Iron wood (I. 19.) 紫檀 *tsz' t'an*, a heavy precious wood, much used for furniture. The tree which produces it seems to be unknown to botanists. With respect to Iron wood comp. above Martini 32.

The Tea plant (I. 20.)

The tree *tcha yeou*, the fruit of which yields an oil (I. 22.) is the *Camellia Sesanqua*. Thbg. (*C. oleifera*. Abel.) The oil, styled Tea oil by Europeans, is 茶油 *ch'a yu* in Chinese.

The flower *mo ly hoa* (I. 23) is *Jasminum Sambac* L. v. supra Martini 19.

The tree *kuey hoa*, with fragrant flowers (I. 22.) is *Olea fragrans*. Thbg. v. supra Martini 20.

The flower *lan hoa* or *lan wei hoa* with unornamental yellowish but very fragrant flowers (I. 23.) is *Cymbidium ensifolium* Sw., in Chin: 蘭 *lan* or 蘭蕙花 *lan wei hua*.

A tree called *ouen hoang chu* in Peking, with white flowers, and fruits with the appearance of a peach, but containing large black and hard seeds. (I. 23.). This is *Xanthoceras sorbifolia*. Bge. sin: 文冠樹 *wen kuan shu*.

Lien hoa (I. 24.) *Nelumbium speciosum*. W. (Martini 16.)

Pe tsi (I. 24.) *Eleocharis tuberosus*. Schult. (Martini 14.)

A peculiarity of the Chinese Cabbage, *pe tsai* is noticed, (I. 24.) which does not form heads like European Cabbage. This is *Brassica chinensis* L. sin: 白菜 *pe ts'ai*.

Rhubarb, the *Fou ling* and the *Pe fou ling* (I. 25.) v. supra Martini 40, 41.

I suppose, that by the medicinal herb *Fen si* described on the same page, the 防己 *fang ki*, Pen ts'ao XVIII b. 23, is meant. The Chinese plant of this name is however unknown to botanists. In Japan these characters denote *Menispermum acutum*. Thbg.

Another medicinal plant *Ti hoang*, of the province of Honan, is mentioned on p. 26. This is *Rehmannia glutinosa*. Lib. very common in the neighborhood of Peking, sin: 地黃 *ti huang*. According to Cibot: Mém. conc. Chin. V. 498 the root of it yields a yellow dye.

With respect to *san tsi* (p. 26.) see above the account given by Father Parennin of this plant.

The tree with long pods, *tchang ko tse chu*, *Cassia fistula*, in the province of Yünnan (I. 26.) 長果子樹.

Cannelle Chinoise (*Cassia* bark) in the province of Quang si (I. 27.) v. supra Martini 21.

The plant *Tien*, used as a blue dye (I. 27.) is *Indigofera tinctoria*. L. sin: 靛 *tien*. But *Isatis indigotica* has the same name.

The Cotton plant (II. 147.)

The *kou chou* is a tree, which has much the appearance of a fig tree. It contains a milky juice. Its leaves are divided into irregular lobes. The juice is used by gilders (II. 148.)

This is *Broussonetia papyrifera*. Vent. in Chinese 穀樹 *ku shu* or 楮 *ch'u*. Du Halde does not mention the principal use of this tree in China, a very strong paper being manufactured from its bark.

On the same page a much detailed but very obscure description is given of a tree called *lung ju çu*, the fruit of which has a peculiar stone containing an almond-like kernel. It seems to me that the first syllable of the name is wrong and we should read *kia ju tsz'*, which according to Boym is the Chinese name for *Anacardium occidentale*.

Mo lien, a large tree with large deciduous leaves. It puts forth its conspicuous lily-like flowers before the leaves; some trees have red, others white or yellow flowers (II. 149.)

木蓮 *mu lien* or 木蘭 *mu lan* is the Chinese name for *Magnolia obovata*. Thbg.

Lamoë, a tree with opposite leaves and yellow, very fragrant flowers, which the tree puts forth in winter (II. 149.)

Chimonanthus fragrans. Lindl. v. supra Samedo. 12.

Ou tong chu (II. 149). *Sterculia platanifolia*. Cav. v. supra Le Comte 9.

The *tcha hoa* (II. 149.) is *Camellia japonica*. L. sin; 茶花 *ch'a hoa*.

Description of a peculiar tree called *tse song* or *yuen pe*. Some of its leaves are prickly and resemble those of the Juniper tree, whilst other branches of the same tree present Cypress leaves. (II. 150).

This is *Juniperus chinensis* L. a large tree, which shows indeed the above mentioned peculiarity. Scale-like closely appressed leaves or linear spreading ones occur in different parts of the same tree. Its Chinese name is in Peking 刺松 *tsz' sung* (prickly pine). The name 圓栢 *yüan po* is applied to a different coniferous tree, according to Chinese books.

On the same page begins a long treatise on *Ginseng*, for the greater part a reproduction of Jartoux's memoir. It is accompanied with the drawing of the plant made by Jartoux.

Among the Chinese medicinal plants noticed in the 3d vol. of Du Halde's work, there is only one the name of which appears for the first time in the records of the Jesuits. On p. 496 is an account of certain *Galls* call *ou poey tse* and produced upon a tree *yen fou tse*. These galls are used by dyers to produce a black color.

As is known now,—these galls constitute a regular article of commerce—the tree or shrub on which they are, found is *Rhus semialata*. Murr. Sin: 鹽麸子 *yen fu tsz'*. The galls are termed 五倍子 *wu pei tsz'*.

Du Halde's work is illustrated by eleven engravings representing Chinese plants. He does not quote the sources of these drawings but from comparison I have been able to trace them.

1. The *Bamboo*. (taken from Niewhoff, resp. Bontius.)
2. The *Sugar cane*. (Niewhoff.)
3. The *Lichi tree*. (Boym's Flora sin.)
4. *Artocarpus incisa*. L. (Niewhoff, resp. Bontius 119.)
5. *Betelpepper* (Niewhoff, resp. Bontius. 91.)
6. The *Cotton plant*. (Niewhoff.)
7. The *Ginseng*. (reproduced from Jartoux's original delineation.)
8. *Fouling, Radix China*. (Boym's Flora sin.)
9. The *Rhubarb plant*. (Kircher's China illust.)
10. *Ou tong chou, Sterculia* (Le Comte.)
11. The *Tea plant* (Niewhoff.)

Having brought down thus far my review of the observations made by the ancient Jesuit missionaries with respect to

Chinese plants, I must in the meantime leave the learned Fathers, and, to lay down in the order of time my material for a history of botanical discoveries in China, devote a chapter to an English naturalist, who in the very beginning of the 18th century visited China. In another chapter I shall have to speak of some Swedish travellers and naturalists, who half a century and more later, collected plants in the neighborhood of Canton or left accounts of their botanical observations in China.

II JAMES CUNNINGHAM 1702.

Eleven years after E. Kaempfer had studied the Flora of Japan and brought home from that country about 500 plants, **JAMES CUNNINGHAM**, an Englishman, had the opportunity of investigating the Flora of China at several points in the Empire. He has the merit of having been the first European, who made botanical collections in China and whose rich herbarium safely arrived home, where it was described by several distinguished botanists of that time. The only biographical particulars I have been able to gather with respect to Cunningham are: that in 1698 he was sent to China as a physician to the English factory at *Amoy*. He visited also the island of *Chusan* and was subsequently transferred to the island of Pulu Condore, where the English had also established a factory. The publisher of the Philosophical Transactions styles him F. R. S. Besides his botanical collections made in China, he had sent also to England a few plants from the island of Ascension, gathered on his way to China. Comp. Pultney's historical and biographical sketches of the progress of Botany (1790) II. 58—and Sprengel's *Geschichte der Botanik*, II. 79.

In the Philosophical Transactions of the year 1702, vol. XXIII. p. 1201. sqq. two of Cunningham's letters treating of China and addressed to the editor of that Journal, have been published. As they are not very long, I shall reproduce them here, adding occasionally some explanatory notes. An abstract of these letters has already been given in vol. ix. p. 133 of the *Chin. Repository*.

It appears from the first of these letters that the ship in which Cunningham came out to China proceeded directly from England to *Chusan*. He does not allude in his letters, both written in 1701, to his stay at *Amoy*. But as among his *Chusan* plants described by Petiver we find also several noted as having been gathered on the island of *Emwy*, we can

conclude, that C. went from Chusan to Amoy in 1703. We know from the "New account of the East Indies" published in 1723 by Capt. Hamilton, that the factory at Chusan was commenced by the E. I. Company in 1700 and abandoned by the chief supercargo Mr. Catchpole in 1703 by reason of the exactions of the Chinese government and the Company's neglecting to send money.

CUNNINGHAM'S LETTERS ON CHINA.

The first of these letters bears no date. It seems to have been written in October 1701 (but perhaps in 1700). It reads as follows :

Sir ! My last to you was from the island of Borneo, in which I gave you an account of our arrival there the 17th July, where we staid but two days, the season of the year being so far past, and from thence made the best of our way through the Strait of Banca with favourable winds and weather, till we came on the coast of China the 13th of August. There we had variable winds which carried us abreast of *Emuy* the 19th following, at which time the north east winds setting in fresh, put us in great fears of losing our passage : whereupon we were forced to turn it up against wind and current all the way, the weather so favouring us, that we were never but by our topsails, else we should have lost more ground in one day, than we could have gained in eight. The last of August we came to an anchor under the *Crocodile islands* both to shelter us from the bad weather and also to look for fresh water, not having recruited since we came from the Cape of G. H. There are three small islands lying in the latitude of 26 degrees, about 6 leagues from the river of *Hocksieu* ; on two whereof we found very good fresh water with a convenient watering place on the south west side of the innermost of the three*. By the assistance of a few Chinese fishermen we procured some fresh provisions from the mainland, because we did not reckon it safe to adventure ourselves thither, lest we should have been brought into trouble by the government there. While we lay here, on the 5th of September, we had a sudden short shift of the monsoon to south-west, the fury whereof others felt, in coming upon the coast of China at the

* There can be no doubt, that C.'s Crocodile islands are the *Dogs islands* of modern maps, south east of the mouth of the Min river on which Fu chou (or *Hok chiu* in the local dialect) is situated.

same time. The 8th of September we put to sea again, turning to windward night and day without all the islands, which are very numerous along this coast, to which we were all together strangers beyond Emuy, and the hydrography thereof is hitherto so imperfect, that there was no trusting to our drafts, which made our navigation somewhat more dangerous. However on the first of October we got into the latitude of 30°, where we came to an anchor near the land, until we found the way by boat to *Chusan*,* about 12 leagues within the islands, from whence we had a pilot, who carried us safely thither on the 11th of October. Upon this island the Chinese have granted us a settlement and liberty of trade, but not to *Ningpo*, which is 6 or 8 hours sail to the westward, all the way amongst islands; this being the largest, is 8 or 9 leagues in length from E. to W. and 4 to 5 in breadth, about 3 leagues from that point of the mainland called Cape *Liampo* by the Portuguese, but *Khi tu*† by the Chinese. At the westend of this island is the harbour, very safe and convenient, where the ships ride within call of the factory, which is built close by the shore on a low plain valley, with near 200 houses about it for the benefit of trade, inhabited by men, whose jealousy has not as yet permitted them to let their wives dwell here; for the town where they are, is $\frac{3}{4}$ of a mile further from the shore, environed with a fine stone wall, about 3 miles in circumference, mounted with 22 square bastions placed at irregular distances, besides 4 great gates, on which are planted a few old iron guns, seldom or never used; the houses within are very meanly built. Here the *Chumpeen*‡ or governor of the island lives and betwixt 3 or 4000 beggarly inhabitants, most part souldiers and fishermen; for, the trade of this place being newly granted, has not as yet brought any considerable merchants hither. The island

* The island of *Chusan*, the largest of the group marked as Chusan Archipelago on our maps, is immediately opposite the mouth of the river on which *Ningpo* is situated. The Chinese call it 定海 *Ting hai*, which is properly the name of a district city on this island. 舟山 *Chou shan* (*Chiu san* in the local dialect) is an ancient name of it not found on modern Chinese maps. The island of *Chusan* is not to be confounded with *Port Chusan*, on the south-eastern coast of *Corea*, where *Ch. Wilford* collected plants about a quarter of a century ago.

† A long projecting promontory opposite *Chusan*, 岐顛 *K'i t'ou* of Chinese, *Ke tou* point of English maps.

‡ 總兵 *Tsung ping*, a general.

in general abounds with all sort of provision, such as cows, buffaloes, goats, deer, hogs wild and tame, geese, ducks, hens; rice, wheat, calavances,* coleworts, turnips, potatoes, carrots, beets, and spinach; but for merchandize there is none but what comes from Ningpo, Hangcheu, Nankin and the island towns, some of which I hope to see, when I have acquired a little of the Chinese language.

Here also the *Tea* grows in great plenty on the tops of the hills, but it is not in that esteem which what grows on more mountainous islands. Although this island is pretty well stored with people, yet it is far from what it was in Father Martini's time, when he describes *Cheuxam*, and this puts me in mind, that the superstitious pilgrimages thereto, mentioned by him, must be meant of the island *Pou to†*, which lies 9 leagues from hence and 3 miles to the eastward of this island, whither (they say) the Emperor designs in the month of May next (being his birthday and the 40th of his age) to come to worship in an ancient pagod there, famous for sanctity, having sent one of his bonzes already thither, to get all things in order.

Chusan. November 22. 1701.

Sir! I formerly told you that the Emperor designed to have come to the island of *Pou tu* to worship in the month of May last, being the 40th year of his age, I should have said of his reign. But all things being prepared there for his reception, he was dissuaded from his purpose by some of his mandarins, who made him believe that the terrible thunder there was very dangerous. This *Pou to* is a small island about 5 leagues round at the east end of this island, famous for the superstitious pilgrimages made thither for the space of 1100 years. It is inhabited only by bonzes, to the number of 3000, all of the sect called *Ho shang‡*, or unmarried bonzes, who live a Pythagorean life; and there they have built 400 pagodas, two whereof are considerable for their greatness and finery, being lately covered with green and yellow tiles brought from the emperors pallace at *Nankin*, and inwardly adorned with stately idols finely graved and gilded, the chief whereof is the idol *Quon em§*. To these two great pagodas belong two chief

* *Dolichos sinensis* L.

† 普陀山 *P'u to shan*. This island is indeed exclusively occupied by Buddhist priests. It has 72 Buddhist temples. In the description of his Chinese plants Cunningham mentions some other islands of the Chusan Archipelago viz: *Thow whey san* 桃花山—*Pum si san*.

‡ 和尚 *Ho shang*, a Buddhist priest.

§ *Kuan yin*, 觀音—the Goddess of Mercy.

priests, who govern all the rest. They have several ways and avenues cut through the island, some of which are paved with flagstones and overshadowed with trees planted on each side. Their dwellings are the best I have yet seen in these parts; all of which are maintained by charitable devotions. And the junks which go from Ningpo and this place to Japan touch there both going and coming, to make their offerings for their good success. There is another island called *Kimtung*,* 5 leagues hence in the way to Ningpo, whither, they say, a great many mandarins retire, to live a quiet life after they have given over their employments. On that island also are said to be silver mines, but prohibited to be opened. The rest of the circumjacent islands are either desert or meanly inhabited by a few fishing people, but all of them stored with abundance of deer. For it is not long, since this island of Chusan began to be peopled. It is true in Martini's days, about fifty years ago, it was very populous for the space of 3 to 4 years, at which time the fury of the Tartarian conquest was so great, that they left it desolate, not sparing so much as the *Mulberry* trees, for then they made a great deal of raw silk here, and in this condition it continued till about 18 years ago, that the walls of the fort or town, which now is, were built by the governor of Ting hai, for a garrison to expell some pirates, who had taken shelter here. About 14 years ago the island beginning to be peopled, there was a chumpeen or general sent to govern it for 3 years, to whom succeeded the late chumpeen, who procured the opening of this port to strangers and whose government continued till April last, being translated to the Chumpeen of *Tien cing wei* †, near to Pekin, and was succeeded by the present chumpeen, who is son to the old *Chun koon* ‡ of Emuy.

They have got no arts or manufactories here, but making of lackered ware, a particular account whereof I cannot as yet send you. They begin to plant the mulberry trees, to breed up worms for the production of raw silk and they make some Tea, but chiefly for their own use. The three sorts of *Tea* commonly carried to England are all from the same plant, only the season of the year and the soil makes the difference. The *Bohe*, or *Voi*, || so called after some mountains in the

* 金塘山 *Kin tang shan*.

† Now *T'ien tsin fu*.

‡ 中軍 *Chung kün*.

|| 武彝 *Wu yi*, in *Amoy bo he*.

province of Fokien, where it is chiefly made, is the very first but gathered in the beginning of March, and dried in the shade. The *Bing** tea is the second growth in April, and *Sing lo* † the last, in May and June, both dried a little in pans over the fire. The Teashrub being an evergreen is in flower from October to January and the seed is ripe in September and October following, so that one may gather both flowers and seed at the same time, but for one fresh and full seed there are a hundred nought. These make up the two sorts of fruit in Le Comte's description of tea: as for his other sort, which he calls flymic pease, they were nothing but the young buds of the flowers not yet opened. Its seedvessels are really 3 capsular, each capsule containing one nut or seed, and, although two or one capsule only come to perfection, yet the vestiges of the rest may be discerned. It grows in a dry gravelly soil, on the sides of hills, in several places of the island without any cultivation.

Le Comte is mistaken in saying (p. 96) that the Chinese are wholly strangers to the art of grafting, for I have seen a great many of his paradoxical *Tallow trees* ingrafted here, besides some other trees. When they ingraft, they do not slit the stock as we do, but cut a small slice off the outside of the stock, to which they apply the graft, bringing up the bark of the slice upon the outside of the graft, they tie all together covering with straw and mud as we do.

Martini says he could never find a Latin name for the *Fula Mogorin* of the Portuguese (v. supra Martini 19). I am sure it is the same with the *Syringa arabica* flore pleno albo in Parkinsons. ‡

He says also, that the *Kieu yeu* or *Tallow tree* bears a white flower like a Cherry tree, but all that I have seen here bears a spike of small yellow flowers like the julus of a *Salix*. ||

The *Bean* or *Mandarin Broth*, so frequently mentioned in the Dutch Embassy and by other authors is only an emulsion made of the seed of *Sesamum* and hot water. §

* 茗 *Ming*, in Amoy beng.

† 松蘿 *Sung lo*, name of a mountain, see above Martini 23.

‡ Cunningham is right. Lamarck Enc. bot. IV 210 quotes the *Syringa arabica* (already known to Clusius) as a synonym of *Jasminum Sambac*. Ait.

|| Cunningham's statement is correct. See above Martini 36. note.

§ In the narrative of the third Dutch Embassy a *Bean soup* is mentioned which they believed to be prepared with milk and Peking butter (sic!). But it seems to me that the above statements of Cunningham and the Dutch are to be referred to the Chinese condiment commonly called *Bean curd* by Europeans. (Williams' Middle Kingdom, II. 43.)

(I omit the particulars given with respect to fishing, tillage, and obtaining of salt.)

Had I not found the printed Newspapers last year take notice of a singular root brought from China by *F. Fontaney*,* I should not have told you that I have seen one since I came here, called *Hu chu wu* (which I take to be the same), whereto they ascribe wonderful properties of prolonging life and turning gray hairs into black, by drinking its infusion for some time, in so much that they say it is to be had in value from 10 taëls to 1000 or 2000 a single root, for the larger it is, the more is its value and efficacy: which is too much money here to try the experiment. You have it mentioned in Cleyer's *Medicina sinica*, 84, under the name of *Ho xeu u*. It is likewise painted in the 27 table of those plants Mr. Petiver has of me.†

After this C. relates a Chinese legend with respect to this root. A man fell down from a precipice and found himself in a valley from which he was not able to come out. He lived there for a hundred years feeding on the above-mentioned root. He was finally delivered by an earthquake, which destroyed the valley.

Cunningham distributed his Chinese botanical collection, made in Chusan, at Amoy and on the Dogs islands near Fu chou, among his friends in England. *Plukenet* and *Petiver* seem to have received the greatest part of it. I may be allowed to say here a few words with respect to these ardent and able botanists and their works, in which they described and depicted Cunningham's plants, soon after they had received them.

James Petiver, Apothecary of the Charterhouse, London, and secretary to the Royal Society, an active collector of objects of natural history, born about 1658 + 1718. He had correspondents in most parts of the world, who sent him productions, plants, animals, etc. He was a friend of the botanist *Ray* and of Sir *Hans Sloane*, the celebrated promotor of science and President of the Royal Society (born 1660 + 1752), who offered

* *Joannes de Fontaney*, Jesuit Missionary in China, end of the 17th cent.

† What C. tells with respect to the plant 何首烏 *ho shou wu* is found also in Chinese works. A good drawing of it is given in the *Chin. Botany Chi wu ming shi t'u k'ao* XX. 16, a climbing plant with a large tuberous root, and this agrees with the engraving under the same Chinese name in the *Japanese Botany So mo kou* etc VII. 80, which according to *Franchet* and *Savatier* (*Enum. pl. Japon.* I 402.) is *Polygonum multiflorum*. Thbg. and has in fact tuberous roots.

him £4000 for his collections of specimens. As the Sloanian collection subsequently gave origin to the British Museum (Hanbury's Science pap. 384) Petiver's specimens may also be stored there.

In a paper published in the XXIII. vol. of the Philosophical Transactions (1703) Petiver describes about 70 Chinese plants supplied principally by Cunningham. But previously he had published in his *Museum* (1692-1703) short characteristics of 1000 exotic plants, amongst which we find scattered about 100 from China, the greatest part of them not mentioned in the Philosoph. Trans. Besides this he issued his *Gazophylacii Naturae Decades decem*, 1702-1709, short descriptions and engravings of 100 exotic plants, about 20 of which were selected from Cunningham's Chin. collection.

It appears from Cunningham's letters and from Petiver's quotations that the latter had also received from C. a collection of Chinese drawings representing Chinese plants. Petiver frequently speaks of: "Herbarium nostrum sinense pictum."

Leonard Plukenet, born 1642+1705, a learned English botanist, educated at Oxford. He was in war with Sloane and Petiver. Plukenet has published many botanical works and described and depicted a great number of new plants especially from America, the East Indies and China. Almost all Chinese plants he mentions had been handed to him by Cunningham, and it seems that the latter had entrusted the greatest part of his herbarium to Plukenet, who described about 400 Chinese specimens in his *Amaltheum botanicum* seu Stirpium Indicarum alterum copiae cornu 1705, intermixed with American and Indian plants. Nearly one half of the Chinese plants Plukenet faithfully figured in vol. III of his *Phytographia**. These figures are small and often much reduced from the natural size, but are generally very characteristic.

In 1779 Dr. *P. D. Giescke* added an Index Linneanus in Plukenetii opera botanica, in which he ascertained a great number of the plants there described and figured, but with respect to the Chinese specimens in the Phytographia he has only in a few cases been able to identify them.

Perhaps the botanist *Ray* (1628-1705.) disposed also of a part of Cunningham's plants. In his *Historia plantarum*, in the 3d vol. (1704) he describes some of them. It may be

* The 3rd vol. of Plukenetii Phytographia bears the date 1692. But this is evidently an error for each engraving in it is referred to the text in the Amaltheum, published 1705. Pl. published also an *Almagestum Botanicum*, 1696, in which a few Chinese plants appear.

however, that he copied from Petiver and Plukenet. I have seen the Hist. plant. but had then no opportunity of comparing it with the Amaltheum and Petiver's works. As appears from Petiver's statements, C. had given also to Sloane some of his specimens.

On the whole, nearly 600 Chinese plants have been described by Petiver and Plukenet from Cunningham's specimens. It would be interesting to know what has become of this herbarium. Petiver's botanical collections as well as those of Plukenet had been acquired by Sloane and were finally incorporated into the British Museum, where they may still exist, or at least some "rudera" of them.

After Cunningham, botanical collections have been made twice at Chusan, as far as I know. Dr. *Th. Cantor* visited the island in 1840 and in an account of Cantor's botanical collections in the Journ. As. Soc. Beng. XXIII. 1854, Mr. Griffith enumerates 133 plants gathered at Chusan, but he gives generally nothing more but the genus names. There is only one plant of the collection he describes as new, viz. *Actinostemma tenerum*. I am not aware whether Cantor's herbarium is now in England or in India.

The well known traveller and botanical collector *R. Fortune* (who died in April 1880) investigated the Flora of Chusan some years later. He first came to that island in 1843 and visited it again in 1850. His plants, distributed by the R. Hort. Soc., are found in all the more important herbarium's of Europe. It seems that only a small part of Fortune's Chinese plants have been described.

Concerning the Crocodile islands (Dogs islands near Fuchou) where Cunningham gathered some specimens, the botanical features of these islands are probably the same as those of the adjacent mainland. The Flora of that part of China, and I must say the same with respect to Amoy, is very imperfectly known. But all plants gathered at those places may, I believe, be found in Dr. Hance's magnificent herbarium, and he is probably the only botanist who would be able to identify Cunningham's plants from the ancient descriptions and drawings left.

A great part of Cunningham's plants, described and depicted by Petiver and Plukenet, are probably included in the later collections alluded to. I therefore have thought it would be useful to bring under the notice of modern botanists and to place together the scattered remarks and diagnoses referring to Cunningham's plants, as found in the Amaltheum

and in Petiver's writings. But as the descriptions there are often long and detailed, I cannot venture to reproduce the whole and shall often confine myself to quoting only the short diagnoses, which generally precede the descriptions, referring the reader to the original works and the drawings. The latter of course will be more serviceable to identify the plants in question, than the descriptions given.

MUSEI PETIVERIANI CENTURIAE DECEM RARIORA NATURAE CONTINENS.

London 1692—1703. 2 tab.

This is an enumeration of exotic plants, from Asia, the Cape of G. H. and America. I extract the following notes on Chinese plants found there. These Chinese specimens were gathered, as Petiver states, chiefly by *Cunningham*, a few of them also by *Keir* and *Barklay*, surgeons, and *Sam. Brown*. The latter visited Chusan before Cunningham.

The first century mentions three Chinese Ferns.

Adiantum nigrum chinense, tenuiter divisum, pinnulis minimis obtusis bifidis. Pluk. Alm. 29. tab. 4, 1. Raii. h. pl. 1854. Chinese black Maidenhair with blunt forked leaves. *Hamoy* in China.

Adiantum tenuifolium. Lamarck Enc. Bot. I. 44. Gathered by *Sonnerat* in India.

Adiantum nigrum lanuginosum Chinense *. Pluk. Alm. 30. tab 4, 2.—*Dryopteris lanuginosa* chinensis Raii. h. pl. 1854. Hoary black Chinese Maidenhair *Hamoy* in Chin.

Filix pyramidalis chinensis. Filix e China mollis, auricula ad pinnulae basim superne producta, summo folio longius mucronato. Pluk. Alm. 30. fig 2.—Fil. spec. e China delata nobis. Raii. h. pl. 1853. Our China Steeple Fern.

352. *Argentina Emuyaca*, foliis ramosis, altius incisus. From Emuy, a Chinese island.

400 *Fagopyrum chinense* Bistortae folio.

402. *Filix Emuyaca* pinnis proliferis mire ornatis.

403. *Filix Emuyaca* pinnis singulis integris et divisis, marginibus seminiferis.

425. *Kadali Emuyaca*, Tuberariae angustiore folio.

498. *Um ki* Chinensibus. Frutex *Cynosbaty* fructu alato tinctorio, barbulis longioribus coronatis.—The fruit supplies a famed ingredient used by the Chinese for dyeing scarlet.

* *Adiantum Chinense* perelegans ramosum, folio flabelliformi cum rubedine perfuso. Pluk. Alm. ii. tab 4, 3. is *diantum flabellatum* L. Linneus describes yet another Chinese species: *A. chusanum*, which has been referred to *Davallia chinensis* Sw. by Sprengel.

This is *Gardenia florida*. I. See further on Pluk. Amalth. 29.

536. *Muscus denticulatus* Emuyacus minor erectus. Cunningham.

537. *Filix Emuyaca* Plantaginis aq. folio, caule nigricante. Cunningham.

541. *Phyllitis Emuyaca* major ramosa. Cunningham.

544. *Filix Emuyaca* pinnis longissimis integris margine pulverulento. Cunningham.

545. *Filix Emuyaco* pinnis majoribus denticulatis. Cunningham.

547. *Filix Emuyaca* pinnis pyramidalibus serratis maculis in nervum oppositis. Cunningham.

554. *Filix chinensis* Lonchitidis facie, cujus lanago radicis *Poco sempie* vocatur. *Kim kow ja* (i.e. canis aurei crines). Herb. nostr. Chin. pict. tab. 10, fig. 8. *Poco sempie*. Mus. R. S. 386.

Probably *Polypodium Barometz* L. sin: 狗脊 *kou tsi*.

640. *Fagara Emuyaca* Cardamomi sapore, ramulis et medio nervo foliorum utrinque spinosis.—Seems to agree with the *Fagara minor* from the Philippine islands, where it is called Cayutana.

The Cayutana is *Zanthoxylum heterophyllum* Sm., but Petiver's plant is probably *Z. nitidum*. D. C.

682. *Tamarisci* folio arbor chinensis, e cujus ligno fiunt sagittae. *Hose Diu*. Herbar. nostr. Chin. pict. tab. 9, 4.

757. *Capillaris chinensis* pinnulis rotundioribus. Fern from China.

857. *Amelanchier chusanensis* folio parvo subrotundo rigido, from China.

858. *Androsace chusanensis* Cortusae Matthioli folio (v. infra Philos. Trans. 52.)

859. *Angola chusanensis* Pruni folio, calice amplo.

860. *Anonymus chusan*. floribus spicatis, petalis tribus angustis.

861. *Apios* ex insulis *Crocodilorum*.

864. *Arbor chusan*. *Laurocerasi* folio serrato.

865. *Arbor chusan*. *Laurifolio* serrato subtus molli, virgulis verrucosis.

867. *Arbor Emuyaca*, flore minimo stamineo, albente, *Ilicis* folio.

875. *Aster chusan*. foliis superioribus integris, inferioribus Coronopi.

876. *Baccifera chusan*. racemifera, *Loti* arboris folio.

877. *Baccifera chusan*. racemosa, *Arbuti* folio.

878. *Baccifera chusan*. *Theae* folio.

879. *Baccifera* ins. *Crocodyl*. *Celastri* folio.

880. *Baccifera Emuyaca* dispermos, scandens, Flammulae facie.
886. *Calamintha chinensis*, Teucriti folio, flore staminoso.
887. *Camphorosmos chusan*, flore piloso.
888. *Curambu Emuyaca*, Persicariae foliis hirsutis.
The Caramba of Rheedee is a *Jussiaea*.
891. *Cerasus chusan*. floribus minoribus plenis.
892. *Chamaerhododendron chusan*. flore albo, Myrti romanae folio.
893. *Chamaerhododendron chusan*. flore coeruleo, foliis et calycibus hirtis.
895. *Christophoriana* forte *Emuyaca*, spinosa, Mori folio molli.
896. *Chusanicus* seu *Planta capreolata*, Arb. Judae folio, flore spicato.
897. *Clematis chusan*. folio cordato umbilicato.
898. *Coccifera Crocodyl*. Pimentae Jamaicae folio.
899. *Cocculus reniformis* scandens *Emuyacus*, Cotini folio subtus molli.
902. *Conyza chusan* pilosa folio Sonchi integro.
Probably *Emilia sonchifolia*
904. *Cynoglossum chusan*. summo late ramoso.
905. *Cytisus Crocodyl*. foliis parvis subtus villosis.
909. *Euonymus chinensis*, Glycyrrhizae folio.
910. *Euonymus* forte *chusan*. Berberidis folio.
911. *Euonymus Crocodyl*. Laurocerasi folio.
912. *Euonymus Emuyacus*, Pervincae majoris folio, bacca solitari, vasculo bipartito vel tripartito inclusa.
913. *Eupatorium Crocodyl*. Leonuri folio.
916. *Ficus chusanensis*, Mori folio.
917. *Ficus chusanensis* minima, nigrescens, folio integro, superne scabro, subtus molli.—It bears fruit in Sept.
918. *Ficus* forte *chusan*. folio vulgaris facie sed molliori.
925. *Frutex Crocodyl*. foliis alatis subrotundis glaucis, subtus albidis.
926. *Frutex Crocodyl*. Fagi foliis parvis, venis subtus purpureis.
930. *Hai hoa* Chinensibus, flore albo, siliquis gummosis articulatis.
Probably *Sophora japonica* L. sin: 槐花 *huai hua*. Pod contracted between the seeds, containing a viscid matter.
931. *Ham shaw* Chinensibus. Arbor flore albo, calyce hirsuto.
935. *Jacoboaea chusan*. folio lato.
936. *Jujubae* folio minore, planta repens chinensis.

937. *La boe* Chinensibus. Arbor flore luteo, foliis acutis binis decussatis.

Chimonanthus fragrans Lindl. sin: 臘梅 *la mei* or *la bai* in some Southern dialects.

938. *Lactuca Emuyaca perfoliata*, Sonchi folio.

943. *Lotus arbor Emuyaca*, Betulae folio.

944. *Lupulus chusan.* minor, Rubi folio.

Humulus japonicus S. et Z. gathered also by Cantor in Chusan.

948. *Oxycanthus chusan.* Pyracanthae folio.

950. *Persicaria chinensis*, folio subtus albido. V. infra Phil. Trans. 28.

951. *Periclymeni* flore frutex *Emuyaca*, Pervincae majoris folio.

953. *Phaseolus chusan.* siliqua hirta folio angustissimo.

954. *Phaseolus chusan.* siliqua hirta folio latiore.

956. *Phyllitis chusan.* ramosa, pinnis alternis basi superiore auriculatis.

957. *Pimenta chusan.* Buxi folio, floribus filamentosis.

958. *Pimenta chusan.* Melissae folio, flore petaloso.

962. *Pruni sylvestris* facie frutex *Emuyacus*, spinis fere foliosis.

964. *Quinquefolium chusan.* folio subtus incano, albo.

965. *Ricinus chinensis* sebifera, Populi nigrae folio.

Stillingia sebifera Michx. V. supra Martini 36.

966. *Ricinus Emuyacus* Verbasci folio, fructu farinaceo.

968. *Ros Solis chusan.* perelegans, caule folioso. V. infra Phil. Trans. 55.

969. *Rosa forte chusan.* Trichomanis folio.

970. *Rubiae* facie planta *Crocodyl.* cordato folio.

Perhaps *Rubia cordifolia*. L.

972. *Samolus Emuyacus*, Rorismarini folio.

974. *Scandens Emuyaca* capreolata planta, foliis cordatis serratis.

975. *Serratula chusan.* folio hastato.

976. *Serratula chusan.* folio subtus incano albo.

977. *Siliquifera chusan.* Fraxini folio fructu sericeo.

978. *Shew kow* chinensibus, folio oblongo serrato nervoso.

979. *Shuran* chinensibus. Arbor trifoliata, floribus minimis racemiferis.

980. *Stoechadis spica* Planta *chusan.* Galeopsis folio.

981. *Styrax liquida*, folio minore ex ins. *Emuy.*

983. *Thea chusan.* floribus majoribus, folio Alaterni serrato. V. infra Philos. Trans. 59.

984. *Thea chusan*. floribus minoribus, folio Alaterni cuspidato.
 985. *Thea chusan*. sylvestris non potabilis.—The flowers much the same with the common, but the leaves less and thicker.
 987. *Vaccinia chusan*. flore tubuloso, Pruni folio.
 989. *Viburnum chusan*. spinosum, folio digitato.
 990. *Vitex Crocodyl*. foliis oppositis Arbuti.
 991. *Vitis facie frutex Emuyaca*, foliis serratis integris et tripartitis.
 992. *Vitis forte Emuyaca* folio trifido dentato.
 993. *Ulmi* folio minore frutex *chusan*.
 994. *Ulmi* folio minore splendente *Emuyaca*.
 995. *Volubilis chinensis* Laurocerasi folio minore.
 997. *Yang diu chinensibus*. Arbor Salicis folio ramulis pendulis. Frequently painted on Japan work. Of the wood they make arrows.
 柳楊 *Yang liu* is *Salix babylonica*. L.
 998. *Ya hap chinensibus*. Arbor flore albo, folio Anonae venosae.
 999. *Zizyphus chusan*. foliis subtus argenteis, floribus minoribus.
 1000. *Zizyphus chusan*. suberis folio, subtus punctato.

J. PETIVERI GAZOPHYLACIUM NATURAE ET ARTIS. 1702–1709.

Two volumes, each consisting of 50 plates. The following Chinese plants are represented by the drawings:

Tab. 6, fig. 3 *Cupressus chusanensis*, Abictis folio, from *Chusan*. The leaves are triangular, carinated, stiff and stand off from the stalk; its seed is brown and small, not much unlike Buck wheat but not so regular.

The drawing seems to represent *Cryptomeria japonica*. Don. Fortune observed this tree in Chekiang.

Tab. 12, fig. 3. *Tagetes chinensis*, foliis undulatis, radice cordiali. Herbar. nost. Chin. tab. 27, fig. 3. This is the wonderful plant *Hu chu u* of which Cunningham speaks in his letter.

As we have seen, the Chinese plant, C. alludes to, seems to be *Polygonum multiflorum*. Thbg. Petiver seems to reproduce the Chinese drawing of his Herbarium Chinense, which is not correct.

Tab. 19, fig. 5. *Sagittaria chinensis* foliis ternis longissimis. Herbar. nost. Chin. tab. 12, fig. 3. *Sa heo chaw* indigenis.

According to Lam. Enc. Bot. II. 504, this is *Sagittaria trifolia* L. Kth. enum. III. 157 thinks that *S. chinensis*. Sims. may be the same.

Tab. 19. fig. 6. *Ranunculus globosus chinensis*, flore pleno aurantiaco. *Wi tung te hoa* chinensibus. Herb. nostr. Chin.

tab. 18, fig. 18. This beautiful plant would be a fine ornament to our gardens.

Tab. 21, fig. 10. The *Tea shrub* is here figured with its leaf, flower and fruit.

Tab. 24, fig. 8. *Ninzin* and *Ginseng officinarum*. Dale Pharm. 340. 11. Raii hist. plant. 1338. Plukenet 101.7. Copied from a painting of the Roy. Soc. Grows in China and Japan.

The root of Ginseng is correctly represented, but not the leaves.

Tab. 26. *Pimenta chusan*. folio Alaterni. Vide infra Phil. Trans. 85.

Tab. 27. *Ou tum chu*.

Vide infra Phil. Trans. 82 *Sterculia platanifolia*.

Tab. 33, fig. 4. *Thea chinensis*, *Pimentae jamaicensis* folio, flore rosaceo simplici.

This is *Camellia japonica*. L. See Lam. Enc. Bot. I, 572.

Tab. 33, fig. 8. *Androsace chusan*. Cortusae Matthioli folio. Museum nostr. 965. I take this elegant plant to come next in kind to *Linum umbilicatum*, which Tournefort calls *Omphalodes*.

The drawing seems to represent *Androsace saxifragae folia*. Bge.

Tab. 34, fig. 3. *Ricinus chinensis sebifera*, *Populi nigrae* folio Mus. nost. 965. Chinese Tallow tree. Philos. Trans. 90.

Stillingia sebifera Michx.

Tab. 34, fig. 11. *Teucrium Crocodyl*. V. infra Philos. Trans. 41.

Tab. 35, fig. 7. *Vaccinia forte chusan*., *Laurocerasi* folio flore tubuloso.

The drawing seems to represent *Vaccinium bracteatum* Thbg. or *V. chinense*. Benth. Fl. hongk. 200.

Tab. 35, fig. 11. *Rosa chusan*. glabra, *Juniperi fructu*. This Rose I have received both from Chusan and China.

Linneus identifies this Rose with his *Rosa indica*, but Lindley with his *R. microcarpa*.

Tab. 36, fig. 1. *Gramen Lagopoides chusan*. spicis cristatis palescentibus. Phil. Trans. 24.

Pennisetum ?

Tab. 36, fig. 7. *Coccifera chusan*. *Coryli* folio, floribus exiguis racemiferis. Phil Trans. 67.

Symplocos ?

Tab. 36, fig. 8. *Fagara chusan*. *Rhois virginianae* folio, caule alato.

The drawing seems to represent *Zanthoxylum Bungei* Pl.

Tab. 45, fig. 9. *Zapotl. chinens.* fructu cinnabarino, *Xicu Sinensibus*, *Chicoy Hispan.*, *Figocaque Lusitan.* Its leaves single, 6 inches long and 3 broad.—fig. 10. *Zapotl. fructus*, dried in the sun, as they do figs.—fig. 11. *Zapotl. ossiculum.*

Diospyros Kaki L. sin. 柿子 *shi ts'z.*

Tab. 63. fig. 8 is a *Loranthus*. See further on Linn. Chin. pl. 220.

Tab. 95. fig. 6. In Chinese *Samtanguy* or *Flammula*. Cat. 379. Grows about a yard and a half high, into many branches, bearing at the top scarlet Jasmin-like flowers. Kam. Ray. App. p. 7 pl. 23.

Ivora stricta Roxb. is called 山丹 *shan tan* (the red of the mountains) in Chinese.

Tab. 97. fig. 2. A Chinese Feather-few, with double white or blush flowers. Cat. 337.

Tab. 97. fig. 3. Another with a double yellow flower. Mus. Pet. 786.

ACCOUNTS OF SOME PLANTS FROM CHUSAN, COLLECTED
BY J. CUNNINGHAM.

Published by *J. Petiver*. Philos. Trans. XXIII (1703.) p. 1421.
The first 20 numbers refer to Corals from the Philippine Islands.

21. *Lingua cervina chusanensis maculata media.*

The root of this is like our common Polypody with fibres running from them. The leaves resemble Harts-tongue, but are longer and narrower, but as that bears its seed in slant streaks on the back of the leaves, these have them in round spots like those in Polypody, one on each side of the middle rib at near half an inch distance, beginning near the point, and reach above half the leaf.

22. *Lingua cervina chusanensis maculata, parva.*

This has a fibrous root, its leaves have scarcely any footstalk and rarely exceed 3 inches in length, the seeds stand in round spots like the last, as large but much closer set, reaching from the middle rib to the edge of the leaf, coming down about half way.

23. *Arundo chusanensis polydactyloides, perelegans.*

This reed has a very beautiful tuft, composed of about a dozen pappose spikes, like some of our Indian downy Cocks-foot grass, each above a span long.

24. *Gramen Lagopoides chusanense, spicis aristatis pallescentibus.*

This is next in kind to our *Gr. Lagop. guineense*, Gazoph. nat. tab. 2, fig. 7, et. Mus. 238, but its spikes are larger and both glumae and aristae are whitish, whereas the Guinea sort when full ripe is ferrugineous and its spike turns downwards. Dr. H. Sloane has the only specimen I have as yet seen of this new grass.

25. *Panicum cristatum chusanense*, spica multiplici nude.

This is a very elegant grass, each capsule somewhat resembles those of our *Nasturtium verrucosum* or Swines Cress.

26. *Secalis facie frumentum chusanicum*.

27. *Cadelari siciliana folio acuto*, *Amaranthus siculus spicatus*.

This is *Achyranthes argentea* Lam., a variety of *A. aspera* L. observed in China by Staunton and others.

28. *Persicaria chinensis*, folio subtus albido, Musei nostri 950.

This resembles our *Arse-smart*, but the leaves underneath are very white and soft.

29. *Triopteris scandens chusanensis*, cordato folio.

This is a twining plant, like our black Bryony, and its leaves not unlike, the capsules resemble the *Melianthus*, but have only three wings containing membranaceous seed, like those of the *Oleander*.

30. *Aster Eupatoroides chusanensis*, Hyssopi folio.

The leaves stand alternately on the stalk, which towards the top branches out into many small flowers with little radiated petals. These look at first view like our *Eupatorium*.

31. *Tussilago chusanensis*, ramosa, folio rotundo, glabro.

This has smooth round leaves about the root at the time of the flowering, and narrow leaves at the stalk, which is branched, each terminating in one flower of the same bigness with ours.

32. *Abrotanum chusanense*, *Thalictri* folio.

The leaves are deeply jagged at top, generally into 3 or 5 segments. The flowers are extremely small.

33. *Abrotanum chusan. segmentis foliorum tenuissime serratis*.

The flowers of this are as large as the common *Southernwood*, the leaves finely divided and notched like those of some umbelliferous plants.

34. *Absinthium umbelliferum chusan. Achoavan folio*.

The stalk is round, hoary and slightly furrowed, the leaves somewhat like the next, but less, and more serrated.

35. *Matricaria chusan. flore albo minore simplici*. A *Matricaria japonica fl. min. albo simpl.* Breyn. prodr. 2. p. 663?

The leaves of this are like *Mugwort* but less, the flowers scarcely so big as our *Featherfew*.

36. *Matricaria chusan*. flore luteo minore simplici, *keuk hoa* Chinensibus.

The leaves and flowers are much like the last, the discus is large and yellow as are the petals about.

Probably *Pyrethrum (Chrysanthemum) indicum*. Cass. sin: 野菊花
Ye kü hua.

37. *Verbenaca chusan*. Majoranae folio, subtus molli, flavescente.

On each side of every joint come forth longish leaves, some bigger, others less, soft underneath and yellowish. From some of these joints, especially towards the top, come spikes of flowers and seed, after the manner of common Vervain.

38. *Verbenaca chusan*. Persicariae folio subtus pallescente.

The stalk is for the most part 5 square, the leaves grow opposite, by turns crosswise. It bears a long spike of flowers, each with a long tube or neck set in a small turgid calyx.

39. *Mentha chusan*. spicata holosericea.

The stalks of this plant are very hoary and soft, as are its leaves, especially the under side.

40. *Teucrium chusan*. flore singulari pediculo semiunciale insidente.

Each flower stands single on a half inch foot stalk, with 4 long stamina, and a style like the *Teucrium Boeoticum*.

41. *Teucrium Crocodylianum*. Styracis folio minore. Gaz. nat. tab. 34, fig. 11.

42. *Alcea forte fruticosa chusan*. folio summo lato, subtus molli.

The leaves are somewhat like our Aspen-tree, very broad at the top, with a small point in the middle, slightly notched, a little rough above, but underneath very soft.

Hibiscus tiliaceus. L.

43. *Rubus chusan*. folio Corchori.

The twigs and footstalks are thorny, the leaves single, sometimes lobated, broad at base, but grow tapering to a very narrow point.

Perhaps *Rubus corchorifolius*. L. of Japan.

44. *Rubi facie planta chusan*. folio Altheae acutiore.

The stalks thorny, the leaves grow alternately on short pedicles, and some of them are lobated. At the bottom of each grows a small scaly cone like a bud.

45. *Alectorolophus chusan*. viscosa, Achoavan folio.

This and the next seem very elegant plants, but I dare not meddle with their descriptions until I receive better specimens of them.

46. *Rapunculus* seu *Cardinalis*, forte *Chusan*. Sambuci folio.

47. *Anonis chusan*. pubescens, Lupini facie.

This seems herbaceous, the leaves are very large, somewhat hoary, but the stalks much more, the flowers spicated and large, resembling the yellow Lupine, but have the face and hoariness of the common blue.

48. *Astragalus chusan*., sinapis siliqua.

These leaves resemble the Saint Foin, the pods are about 3 inches long, with 2 or 3 swellings, and end blade-pointed like the pods of mustard.

49. *Cowhage chusan*., floribus parvis ex alis foliorum.

The stalks, young leaves, flowerhusks, and pods have all a rusty hoariness, in the full grown leaves it is much less. From the bosom of these comes a small spike of little flowers, by which and its hoariness it is easily distinguished from all others.

50. *Cytisus chusan*. tetraflorus.

Its leaves are small, finely veined and end in a hair. What is peculiar in this, is to have 4 flowers on a naked or leafless inch foot stalk.

51. *Polygala chusan*. folio subrotundo, spica aphylla.

This is distinguished from others in having broader obtuse leaves, excepting towards the top they are a little pointed and from the middle of each leafy stalk comes out a naked spike of flowers.

52. *Androsace chusan*. Cortusae Matthioli folio. Mus. nost. 858. Gazoph. tab. 33, fig. 8.

Seems to be *Androsace saxifragaefolia* Bge.

53 *Lysimachia chusan*. Gentianellae folio, flore albo.

This in manner of growing resembles our yellow Loostrife, but the flowers are white, petala less, and more pointed. Its capsule ends in a thread. I saw a branch of this in flower and seed with Mr. Sam. Doody, which Mr. George Loudon had gathered in some garden, I think about town.

54. *Lysimachia chusan*. spicata, Persicariae folio, flore exiguo.

These leaves grow inordinately, are narrow-pointed at base, without footstalks. At the top of the branches grow slender spikes like Arsmart, with small flowers and seed vessels like Flax, but much less.

55. *Ros Solis chusan*. perelegans, caule folioso. Mus. 968.

This is a very peculiar sort of Sundew, in having leaves on the stalks, which towards the top ramify and flower.

Trees.

56. *Abies argentea chusan*. foliis acutissimis.

This resembles the Silver-fir but the leaves are somewhat serrated and very sharp.

Perhaps *Abies Kaempferi*. Lindl.

57. *Acer forte chusan*. folio minore trifido.

These leaves very much resemble the *Acer monspelianum* I.B. They are smooth above and glaucous underneath, standing on long slender reddish stalks. The fruit of this and the next I have not yet seen.

Perhaps the Japanese *Acer trifidum*. Thbg., observed also near Ningpo.

58. *Aceris* folio arbor chusan. virgulis spinosissimis.

Its young branches are reddish and very full of brier-like thorns, amongst these leaves inordinately grow, the base of each pedicle leaving an impression like a V consonant on the stalk. The leaves have very much the face of the common great Maple or Sycamore with long pedicles, whose base agrees with the branches.

59. *Alaternus chusan*. Arbuti folio. Gazoph. tab. 36. Thea chusan. floribus majoribus, folio Alaterni serrato Mus. nost 983.

By its leaves and flowers I at first took it for a Tea, but having lately received it in berry, I find it to be another family. The leaves are stiff, serrated, and pointed, generally thickest towards the tops of the branches. From the bosom of these and below grow many small flowers close to the stalk, which are succeeded by little berries, that are both calyculated and pointed.

60. *Arbor chusan*. *Frangulae* folio majore subtus albido molli.

Although I have not yet seen the flower or fruit of this tree, yet I could not omit it, because its leaves are very distinguishable from any that have yet come from this island. They seem, especially the young ones, to have the texture and face on the upper side of our *Frangula* or Alderberry, yet somewhat softer, but its peculiarity is underneath, in being white, softish and having its middle vein spongy, and towards the stalk rusty coloured, as are its younger branches.

61. *Baccifera chusan*. Caryophyllaromat. folio, Patsjotti flore.

The leaves resemble those of cloves, but are somewhat thicker, generally about $1\frac{1}{2}$ inch broad and 3 long, growing alternately. From the bosom of each come 3 or 4 pentapetalous flowers somewhat like the Malabar Patsjotti (Hort. malab. vol. 5.) each filled with large curled like apices ending pointed. These are succeeded by black berries set in a small 5 starred calyx, its point $\frac{1}{4}$ of an inch, each standing on a half inch foot stalk. Out of one berry I took 11, from another near 20 small shining brown seeds, of different shapes from their lying together.

62. *Baccifera chusan*. Ligustri facie.

Its larger woolly twigs are smooth, cinereous and speckled, the smallest woolly, the leaves grow by pairs, at the top come the flowers, loosely spiked, each in a small cupped calyx, the berries less than currants, black with a bluish cast, each on a very short footstalk and in an undetermined cup, which seemed to want a part on one side. In each berry is one large oval kernel.

63. *Buxus chusan*. folio praelongo.

This has the face and the texture of the common Box, but the leaves are longer, very narrow at the base, broadest near the middle and blunt at the end.

64. *Buxi affinis Emuyaca*, folio rugoso.

The twigs are reddish and rough, as are the under sides of the leaves, but smoother above. They stand on very short footstalks and have this particular, that the upper half of each leaf is somewhat lobated or largest. At the ends of the branches grow commonly two or more rough capsules gaping like the Fagaras. Each of these contains 1 or 2 black oval shining seed somewhat bigger than an Oat.

65. *Camphora officinarum*. The Camphire tree.

It is very well figured and amply described in Breynius centuria (in 1678) and first Prodromus.

66. *Castanea chusan*. folio fere serrato, subtus glauco.

The twigs are blackish with many small warts, the leaves grow inordinately, on short pedicles, most of them more or less thorny, dented, and some smooth. Underneath they are glaucous and somewhat soft.

67. *Coccifera chusan*. Coryli folio, floribus exiguis racemiferis. Gazoph. tab. 36, fig. 7.

Its twigs are speckled, the leaves of different magnitude and breadth, lightly serrated, standing on an inch footstalk. At the top of each twig grows a small racemose spike of little flowers, which are succeeded by dry berries, growing like currants.

Cocciferae I call such trees and shrubs, as have dry berries like the Cocculus Indiae, in opposition to those, that are moist, as goose berries.

68. *Coccifera Emuyaca*, folio marginibus crispis.

The stalk of this is furrowed irregularly like Elder, its leaves have the face and shape of a Willow Bay, but peculiarize themselves by drawing their edges unevenly inwards, which swell the upper side and make them seem curled. Their footstalks are scarce $\frac{1}{2}$ inch, its cocca, or dry berry, like the

Allspice or Jamaica Pepper, is set in a 4 or 5 starred calyx in a loose cluster, each on an $\frac{1}{2}$ inch footstalk. Between the outward skin and kernel, which is solid and very hard, is but little space.

69. *Crista Pavonis Chinensis*. Abrus folio. *Bo ya hoa* Herbar. nost. Chin. tab. 2, fig. 4.

Hoa in the Chinese language signifies a flower. The leaves are much less and narrower than the American kind, otherwise in its spikes, flowers and way of growing it very much resembles it.

Crista Pavonis is *Adenanthera pavonina* L. Lam. Enc. Bot. II 76 mentions it as a native of China. Dr. Hance has observed it in Hongkong.

70. *Cupressus chusan*. Abietis folio. Gazoph. Tab. 6. fig. 3.

Where you may with its figure see a description of its leaves and seed.

It bears its cones single at the end of each branch; the scales of these, when they are open or cracked, are serrated and rugged.

As we have stated above (Gazoph. l.c.) this is *Cryptomeria japonica*. Don.

71. *Euonymo affinis chusan*. Fraxini folio, semine nigro.

The leaves grow opposite, and generally 3 pairs tailed, i.e. one at the end. The footstalk is very short and next the tail scarce any. The fruit grows in clusters, each husk rugose, including one black shining seed.

72. *Fagara Emuyaca* Fraxini folio.

This is distinguished from the next in having much broader leaves. They grow opposite and are much like the Ash. The berries are about the bigness of Pepper and grow in small clusters. The tender shoots and first sprouts are prickly, in the more grown they are not so discernable. I have not as yet observed any prickles on the leaves of this kind except in its first shoots, which are very small and wear off as they grow older.

I call *Fagaræ* those trees and shrubs, whose berries split like those figured by Garcias ab Horto, Gerard, Parkinson, Clusius, etc. There are also these peculiarities, which generally attend this tribe, viz., the branches are prickly and often the leaves on the underside and middle rib, and sometimes on both sides and the lesser veins. The berries split in the middle and discover a black shining seed, the outer skin rough, tastes hot and spicy. The leaves in all I have yet observed are perforated like St. Johns wort, Orange leaves, Myrtle. The Hercules and prickly yellow woods of the W. Indies are of this family.

The genus to which the *Fagaræ* of the ancient botanists belong is now called *Zanthoxylum*, Lin.

73. *Fagara chusan. Fraxini folio angustiore.*

The leaves of this are not only narrower than the last, but prickly underneath and the prickles are very thick set on the branches and between the leaves.

74. *Fagara chusan. Rhois virginianae folio, caule alato. What chaw* in Chinese. Gazoph. tab. 36, fig. 8.

These leaves very much resemble the Virginian Sumach, with a winged or weted stalk, with lightly serrated transparent notches. Dr. Sloan has a fair specimen of this in fruit, which ripens in October.

As has been shown above, this seems to be *Zanthoxylum Bungei*. Pl. sin: 花椒 *hua tsiao*.

75. *Frutex chusan. Fagi folio, fructu sulcato.*

This very much resembles No. 926 Musei nostri, but is in all parts much larger, especially its leaves, which are very like the Carolina plant at No. 915. Its fruit grows naked at the top of the branches from a reversed calyx, and is sulcated like the capsule of an Adhatode.

76. *Gelsemium chusan. folio Betae hirsuto.*

The leaves somewhat like Beet, but hoary, the flower is leaved, in shape much resembling Nerium. The apices on each stamen seem double headed, the calyx is quinquefied and hoary. It grows spikated, as I observed in a very large specimen amongst Dr. Sloane's dry plants.

77. *Hedera arborea* C. B. 305. 1.

I can see no difference between this and our common Tree Ivy. (*Hedera Helix* L. var. *arborea*).

I may observe that among Cantor's Chusan plants *Hedera Helix*. L. is mentioned.

78. *Spurge Laurel.*

Pet. means *Daphne laureola*. L.—Fortune has gathered *D. Fortunei* Lindl. in Chusan.

79. *Lycium chusan. Pruni minoris folio.*

The twigs of this end in a thorn, the leaves are like the slow but less-finely serrated, growing inordinately on very short stalks. The berries are black and wrinkled like pepper and of that bigness. They stand on a $\frac{1}{4}$ inch footstalk in a small round calyx. Under the thin outerskin lies one or two kernels.

An undetermined species of *Lycium* is noticed in Cantor's collection. *L. chinense*. L. has been observed in North-China as well as in the South.

80. *Mandaru forte chusan. folio acuminato, alte bifido.*

The leaves which are all of this plant I have yet seen, seem to be of the Malabar kind of Mandaru. The leaf is deep cut and glaucous underneath.

Mandaru is *Bauhinia*. 3 species of it are known from Southern China viz. *B. glauca* Wall., *B. Championi*. Benth., *B. chinensis* Vogel.

81. *Mori facie chusan*. folio subtus molli ferrugineo.

82. *Ou tum chu*. P. Le Comte. *Gou tum shu* Herb. nostr. Chin. tab. 6.—Gazoph. tab. 27. folio trifido, petalis bacciferis.

This is a wonderful tree and very particular in the product of its berries, which I take to be the fruit. The flowers grow separate from the leaves in a large loose or sparse tuft, after the manner of *Fraxinella* or *Dittander*, from the larger stem each little one has many flowers, composed of 5 broad green petala or leaves like those of our *Adderstongue*, every one standing on $\frac{1}{2}$ inch pedicle starwise. On both the edges of these grow one or more stalkless berries, of the bigness of *Holy*, rugged now dry. I opened one of them. A large white cavity and a small decayed substance only remained in it.

Petiver gives a correct description of *Sterculia platani folia*. Cav. (see above Le Comte), only he takes the spreading folicles of the fruit for flowers.

83. *Paliurus Emuyaca major* folio rotundiore.

This seems to differ from our European sort in having its leaves much larger and round.

Probably *Paliurus Aubletii*. Shult. which has been observed in South China and Japan.

84. *Palmae Christi vulgaris facie*, forte *Chusan*. caulibus et foliis pubescentibus.

Very near the basis of the footstalk of each leaf it has 2 long and very narrow threadlike auricles.

85. *Pimenta Chusan*. folio Alaterni. Gazoph. tab. 26.

Thea chusan. floribus minoribus, folio Alaterni cuspidato. Mus. nostr. 984.

Its leaves stand on short footstalks, they are pointed, stiff and somewhat notched. From the bosom of these and at the top of the branches come forth many small flowers, full of stamina like the *Tea* but much less, which made me conclude it was of that family. But Mr. Cunningham has since sent it me in fruit, which I find a small dry berry of an oval bottled shape, coronated somewhat like a clove.

86. *Populi facie chusan*. folio subtus molli ferugineo.

This has the shape, thickness and softness of *Abele* leaves, but instead of white is rusty coloured underneath.

87. *Quercus chusan*. *Castaneae* folio pubescente.

The stalk and the underside of the leaves are hoary. Its catkin or julus round and echinated, as Dr. Cunningham says, but its acorn small and smooth.

Quercus chinensis Bge. of North-China has leaves resembling those of the chestnut.

88. *Rhamnus Emuyacus* maritimus, flore coeruleo.

The leaves like Sea Purslain but smaller and nearly stalkless. From them towards the top of the branches come 2-3 pentapetalous flowers set in a like divided calyx. The footstalks of some of them are near $\frac{1}{2}$ inch.

89. *Rhus Emuyaca* folio serrato subtus molli, rachi alato.

Some of these leaves are broader and more or less serrated than others. The stalk is larger or smaller winged as the twigs are older or younger. Mr. Cunningham says they eat the berries which are sour and have a dew on them. He further observes, that from the broken branches there issues out a turpentine like balsamic liquor.

Perhaps *Rhus semialata* Murr. which is found in North-China as well as in the South, or *Rhus chinensis*. Mill.

90. *Ricinus chinensis sebifera*, Populi nigrae folio. Gazoph. tab. 34, fig. 3. Mus. nost. 965. *Kieu-yeu* P. Martini in Atl. sin.

The leaves grow alternately on long slender footstalks, some of them much extended in the middle and very sharp pointed. The flowers are yellow, mighty small, and grow in a slender catkin like those in Hazel. The fruit is about the bigness of a middling nut, smooth, blackish, and trisulcated, opening into 3 parts, discovers as many white seeds, from whence and its kernels, I suppose, the suet or fat is produced, each being covered with a white fatty body, under which is a brown hard shell, containing an unctuous kernel, which by bruising turns almost wholly to an oil.

Mr. Sam. Brown first sent me this some years ago from China, since which I have received it from Emoy and Chusan. There are two young trees of this now growing, September 27. 1703, in the Charterhouse, raised this year by Mr. Cole Gardiner.

The tree here described is *Stillingia sebifera* Michx. repeatedly spoken of in this paper.

91. *Ricinus forte chusan*. *Tiliae* folio.

These leaves grow alternately on footstalks, some above 2 inches long, of the bigness of the Mulberry and Lime tree, but not serrated. At the top grow spikes of thrummy flowers, like the common Palma Christi, but closer set. I hope the next ship from Chusan will bring me it in fruit.

92. *Thea chinensis vera potulenta*. Gazoph. tab. 21, fig. 10.

Chaa chinensibus.—Bontius Hist. nat. Ind. or p. 88, fig. The principal authors, who have given us accounts of the Tea plant are: Bontius, Breynius, Dufour, Pecklin, Pomet, Ray, Tulpius.

93. *Thea chinensis*, Pimentae jamaicensis folio, flore rosaceo simplici. Gazoph. tab. 33, fig. 4. *Swa Tea* seu *Cha hoa* Chinens. Herb. nostr. Chinense. tab. 6, fig. 11.

This plant has a very beautiful flower, some being single and of a deep red, others white and some striped, there are also of these colours with double flowers. The Chinese and the Japanese keep them as an ornament in their gardens. The young flower bud is scaled like a cone. The fruit is about the bigness of a chestnut, somewhat triangular, including under a very thick woody shell several seeds disposed into 3 cells. It flowers in February.

According to Lammarck Enc. Bot. I. 572, this is *Camellia japonica*. L. Petiver is the first botanist, who describes the plant.

94. *Thymelea chusan*. Cydoniae folio.

The flowers are like Jasmin but 4 leaved, their tube or neck hoary and about $\frac{1}{2}$ inch long.

95. *Thymelea chusan*. Myrti rom. folio.

96. *Vitis chusan*. trifido folio.

97. *Vitis chusan*. folio parvo molli.

CHINESE PLANTS DESCRIBED AND DEPICTED BY L. PLUKENET.

As has been stated above, Plukenet described in his *Amaltheum botanicum*, probably in 1703 and 1704, about 400 Chinese plants almost all it seems from Cunningham's collection. About 180 of them he represented by good drawings in his *Phytographia*, pars III. The plants in the *Amaltheum* are arranged alphabetically and the Chinese plants intermixed with Indian and American species and plants of the Cape. I shall extract in the following pages the diagnoses of all the Chinese plants of which engravings are found in the *Phytographia* and also of the greater part of those only described, omitting however in many cases the detailed descriptions. Plukenet generally quotes Cunningham's original descriptions. The pages quoted refer to the *Amaltheum*, the plates to the *Phytographia*, vol. III.

Abies major sinensis pectinatis Taxi foliis. subtus caesiis, conis grandioribus sursum rigentibus, foliorum et squamarum apiculis spinosis. P. I. Tab. 351, fig. 1.

Cunninghamia sinensis R. Br.

Abies maxima sinensis pectinatis Taxi foliis, apiculis non spinosis. P. I. Tab. 351, fig. 2.

The drawing seems to represent a *Cephalotaxus*.

Abrotanum mas sinicum latiori folio, cum pulchris corymbis. P. 1. Tab. 353, fig. 1.

Abrotanum sinense latiori et multifido Artemisiae folio, rigidiusculis apicibus spinularum aemulis insignito, cum parvis corymbis. P. 1. Tab. 353, fig. 4.

Abrotanum tenuifolium dense fruticosum, cum exiguis corymbis. Insula *Cheusan*. P. 1. Tab. 353, fig. 6.

Abrotanum sinense tenuifolium, corymbis majoribus elegantissimis. P. 2. Tab. 351, fig. 5.

Abrotanum sinense tenuissimis longioribus foliis corymbis perexiguis. P. 2.

Abrotanum mas Sinensium foliis et corymbis minutissimis. P. 2.

Absinthium sinense, romano haud absimile. Ex insula una de *Crocodylis*. P. 2.

Absinthium maritimum Sinarum, Lavandulae folio, pulchrioribus corymbis inodorum, sapore aromatico. Abs. folio argenteo vel incano, floribus plerumque singularibus lutescentibus. Cunningham. *Cheusan*. Oct. floret. P. 3. Tab. 353, fig. 5.

Tanacetum chinense A. Gray. (Maxim. Decad X.)

Acinos multis effigie, procumbens, ex cauliculis geniculis radice, herba capsularis. Flos coeruleus monopetalus, tubulatus quadrifidus. Folia parva, laevia, subrotunda, ex adverso bina, e quorum alis proveniunt flores. Cngh. *Cheusan*. Floret Oct. P. 4. Tab. 354, fig. 2.

Aconitum minus autumnale *cheusanense*, sin: *Tsou u* dicitur. Floret Sept. Oct. P. 5.

In Peking A. Kuznetsowii. Rchb. blue flow. is called 草烏頭 *Ts'ao wu t'ou*. Fl. Sept.

Alcaea indica Sinarum. Frutex arborescens flore amplo luteo Malvaceo, fundo purpureo, fructo villosa, in 5 loculamenta diviso semina fusca reniformia. Folia fert ut *Populus alba*. Fl. Junio, semen perficit Sept. Est species *Ketmieae*. Cngh. P. 6. Tab. 355, fig. 5.

Hibiscus tiliaceus. L. (Gieseke.)

Alcea sinica Manihot, fructu pyramidato, hirsuto, quinquecapsulari, seminibus reniformibus, foliis digitis longioribus, sin: *Tchu whei* dicitur. Cngh. P. 7. Tab. 355, fig. 2.

Hibiscus Manihot. L. (Gieseke). By the Chinese name given probably 秋葵 *ts'iu k'ui* (*dziu hwe* Shanghai.) is intended. In Peking this is the name for *Hibiscus Abelmoschus*.

Alcea olitoria s. *Corchorus longiori* folio *Sinarum*. P. 7.

Corchorus capsularis. L. See Lam. Enc. Bot. II 104.

Alni folia arbor e *Chusan*. P. 8.

Althaea fruticosa sinensis, Betonicae folio majore. P. 11.

Althaea fruticosa sinensis, foliis parvis angulosis, seminibus incanis. P. 11. Tab. 355, fig. 3.

Amaranthus sinicus latifolius, spica candidissima. P. 12.

Amaranthus parvus sinensis. Bliti minoris folio, spica laxa virescente tenui, *Addecomogule* Malabarum. P. 12. Tab. 356, fig. 2.

Ambrosiae (forsan) e China Anguriae foliis accedenti, Alma-gesto 27 similis, ex ins. *Crodil*. An potius *Matricariae japon*. spec. sinica, *keuk hoa* Sinis dicta. P. 13.

Anonymos cheusanensis sideratidis folio, fructu Ulmi samaris hand absimili, sed minore. Flos albus minimus, monopetalus quintifidus. Capsula subrotunda, semen unicum, planum et ovatum, instar seminis Sesami continens. Aperto flore protuditur, et adnascitur membrana rotunda, instar squamae, per longitudinem pediculi floris transcurrens, capsulae autem non adnascit, sed latet quasi ad membranae centrum excavatum. Flores e foliorum alis et caulium summitatibus nascuntur, in muscariis dispositi. Folia ex adverso bina, oblonga et leviter crenata. Oct. flor. Cngh. P. 16. Tab. 443, fig. 1.

Anonymos cheusanensis Betonicae folio incano, Chamaecisti flore luteo, praelongo, pentapetalo, fructu Balsaminae foeminae trifariam ab ima parte dehiscente. Sept. fl. Cngh. P. 16. Tab. 360. fig. 2.

Antirrhinum minus cheusanensis, Anchusae folio scabro, flore luteo, ad fundum superius extra et intus purpurastente P. 17. Tab. 358, fig. 1.

Aquilegiae corniculis, Moschatellinae foliis planta pusilla. *Chusan*. P. 19. Tab. 360, fig. 3.

Isopyrum adoxoides D. C. Prodr. I. 48. Lam. Enc. Bot. III. 99. Spreng. Syst II 470. F. B. Forbes in the prov. of Kiangsu (Journ. Bot. 1880 p. 257) Hancock near Ningpo (Maximow. Frag. H. Asiae orient. 1879. p. 3.

Arbor baccifera cheusanensis. Fagi folio, subtus glauco, fructu singulari quadrifido, ad foliorum ortu sessili. P. 20.

Arbor indica cheusanensis, Salicis latiori folio, leviter serrato, flosculis ad foliorum exortum, confertim sessilibus. P. 21.

Arbor cheusanensis, Arbuti minoribus foliis, flosculis ad foliorum alas, curtis pediculis deorsum tendentibus affixis P. 21. Tab. 402, fig. 3.

Arbor prunifolia cheusanensis, baccifera, fructu parvo, rotundo, summis ramulis in spicam disposito. P. 21. Tab. 361, fig. 3.

Arbor indica cheusanensis, Salicis odoratae folio, fructu ex alis squamato calyce donato. *Swa tea* Sinensium, flore pleno, albo, rubro et variegato. Sunt variae species Theae Indorum. P. 21.

Camellia japonica. L. V. supra Philos. Trans. 93.

Arbor baccifera cheusanensis, Euonymi foliis undulatis et punctatis, fructu rotundo, parvo, calyculato, rubro, *Oxycanthi* aemulo. P. 21. Tab. 362, fig. 6.

Arbor sinensis, Canellae folio minore, trinervi, prona parte villosa, fructu Caryophylli aromatici majoris, villis similiter obducto. Ins. Crocodil. P. 21. Tab. 372, fig. 1.

Arbor cheusanensis, Fraxini foliis superne dilute virentibus, subtus lividis, summa singulari pinna alas claudente, caeteris multo majore. P. 22.

Arbor sinensis Taxi folio, apicibus obtusis. P. 22.

Arbor cheusanensis baccifera, Coryli folio, summis ramulis racemoso. P. 25.

Arbor Sinensium, Laurocerasi foliis angustioribus, alterno ordine sitis. P. 25.

Arbor Sinensium Lauri folio *Lei chi*, i.e. Oculum Draconis, fructum ferens; et aliquando *Lung yen* indigenis audit. Michael Boym Flora sin. P. 25. Tab. 365, fig. 6.

Nephelium Litchi Camb. and **N. Longar.** Camb. Plukenet erroneously takes these two species to be identical. V. supra Boym 6. 7.

Arbor cheusanensis, Arbuti foliis serratis. P. 25. Tab. 370, fig. 2.

Arbor cheusanensis baccifera, Frangulae foliis venosa, fructu parvo pyramidalis, calyculato, ossiculo oblongo binucleo. P. 25. Tab. 368, fig. 3.

Arbor sinensis sebifera Kieu-yeu. (I omit the detailed description.) P. 25. Tab. 390, fig. 2.

Stillingia sebifera. Michx. See above Phil. Trans. 90.

Arbor sinica Pipa dicta, folio Castaneae haud absimili. Arbor est flore albo rosaceo, plerumque pentapetalo, Ulmariae odore, staminibus apicibus farinaceis et nigricantibus, donatis. Ex calyce quintifido, lanuginoso et fusco surgit pistillum, quod deinde abit in fructum subrotundum, flavum, coronatum, fraga redolentem, pruni minoris magnitudine, nucleos continentem tres, aliquando duos, raro unicum, membrana communi tenui, ejusdem cum pulpa flavi coloris, et membrana propria fusca involutos. Flores in fasciculis nascuntur. Folia lanuginosa, ex acuta basi oblonga, latiora et serrata, versus sumitatem, et in acumen desinentia. Nov. floret, fructus Majo maturescit. Cunningh. P. 26. Tab. 371, fig. 2.

Eriobotrya japonica. Lindl. See above Boym. 11.

Arboris Pipa altera species, non serrata, foliis viridibus, scabris. P. 27.

Arboris Pipa species altera, Quercinis foliis, *Cheusanica*. P. 27.

Arbor Lauri folia, floribus minimis ex albo flavescentibus.

Chusan. Flores sunt odoriferi, Iridis Florentinae odorem spirantes, monopetali, quadrifidi, ad foliorum alas ex thecula cauli appressa, fasciculatim nascentes, pediculis longioribus (unde penduli apparent) stylo brevissimo, duobus staminibus brevissimis stipato; e calice prodeunte, qui abit in fructum. Sept. flor. A Sinis *Quei hoa* nuncupatur. Cungh. P. 27.

Olea fragrans. Thbg. V. supra Martini 20.

Eadem *Arbuti* foliis serratis. P. 27.

Arbuscula baccifera sinensis, Lauri folio, ad ortum foliorum bacca singulari, nigra, longo pediculo innixa. P. 27. Tab. 362, fig. 2.

Arbuscula sinensis; *Viburni* foliis. *Chusan*. P. 27.

Arbuscula cheusanensis, Phillyreae alternis foliis, baccis Myrti coronatis. *Myrtillus grandis cheusanensis*. P. 27.

Arbuscula cheusan. Neri splendens foliis, aversa parte medio nervo plurimum extante, virgulis purpureis. P. 28. Tab. 365, fig. 5.

Arbuscula cheusan. Salicis pumilae angustioribus foliis, hirsutiae aurea pubescentibus, fructu parvo, in foliaceo conceptaculo pyramidali obvoluto. An Cysti genus? P. 28.

Arbuscula sinensis. Ulmi minoris folio, fractu nigro, testiculato, dicocco, racematim congesto. Ins. *Crocodil*. Kilcola Tsjetti. H. malab. X. tab. 57.—P. 28. Tab. 371, fig. 6 et 4.

Arbuscula baccifera sinensis, Lauri folio minore, fructu corymboso, summo capite coronato. *Tau cudda muram* indigenis dicta. P. 28.

I may observe that this is not a Chinese, but rather an Indian name.

Arbuscula cheusanensis, Pyracanthae majoribus foliis margine asperatis, spicas foliorum et seminum Passerinae minoris haud abludentium, ex alis emittens. P. 28.

Arbuscula Myrtifolia sinensis, foliis leviter crenatis, fructu calyculato, pyramidali. *Chusan*. P. 29.

Arbuscula sinensis Myrti majoris folio, vasculo seminali hexagono, ad singulos angulos alis foliaceis munito, quae porrectae, vasculi coronam efformant. *Um ki*, alias *u may* Sinensibus dicta. Hujus semina tinctoribus inserviunt, iis enim ab indigenis optime tingitur, nobilis ille color, quem Escarlatinum nostrates vocant. Flos rosaceus albus, hexapetalus. Cngh. P. 29. Tab. 448, fig. 4.

Lour. Fl. cochin. 183 identifies this with *Gardenia florida* L., which at Shanghai is called 黃梔 *huang (wang) chi*

Arbuscula Sinarum folliculifera, Hypericis frutescentis foliis, folliculis longis, plurimis isthmis donata. P. 30.

Arbuscula cheusanensis Aceri Monspensulani folio, subtus rore coeruleo tincto, longo pediculo insidente. P. 32. Tab. 366, fig. 3.

Perhaps the same as Phil. Trans. 57 (see above) *Acer trifidum* Thbg.

Arbuscula sinensis Cisti minoris folio rigidioro parvo subrotundo, in brevius acumen desinente alternatim posito. Flores candicantes ex 5 vel 6 petalis seu laciniis angustis longioribus compositi, calyx quadrifidus. Flores in summitate ramulorum bini vel terni. Fructus ovatus, parvus, bivalvis, villosus, glandis ad instar calyculatus. Bina semine ovata. *Cheusan*. Cngh. P. 32. Tab. 368, fig. 2.

According to D.C. Prodr. IV 269 this is *Hamamelis chinensis* R. Br. observed by Abel (1818) in China.

Arbuscula baccifera spinosa, Persicariae foliis densis, triphylla, Lentisci modo rachi medio alata, fructu parvo, monopyreno, aromatico. *Wha tchaw* Sinensibus dicta. P. 33. Tab. 391, fig. 2.

Zanthoxylum. V. supra Philos. Trans. 74.

Arbuscula sinensis, Alaterni foliis et facie. *Chusan*. P. 33. Tab. 362, fig. 1.

Arbuscula sinica, baccifera, folio parvo, subrotundo, solidiori, Caryophylli aromatici fructu, rotundo, monopyreno et insipido. P. 34. Tab. 362, fig. 4.

Arbuscula sinica foliis argute denticulatis et incanis, Verbasci nigri Salvi folii aemulis, flosculis numerosis, ex foliorum alis. P. 34. Tab. 450, fig. 1.

Arbuscula cheusanensis, Laurinis pallidioribus foliis, ad summum ramulorum, in spicis plurimis erectis, julorum ad instar, flosculos ferens. P. 34. Tab. 369, fig. 2.

Arbuscula sinensis Convolvulacea, Staphylodendri aethiopicum folio, lucido, bijugo, margine piloso. P. 34. Tab. 372, fig. 2.

Arbuscula sinica Cynoglossi foliis, incanis, quiddam in ramorum fastigio, foliolis sericeis, confertim stipatis compactile Rosae aemulum pro floribus ferens. Cuningh. In hortis Bonziorum colitur et *Ki heang* nuncupatur. P. 34. Tab. 371, fig. 1.

Arbuscula Sinarum, alternis minoribus foliis, non punctatis, floribus Aurantiae. P. 34. Tab. 365, fig. 1.

Arbuscula Sinarum baccifera, Salicis odoratae foliis glabris, leviter crenatis et laete virentibus, fructu rotundo monopyreno. P. 34. Tab. 369, fig. 1.

Arbuscula Sinarum, alternis foliis Arbuti, saturato virentibus et ragute denticulatis. P. 35. Tab. 370, fig. 3.

Arbuscula sinica Rhamni cathartici fere foliis non serratis, fructu albo parvo, bivalvi, in calyce villosa pene immerso, ad foliorum ortus cum pediculis egrediente. P. 35. Tab. 361, fig. 2.

Arbuscula prunifolia sinensis, floribus parvis, pentapetalis, albis, summis ramulis racemosis. P. 35. Tab. 362, fig. 6.

Arbuscula baccifera sinensis, foliis Lauri alternatim sitis, fructu nigro molli, polypyreno, ex alis binatim cum pediculis exeunte. P. 35. Tab. 360, fig. 5.

Arbuscula sinensis Alaterni alternis brevioribus foliis, magis mucronatis, floribus pentapetalis albis, Oxyacanthi aemulis, in ramulorum fastigiis. P. 35. Tab. 362, fig. 3.

Arbuscula sinensis, Alaterni alternis, longioribus foliis, fructu Myrti solitario inter ramulos sparso. P. 35. Tab. 366, fig. 1.

Arbuscula sinica, Anonae dulcis folio minore non splendente. Folia alternatim brevissimis pediculis cauli adhaerent et singuli flores e foliorum alis cum brevibus pediculis egrediuntur. Flos est stamineus, minimus, calyce multifido. Fructus compressus, instar seminis Malvae, multicapsularis, plurima semina rubra, in bina serie per circumferentiam includente Cunningham. P. 35. Tab. 368, fig. 1.

Phyllanthus puberulus. Müll. var. *sinensis*. D.C. Prodr. XV 2. 307.

Arbuscula cheusanensis, Salicis caprariae folio rigidioris, flore coeruleo, infundibuliformi, quadrifido. Folia ad basin et summitatem acuminata, superna parte viridi, inferna albo virescente, brevibus pediculis insidentibus. Cortice est tenaci. Augusto flor. Cngh. P. 36.

Arbuscula Sinarum Carpini foliis, fructu rubro, baccam mentiente. Flos 5 petalus, exterioribus petalis sub viridibus, veluti adhaerentibus, et 5 interioribus, ex luteo obscuris, ex cujus calyce, parum 5 fido surgit pistillum, quod deinde abit in fructum rubrum, baccae instar rotundum. Folia lanceolata, nervis bijugis, rectis, conspicuis, absque divisionibus, a medio nervo in folii latera protensis. Flores nascuntur in muscariis. Oct. floret. Cnghm. P. 36.

Artemisia leptophyllos Sinarum. Ins. *Crocodil*. P. 37. Tab. 353 fig. 2.

Artemisia chinensis, cujus mollugo *moza* dicitur. Plukenet's *Almagestum* 50, tab. 15, fig. 1.

This is according to Lamarck. Enc. Bot. Suppl. I. 466. *Artemisia vulgaris* L. var. *indica*.

Aster cheusanensis Tripoli nostratis aemulus et forte idem. P. 40.

I may observe, that *Aster Tripolium*, L. is found in North-China.

Aster cheusanensis coeruleus, foliis subrotundis impense scabris, alternatim positis. Flores ex foliorum alis solitarii. Discus ex flosculis luteis multifidis, stamine bicorni praeditis, et corona ex semiflosculis coeruleis compositus est. Calyx squamosus, et semina pappis instructa. Oct. flor. Cngham. P. 41. Tab. 373, fig. 3.

Aster cheusanensis, Virgae aureae scabris foliis, floribus coeruleis. Discus ex flosculis plurimis flavescens, corona vero ex semiflosculis coeruleis componitur. Flores insident cauliculis foliolis donatis, e foliorum alis prope summitatem egredientibus. Semina teretia, minuta, pappis instructa, et calyce squamoso comprehensa. Folia oblonga, acuminata, rigida, crenis raris notata alterna. Oct. flor. bipedalis. Cnghm. P. 42, Tab. 374. fig. 3. Idem floribus albis.

Aster cheusan. Virgae aureae alternis foliis, summo caule flore parvo singulari. P. 42. Tab. 373, fig. 4.

Aster cheusan. luteus, *Lysimachiae* siliquosae foliis, inferne villosis. Flos luteus, radiatus, discus flosculis luteis, corona quoque lutea. Calyx squamis longioribus. Folia alterna, oblonga, acuminata, superne pallide viridia, inferne incana et villosa. Sept. et Oct. flor. Cnghm. P. 48.

Aster luteus cheusan. Bliti majoris folio, paucioribus floribus, summo caule brachiato. P. 43. Tab. 373, fig. 5.

Aster luteus cheusan. Botryos folio, plurimis floribus, summo caule brachyato. P. 43. Tab. 410, fig. 3.

Auriculae Ursi affinis (*Androsace* dicta.), *sinensis*, *Saxifragae* aureae foliis, pediculis longis insidentibus. P. 43. Tab. 440, fig. 6.

See above Philos. Trans. 52.

Blitum Kali dictum *sinense maritimum*, album vermicularis et crispatis comis. *Chamaepitys maritima*. *Cheusan*, Cnghm. P. 45. Tab. 375, fig. 1.

Calamintha sinensis, *Ocymi* folio et odore *Sisymbrii*. P. 48. Tab. 377, fig. 1.

Calamintha montana cheusan, *Origani* folio, odore *Pulegii*. P. 48. Tab. 377, fig. 6.

Calamintha cheusanensis, *Pulegii* odore, dentatis foliis, floribus dilute coeruleis ex longo, ramoso, brachiato caule prodeuntibus. P. 48.

Campanula sinica, *Ocymi* majoris folio, flosculis ad summitatem perexiguis. P. 49.

Cannabis sterilis s foemina nostras e regione Sinarum.

Cardiaca angustiori folio *sinica*, flore coerulescente et purpurascete. P. 50. Tab. 377, fig. 5.

Cardiaca sinensis, *Ballotae* foliis ex ins. *Crocodil*. P. 50.

Carduo Cirsium Sinarum, foliis magis spinosis, capitulo singulari. P. 51. Tab. 382, fig. 3.

Cassiae Cinnamomeae, Myrrhae odore Phytograph. similis ex insula *Cheusan*. P. 52. Tab. 381, fig. 2.

Centaurium minus, vulgari similis, ex insula *Sinarum Ukui san*, mense Junio collectum. P. 53. Tab. 381, fig. 1.

Centaurium minus Ascyroidis folio alterno, trapezii forma transparenti. *Cheusan*. Huic folia ad caulem non sunt bina, sed alterno ordine sita. P. 53. Tab. 381, fig. 4.

Centaurium minus Cheusanense spicatum. Aug. flor. P. 53. Tab. 381, fig. 6.

Cerasae Hottentottorum, (quoad folia) haud absimilis, fructu coronato. *Cheusan*. P. 54.

Chrysanthemum sinicum Bellidis majoris folio, floribus parvis, in ramulorum fastigiis. P. 56. Tab. 383, fig. 6.

Chrysanthemum minus, Anchusae foliis, floribus parvis *Cheusan*. P. 56. Tab. 382, fig. 1.

Chrysanthemum sineuse procumbens, Hyssopi foliis, pilis tenuissimis, margine fimbriatis. P. 56.

Chrysanthemum, Cannabinae aquaticae latiore folio indiviso. *Chusan*. Bidens seu Eupatorium aquaticum, folio serrato non diviso, flore flosculoso luteo, plurimis flosculis constante multifidis, embryoni insidentibus, foliolis membranaceis intermediis, et calyce folioso, cum foliolis membranaceis composito, comprehensis. Semen in duos desinens aculeos. Spt. flor. Folia bina, oblonga, ad basin et summitatem in acumen desinentia. Sinice: *mok teu tsaw*. Cnghm. P. 56.

Chrysanthemum, Conyzoidi Cannabinae simili, capitulis deflexis Almag. bot. 101, seu Asteri cernuo Fab. Columnae proxime accedens. *Cheusan*. Cnghm. (descriptio). P. 57.

Chrysanthemum sinicum minus angusto Calendulae folio, flore octopetalo luteo. P. 57. Tab. 383, fig. 5.

Cichorio affinis *Lampsana sinica*, Mentastri foliis, calyce fimbriato, hispido, flore luteo. Sin. *Hi him tsaw*. Sept. fl. Cnghm P. 58. Tab. 380, fig. 2.

Sigesbeckia orientalis. L. 豨薟 *hi hien*. I have omitted Cunningham's detailed description.

Cistus Rhododendros, sericeis foliis *cheusanensis*. P. 59.

Cistus sinica, Cisti Populi nigrae majoris foliorum aemula. P. 59.

Cistus minor cheusan. Salicis pumilae folio angusto et incano. P. 59. Tab. 379, fig. 2.

Cistus humilis seu *Chamaecistus* flore albo, vulgari similis, ex ins. *Crocodil*. P. 59.

Clematis cheusanensis, Bucananthi majoris fere foliis solitariis, ad margines spinosis serris, spica florum ampliori, ex foliorum alis. Planta repens flore purpureo violaceo. Sept. flor. in saxosis proveniens (I omit Cunningham's description.) P. 60. Tab. 384, fig. 1.

Clematis arborea, summo folio bicorni. *Cheusan*. Hort. Malab. VIII. tab. 30, 31. *Naga nu valli*. P. 60.

The name here quoted is an Indian name for *Bauhinia scandens*. Comp. also above Philos. Trans. 80.

Clematis minor maritima Sinensium. P. 60.

Clinopodium sinense nostrati simile, sed minus. P. 60.

Clinopodium Origano simile. *Cheusan*. P. 61.

Clinopodium cheusanicum Chamaedryos folio majore. P. 61. Tab. 384, fig. 4.

Clinopodium parvum sinicum, hirsutis Majoranae foliis coronatum. Majoranae species, flore coerulescente labiato, cujus labium superius surrectum est, subrotundum bifidum, inferius vere tripartitum, foliis parum villosis. Sept. flor. Cnghm. P. 61. Tab. 380, fig. 4.

Gieseke identifies this with *Cometes alterniflora*. L., an Indian plant.

Cocculi orientalis frutescens convolvulaceus, orbiculatis foliis, prona parte villosis. *Ins. Crocodil*. P. 61. Tab. 384, fig. 6.

Convolvulus minor sinensis, longiore hirsuto folio, flore albo parvo. P. 64.

Convolvulus argenteus, rectus Sinarum, spicae folius. P. 64.

Coriotragematodendros Sinarum, foliorum marginibus magis serratis. P. 65. Tab. 446, fig. 7.

Corni similis cheusanensis, bacca parva calyculata, striata, rubra, e foliorum alis binatim egrediente. Folia ex adverso bina subrotunda, acuminata. Baccae rubrae, umbone peditae binae, brevi pedicelo et calyce integro insidentes, in pulpa molli et lutescente semina compressa. Sesami instar continentes. Sept. collegit Cnghm. P. 66. Tab. 385, fig. 5.

Crotalaria cheusanensis, spicae foliis argenteis, siliquis pro-pendentibus glabris, calycibus villis ferrugineis obductis in totum fere immersis. P. 67.

Cupressus cheusanensis, Juniperinis arcuatis foliis, clavis galbulorum eleganter cristatis. P. 69. Tab. 386, fig. 3.

Cryptomeria japonica. Don. See above Philos. Trans. 70.

Doronicum Tussilaginis folio, flore magno singulari. *Cheusan*. P. 71. Tab. 390, fig. 6.

Tussilago japonica. L. (Gieseke). Comp. above Philos. Trans. 31.

Elychrysum Lithospermi foliis. *Ins. Crocodil*. P. 72.

Elychrysum angustifolium sinicum, incanis foliis, floribus parvis sulphureis in capitulum congestis. P. 72.

Equisetum nudum non ramosum, asperum, fimbriis ciliaribus ad genicula cayaneis. Ins. *Crocodil.*

Eryngii species sinica, folio fere plano, trilobato et crenato, sin. *sha sin* dicta i.e. in arenis nascens. Ins. *Tau whej san.*

Euonymo nostrati similis, sed multo latioribus foliis. Arbor fragilis foliis subrotundis acuminatis et serratis, flore tetrapetalo, ex albo virescente, staminibus quatuor brevissimis, totidem apicibus purpureis donatis, calyce 4 fido, e quo surgit pistillum, quod deinde abit in fructum quadrangularem membranaceum, in 4 loculamenta divisum, singula continentia duo grana rubentia, sibi invicem appressa, foliis ex adverso binis, latioribus, serratis, in mucronem desinentibus. Fructu maturo, capsula purpurascit. Oct. perficitur. Cnghm. anno 1702. mense Novembri ex insula *Pu to* (east of Chusan.) detulit. P. 75.

Euonymo affinis *cheusan.* Frutex Laureoli foliis, solidioribus, tricapsularis et quadricapsularis, P. 76. Tab. 390, fig. 3.

Euonymo affinis Sinensium, tricapsularis, foliis subrotundis Lauri. Ins. *Crocodil.* P. 76.

Euonymo affinis Sinarum quadricapsularis, subrotundis, rigidis foliis dentatis, foliis et ramulis ex uno puncto quaternis P. 76. Tab. 392, fig. 3.

Euonymo affinis *cheusanensis.* Arbuscula staphylodendri nostratis folio, fructu gemello, bicapsulari. P. 76. Tab. 390, fig. 5.

Euonymo affinis *Pyracanthae* foliis. *Cheusan.* P. 76. Tab. 390, fig. 4.

Euonymo affinis aromatica s. *Zanthoxylum spinosissimum*, Fraxini angustiore folio punctatum. *Cheusan.* P. 76, Tab. 392, fig. 1.

Euonymo affinis aromatica s. *Zanthoxylum* latiore Fraxini folio conjugato, minus spinosum. *Chusan.* Frutex aromaticus arborescens, cujus truncus et rami spinis brevibus et tuberosis horrent, foliis Fraxini alatis, leviter serratis, perforatis, minime spinosis. Fructum fert in racemis unicusularem laevem, virescentem et punctatum, seu perforatum, acerrimum Camphorae gustum sapientem, qui bifariam dehiscens, in apice semen ostendit unicum, nigrum, splendens, hilo angusto et obscuro notatum. Rami sunt medullosi et cavi, instar Sambuci. Oct. fructum perficit. Idem forte cum Herculis arbore nobis allata at ei quam proxime cognata. Forte Piperifera arbor Le Comte. P. 77.

Euonymo affinis aromatica s. *Zanthoxylum* Fraxini latiore folio sinuoso, medio nervo utrinque spinoso. Ins. *Crocodil.* P. 77. Tab. 449, fig. 7.

Euonymo affinis aromatica s. *Zanthoxylum* spinosum, Fraxinellae foliis cheusanicum. Frutex aromaticus, spinosus, spinis brevibus, foliis laevibus, perforatis, brevibus, in acumen desinentibus, costae per conjugationes innascentibus, impari claudente. Fructum fert unicapsularem, rotundum, scabrum vel verrucosum, acerrimum Camphorae gustum sapientem qui bifariam dehiscens, semen ostendit unicum, nigrum, splendens, nulli fere gustus, nisi oleosi. Fructus in racemis, Oct. maturescunt, sin: *Hoá tchaw* nominatur et vice Piperis utuntur. P. 78. Tab. 393, fig. 2,

According to Hooker and Arn. voy. Beech. 175 this is *Zanthoxylum nitidum* D.C.—Comp. also above Phil. Trans. 74.

Euonymo affinis aromatica seu *Zanthoxylum* sinicum spinosum, Cynorrhodi foliis et facie. Cunningham. P. 78.

Euonymo affinis aromatica s. *Zanthoxylum cheusanense*, spinosum minus, Rosae Pimpinellae foliorum aemula, cujus fructus forsan sunt Fagarae Clusii minores. Frutex aromaticus, spinosus, minor, foliis alatis non perforatis, leviter serratis, costa spinosa. Fructum fert ad ramorum summitates in fosciculos congestum, unicapsularem, laevem, virescentem et punctatum seu perforatum, gustus camphorati. Semen unicum, nigrum, splendens. Oct. fructus maturescit. P. 79. Tab. 391, fig. 3.

On the same page an account of *Tea* is found, which I omit.

Eupatoria Conyzoides sinica, Baccharidis folio rarius crenato, summo caule ramoso, floribus parvis coronato. P. 79,

Eupatorium sinicum, Leonuri africani foliis, flore ex albo coerulescente. Folia oblonga, serrata et acuminata. Florem fert album, fosculosum, plurimis fosculis companiformibus quintifidis constantem, ex quibus singulis longum surgit capillamentum, album, bifidum, quibusdam brevibus capillamentis nigris circumdatum, extra fosculum non prominentibus, unde flos apparet, quasi ex albo coerulescens, et calyce longo, tereti, et squamoso comprehensis. Semen nigrescens pappis instructum. Sept. floret. Cnghm. P. 82. Tab. 392, fig. 2.

Eupatorium Conyzoides sinicum, Tarraconis folio, capitulis argenteis. Flos radiatus, discus e flosculis luteis, corona vero e semiflosculis albis componitur. Calyx squamosus. Folia viridia, longa et angusta. Oct. flor. Cnghm. P. 82.

Eupatorium Conyzoides cheusan. Tarraconis folio, coma aurea amplissima. P. 82. Tab. 395, fig. 3.

Euphrasia sinica Parietariae foliis, Rubiae modo spicata. Flos albens, personatus. Labium sup. acuminatum et brevius, inf. vero tripartitum et longius. E calyce profundo-multifido, surgit pistillum, quod abit in fructum seu testam oblongam, bifariam dehiscentem, in dua loculamenta divisum. Flores in spicis nascuntur. Folia ex adverso bina, Teucree similia. Cnghm. P. 83. Tab. 392, fig. 4.

According to Lam. Enc. Bot. I 629 this is *Justicia procumbens*. L.

Euphrasiae affinis sinica, Chamaedryos laciniatis foliis, Botryos instar, floribus purpureis, spicatis, amplis, longo et striato calyce exeuntibus. P. 84. Tab. 394, fig. 2.

Euphrasia Chamaedryos spuriae foliis ex ins. *Cheusan*. P. 84. Tab. 396, fig. 4.

Euphrasia minor sinica, Betonicae Pauli foliis, capsula longa, siliquam aemulante. Flos carneus personatus, labio sup. in acumen desinente, inf. vero trifido. Fructus est siliqua teres, bicapsularis. Semina minutissima. Folia bina, opposita, subrotunda, mollia et leviter serrata. Sept. flor. Cnghm. P. 84.

Euphrasia parva Thymi folio, procumbens, seu *Crataegonium minimum* Indorum, *Arrevenar-pundoe* Sinarum. P. 85. Tab. 404, fig. 3.

Fagotriticum erectum Sinarum, Persicariae folio, floribus in muscariis, calyce floris carneo, semine triquetro acuminato, spica floris brevi et multifida, foliis ex latiori basi in mucronem desinentibus, ad nodos alternatim positis, rarioribus. Sept. Oct. flor. *La leou* sinice nuncupatur. Cnghm. P. 86. Tab. 398, fig. 2.

The Chinese name 辣蓼 *la liao* is applied to several species of *Polygonum*.

Fagotriticum rectum sinense, Convolvuli minoris folio ad caulium nodos, appendicibus pilosis auriculato. Persicaria calyce floris albo, flores in ramulorum summitatibus in muscariis disponuntur. Semina fusca, triquetra et acuminata. Folia lanceolata, aurita ex nodis alternatim nascentibus, nodum verum aliud plerumque foliolum subrotundum hirsutum quasi amplectitur. Palustribus gaudet. Oct. flor. Sin: *Ya tien tching*. Cnghm. P. 86. Tab. 398, fig. 4.

Fagotritici similis spinosa minor sinica, cauliculis erectis. Persicaria calyce floris rubente, foliis lanceolatis auritis et angustioribus, caulibus et ramibus spinosis, semine nigro splendente, triquetro et acuminato. In palustribus. Cnghm. P. 87. Tab. 398, fig. 1.

Linnaeus identifies this with his *Polygonum perfoliatum*.

Ficus arbor nostrati similis, fructu nigricante. Ins. *Crocodil*. P. 87.

Filix Adianto nigro officinarum similis pediculo viridi, pinnulis magis eleganter incisus. *Cheusan.* P. 91. Tab. 403. fig. 2.

Adiantum pallens. Sw. V. Lam. Enc. Bot. suppl. I. 138.

Filicis non ramosae genus, pinnulis latius dentatis. *Ins. Crocodil.* P. 92. Tab. 401, fig. 2.

Filicis folia, *Lonchitidis* facie sinensis, ad pinnularum nervos lincolarum ferruginearum duplicem ordinem dorsigerens. P. 93. Tab. 399, fig. 3.

Filix cheusanica, latiori *Lonchitidis* serrato folio, aversa parte ferrugineis punctulis refertissimo. P. 93. Tab. 405, fig. 1.

Filicula s. *Bryopteris* repens Sinarum, inter *Filicem* et *Lycopodium* compos., pinnulis aversa parte micis argenteis ornatis. P. 93. Tab. 400, fig. 3.

Filix Phyllitis dicta minima *cheusan.* aversa parte globulis binis ordinibus per longitudinem foliorum instructa. P. 93. Tab. 405, fig. 4.

Filix minor sinica, foliis integris et trifidis, aversa parte punctis ferrugineis rarius interspersa. P. 93. Tab. 404. fig. 1.

Filicula cheusanica s. *Hemionitis* multifido folio tenuissime serrato, ad margines seminifera. P. 94. Tab. 407, fig. 2.

Pteris crenata. Sw. (Lam. Enc. Bot. V. 715).

Filix sinica Smyrni cretici facie, perelegans. P. 94. Tab. 398, fig. 6.

Frutex cheusanensis Bardanae majoris folio minore, Sambucum olens, floribus Jasmini odoris. Cnghm. in hunc modum describit: Frutex est flore albo, monopetalo, infundibuliformi, tubo longiore 5 fido, stylo staminibus productioribus stipato, abeunte in fructum mollem, seu baccam rotundam coeruleam, plerumque dipyrenam calyce insidentem 5 fido, ex virido purpurascente. Folia fert bina, lata, in acumen desinentia et pediculis longis insistentia. Sept. Oct. flor. P. 96. Tab. 411, fig. 1.

Frutex sinensis prunifolius, denticulis ad marginem spinosis, aversa parte parum villosis. P. 96. Tab. 409, fig. 3.

Frutex cheusanensis Myrti folio, flore albo hexapetalo, Jasmini odore fragrantissimo. P. 96. Tab. 409, fig. 1.

Frutex sinensis Myrtinis foliis pallentibus, alterno ordine dispositis. P. 96. Tab. 411, fig. 5.

Frutex sinensis baccifer, Ligustri foliis, fructu parvo, rotundo nigro monoppyreno, calyce donato. P. 97. Tab. 407, fig. 1.

Frutex sinicus non spinosus, baccifer, Pyracanthae foliis majoribus, fructu parvo, rotundo, polypyreno. P. 97. Tab. 411, fig. 4.

Frutex cheusanensis baccifer, Theae foliis, laete virentibus, flosculis parvis virescentibus, plurimis simul ad foliorum ortus, ex calyce squamoso prodeuntibus. Frutex est flore 5 petaloide, petalis reflexis, squamatim nascentibus. Pistillum 4 fidum, quod deinde abit in baccam purpurascentem. Novb. flor. Cnghm. P. 97. Tab. 411, fig. 2.

Frutex cheusanicus floribus Theae ex albo carneis, fructu unicapsulari, capsula trifida. Foliis Theae sed non in usum adhibendis. Cnghm. P. 98. Tab. 409, fig. 2.

Frutex sinensis Alaterni longioribus foliis dilute viridibus, flosculis plurimis squamosis, ad ortum foliorum cauli appressis. P. 98. Tab. 406, fig. 2.

Frutex cheusanensis baccifer, Celastris foliis rarius dentatis, flosculis parvis, virescentibus, plurimis simul ad foliorum ortus, ex calyce squamoso racematim nascentibus. Proxime praecedentis forte species est. Frutex est flore pentapetaloide, petalis ex luteo virescentibus, fundo purpureo; ad divisuras petalorum prodeunt stamina brevia ex luteo virescentia. Pistillum virescens abit in baccam calyci hexaphyllo insidentem. Folia crassa, laevia subrotunda et acuminata, crenis raris, leviter incisa. Nov. flor. Cnghm. P. 98. Tab. 407, fig. 4.

Frutex sinensis Uvae ursi longioribus foliis, leviter crenatis. Ins. *Crocodil.* P. 99. Tab. 435, fig. 8.

Frutex sinensis Majoranae minoribus foliis, prona parte candicantibus venis pullis e directo, et lineolis transcurrentibus elegantissime delineatis. *Chusan.* P. 100. Tab. 408, fig. 3.

Rhamnus lineatus. L. See Lam. Enc. Bot. IV. 473. *Berchemia lineata*. D.C.

Frutex sinensis monococcus, Rubi foliis parvis, viticulis spinulis asperatis. *Chusan.* An *Rubus monococcus saxatilis alpinus*? P. 101.

Frutex spinosus baccifer Sinarum, foliis Pentaphylli quinquefidis. P. 101. Tab. 409, fig. 4.

Frutex sinensis baccifer convolvulaceus Cisti foliis pubescentibus ad ramulorum nodos confertis. *Mareta Inali.* Hort. Malab. XI. tab. 63.—P. 101. Tab. 416, fig. 3.

Frutex convolvulaceus spinosus sinicus rotundiore nervoso folio, floribus parvis, umbellatis, claviculis ligneis binatim donatus. P. 101. Tab. 408, fig. 1.

Smilax China. L. V. Maxim. Decad. X.

Frutex cheusanensis conifer, foliis Juniperi planis et teretibus Cupressi. Cnghm. P. 102.

Probably *Juniperus chinensis*. L.

Fruticis *Theae* species altera Sinarum. P. 102. Tab. 405 fig. 3.

Thea viridis (Giseke).

- Fumaria sinica* foliis Chelidonii modo laciniatis. P. 102.
Fumaria siliquosa, nodosis siliquis. *Cheusan*. P. 102.
Galeopsis cheusanensis spicata, Sideritidis folio et facie. P. 103.
Galium minus cheusanicum, locis uliginosis. P. 104.
Gentiana major aphyllis, adunco flore purpurascens. *Cheusan*.
 Planta flore Digitalis purpureo absque foliis e terra prorumpens. Cnghm. P. 105.
Gnaphalii minoris genus sinense. Ins. *Crocodil*. P. 107.
Gramen cyperoidum capillaceis foliis pusillum. Ins. *Cheusan*.
 P. 110. Tab. 417, fig. 8.
Cyperus tenellus. L. Comp. Roem and Schult. Syst. II. 167.
Gramen panicum polystachion sinicum, binis granorum ordinibus, et binis granis in eodem ordine, uno versu constante. *Cheusan* Sept. 20. 1702. Cnghm. Varrigo tawly Malabareis. P. 110. Tab. 417, fig. 7.
Gramen cyperoides cheusan. tricephalon, globulis echinatis. P. 112.
Gramen Cyperoides parvum sinicum, capitulo globoso, ad summum caulem inter quatuor foliola sessili. P. 112.
Hedera arborea cheusanensis, vulgari similis, sed foliis perangustis. P. 114. Tab. 415, fig. 5.
 Comp. Philos. Trans. 77.
Hedera cheusanensis Glycyrrhizae foliis rigidioribus. P. 114. Tab. 415, fig. 5.
Hieracium cheusanicum, Rapistri foliis glabris, ramoso caule, floribus parvis luteis. Flos radiatus, Discus ex flosculis lutescentibus et fuscis 5 fidis, corona e semiflosculis luteis octo plerumque composita. Folia laevia et laciniata. Planta 4-5 pedum alta. Nov. flor. Cnghm. P. 117.
Hieracium cheusan. Sonchi laciniatis folio. Flores in ramulorum fastigiis lutei. Oct. flor. Cnghm. P. 118.
Horminum sinense triphyllon, Caryophyllatae foliis, spica florum Galeopseos Dioscor. Planta flore purpureo violaceo labiato, piloso, cujus labium sup. falcatum est, infer. vero in 3 partes divisum, media Cochlearis instar excavata, cum duobus vel tribus staminibus versus labium sup. prodeuntibus. Calyx parum pilosus purpurascit et quasi labiatum, cujus labium inferius bifurcatum. Folia Betonicae similia versus radicem ex uno pediculo terna. Sept. flor. Cnghm. P. 119. Tab. 410, fig. 6.
Hypericum Ascyrum dictum *Cheusanense*, gummiferum, flore rosaceo, longissimis foliis, theca seminum pyramidata ex calyce polyphylo 5 capsulari, gummi subflavum et lucidum Mastiches instar fundente. Semina oblonga et exigua. Folia fert absque

pediculis, e regione bina, angusta, longiora et laevia, caule quadrangulo. Planta 3-4 ped. alta. Cnghm. P. 120. Tab. 420, fig. 4.

Jacobaea sinica, Irionis Apulae folio. *Chusan*. P. 121.

Jasminum japonicum Blattariae foliis latioribus ex adverso binis, subrotundis, acuminatis et serratis, floribus absque calyce tetrapetalis vel pentapetalis coeruleis, umbilico purpurascente, summo caule in umbellam sitis. Majo, Junio floret. Ex Japonia. Sin: *Seu kiu hoa* dicitur. Cnghm. P. 122.

繡球 *Siu kiu* is the Chinese name for several species of *Hydrangea*.

Jasminum sinense foliis venosis, floribus purpureis, Shetti instar, longissimo tubo donatis. Ins. *Crocodil*. Cnghm. P. 123.

Ilex cheusanensis, Lauri folio leni, subtus incano, glande parvo et prae laevore nitente, calyce rugoso. Cnghm. P. 123.

Ilex Sinarum, longioribus foliis, a summo ad medium usque in margine serratis. *Chusan*. P. 123.

There is an *Ilex* among the plants gathered by Cantor in Chusan.

Juncus sinensis paniculis parvis conglobatis, acumine singulari, integro. P. 124.

Juncus parvus sinensis, panicula sparsa, caule foliaceo compresso. P. 124.

Juniperi folia arbuscula cheusanensis conifera, foliis variis Cupressi squamosis et Juniperinis. Cnghm. P. 125.

Carrière (Conif. 151), identifies this with *Glyptostrobus heterophyllus*. Endl. But it seems to me, that this short diagnosis agrees as well with *Juniperus Chinensis*. L.

Kali spinosum cochleatum sinicum. Planta maritima ramosa, foliis teretibus in aculeum desinentibus, alternatim positis, caulibus rubentibus et striatis. Flores foliorum alis singuli, aliquando bini adherent, et versus ramorum cacumina in spicam quasi depositi. Flos primo aspectu pentopetalos apparet, fundo incarnato, petalis albertibus, rigidis, membranaceis, quorum tria fere cordiformia et duo magis angusta (stricte loquendo seminis involucrem; staminibus caret.) sed revera monopetalos, 5 fidus. In fundo floris vero, et membranaceo, quasi capsula conspicitur semen unicum rotundum. Floris calyx quasi campaniformis et squamosus, plerumque 4 fidus, aut 5 fidus, in aculeos inaequales desinens. Oct. flor. Sin: *sha sin* i.e. in arenis nascens. Ad oram maritimam insulae *Tow whey san* (v. supra) provenit. *Kali spinoso* vulgari haud absimile. Cnghm. P. 126.

Kali (forte) Genus herba *sinensis*, rotundiore Bliti folio, striato caule ad genicula plurimis barbulis ornato. *Tounde-pundoe* Sinensibus dicta. Huic autem haud parum convenire

videtur *Anonymos* nostra americana foliis Parietariae scabrae etc. Phytogr. tab. 136, fig. 4.

I need not say that *Touñde pundoe* is not a Chinese name.

Lamium purpureum cheusan. seu *Galeopsis*. Vide supra *Hormium* sin. P. 129. Tab. 410, fig. 6.

Lavandulae facie planta aromatica, argenteis foliis ex ins. *Crocodil.* An forte *Aster africanus frutescens*, *Lavandulae* folio, flore purpureo. H. Amst. part. all. 57.—P. 130.

Lavreola sempervirens cheusanica, floribus ex albo virentibus. *Jasminum* humile erectum flore albicante, foliis integris. Cnghm. P. 130.

Laurifolia pomifera e regione Sinarum. P. 130. Tab. 424, fig. 5.

Laurus cheusanensis aromatica, Camphoriferae haud abludens, foliis subtus rore coeruleo tinctis. P. 131.

Lupulus foemina cheusanensis florens solummodo et non fructum ferens.

Humulus japonicus. S. et Z. See above Mus. Petiv. 944.

Lychnis ramosior cheusan. purpureo flore multifido, calyce longo striato. P. 135.

Lychnis sinensis angustis foliis multiflora, capsulis rotundis, glabris. Ins. *Crocodil.* P. 135. Tab. 427, fig. 3.

Lycium Myrsinites Sinarum, spinis longioribus bijugis, foliis lanceolatis, laevibus et obscure viridibus, ex adverso binis, absque pediculis, bacca rubente coronata, duo vel tria semina continente. Ins. *Pu to*. In Bonziorum hortis colitur, sin: *hu tsu* dicitur. Cnghm. P. 136. Tab. 426, fig. 3.

In Japan as well as in China (Peking) the name of 虎刺 *hu ts'z'* is applied to *Dammacanthus indicus*. Gaert.

Lycii similis frutex sinensis, Buxi foliis subrotundis et lanceolatis, leviter serratis, plerumque binis et ramulis alternatim nascentibus, flore minimo amentaceo, in muscariis et spicis verticillatim disposito, calyce multifido. Oct. flor. Cnghm. P. 138. Tab. 426, fig. 1.

Lysimachia siliquosa minor, villosis foliis, flore purpureo. *Cheusan.* Nostrati forte sit villosior, alio quin haud differt. P. 138.

Lysimachiae spicutae Ephemerone dictae similis sempervirens. *Cheusan.* P. 138.

Malva cheusanica, coeruleis floribus, ad caulis intervalla semiverticillatim positis. P. 140.

Malva verticillata. L? Common in China.

Marrubium aquaticum sinense, *Ambrosiae Mexicanae* foliis inodoris. Planta verticillata, flore labiato, foliis serratis oblongis

Stachydis, caule quadrato. Sin: *Tchu sin* dicta. In hortis Bonziorum colitur. Ins. *Tow whey san* (v. supra). Cnghm. P. 142.

Matricaria sinensis, minore flore, petalis et umbone ochroleucis. P. 142. Tab. 430, fig. 3.

Linnaeus identifies this with his *Chrysanthemum indicum*.

Melilotus sinensis elatior, vulgari haud absimilis. P. 143.

Menthae cheusanensis spicata, *Lysimachiae* foliis, inodora. P. 144. Tab. 430, fig. 5

Menthae cheusan. verticillata, longiore et acuminato folio, odoris *Menthae*, camphoram resipiens. Flore ex albo coerulescente. Sept. floret. Alia est ejus species, gustus magis acris, sinice vocatur *po ho*. Cnghm.

The Chinese name 薄荷 *po ho* is applied to *Mentha arvensis*. L.

Menthae spicatae similis Sinarum. Nepetae minoris folio serrato, villosa, moschum olente, spica florum quaterno ordine, foliacea, monocarpus. Flores coerulescentes. Oct. flor. Cnghm. P. 145. Tab. 430, fig. 1.

Mercurialis cristatus minor procumbens. *Cheusan*. P. 145.

Muscus clavatus erectus crispatis foliolis, Spongiolae imitamentum. *China*. P. 149. Tab. 431, fig. 3.

Lycopodium cernuum. L. (Giseke).

Myrtus sinica latiore et crassiore folio, caule nodoso, ad cymum ramulorum flores emittens. P. 151. Tab. 433, fig. 4.

Nasturtium aquaticum minus cheusan. surrectum. P. 151.

A long confused dissertation on *Ninzin* seu *Ginseng* is found on p. 152.

Ocimum Melissophyllum sinicum, foliis longis, superius magis, inferius minus villosis serratis, flore ex albo purpurascente, labiato, cujus labium sup. parum surrectum est, vix bifidum, inf. vero tripartitum medio lobo puncto luteo notato. Flores nascuntur in spicis quadrangvlaribus, foliolis inter flores squamatum emanantibus. Oct. flor. Cnghm. P. 158. Tab. 429, fig. 8.

Ocimum Melissophyllum sinicum, foliis magis mucronatis laevibus, serratis, Urticae similibus, caulibus quadratis et parum villosis, suavem *Menthae* odorem omnia spirant. Flos albus brevi tubulatus, vix labiatus, lab. sup. 2 fido, inf. 3 fido, medio puncto luteo notato. Flores in spica laxa nascuntur. Sept. flor. Sin: *Ssu tse* vocatur. Cnghm. P. 159. Tab. 429, fig. 7.

At Peking *Perilla ocymoides* L. is termed 蘇子 *su ts'z*

Olea sylvestris s. *Zizyphus* Indiae orientalis spinosa. Illicis suberiferae folio duro, subtus argenteo et punctato. *Cheusan*. P. 160.

Olea sylvestris s. *Zizyphus cheusanensis* non spinosa, foliis subtus argenteo molli, fructu rotundo rubente, punctulis notato. Frutex est flore argenteo punctato, monopetalo infundibuliformi tubulato quadrifido, baccis rubentibus rotundis et punctatis, acidiusculis et esculentis, monopyrenis, sinensibus *Pai by* dicta. Alia est ejus species fructu oblongo. Cnghm. P. 160.

It seems that the *Jujube* is meant, but the Chinese name given is wrong.

Onobrychis cheusanensis. Trifolii bituminosi foliis, alatis pediculis, triphyllis, oblongis acuminatis, siliquis asperiusculis, compressis et parum incurvis, semine foetis in singulis articulis, unico oblongo et compresso. Oct. fructum perficit. Cnghm. P. 160. Tab. 433, fig. 8.

Onobrychis cheusan. floribus spicatis, foliis ternis, subrotundis amplioribus. Hedysarum triphyllum, flore ex albo purpurascete, in spicis laxis ad caulium summitates nascente, siliqua laevi et compressa, falcatim unico internodio distincta et siliculae cuspede acuta unci instar reflexa. Sept. flor. Cnghm. P. 161. Tab. 433, fig. 2.

Onobrychis sinica trifoliata Hedysarum triphyllum minus, siliculis hirsute pubescentibus, articulatis, uno latere undulatis, altero rectis, in spicam congestis, seminibus reniformibus. Cnghm. P. 161.

Onobrychis sinica Serpylli minimi hirsuti foliis triphylla, flore ex albo coerulescente, siliculis utrinque undulatis, compressis. Semina plana reniformia. Sept. flor. Cnghm. P. 162. Tab. 433, fig. 6.

Papaver corniculatum acre monophyllum, Valerianae rubrae folio angustiore. *Cheusan*. P. 166.

Plukenet means *Chelidonium corniculatum*. L.

Parietariae affinis *Chamaedryos* folio herba sinica, flosculis confertis circa caulem ex foliorum alis, flore apetalis, staminibus brevissimis, albis, extra calycem multifidum protensis, cui innascitur semen 3 angulare. Sept. floret in lapidicinis provenit. Cnghm. P. 166. Tab. 438, fig. 2.

Pedicularis cheusan. Geranii moschati foliis, flore carneo. P. 166. Tab. 439, fig. 7.

Pentaphylloides Sinarum foliis subtus argenteis, flore aureo guttato. P. 166. Tab. 435, fig. 5.

Potentilla.

Periclymenum cheusan. surrectum, Salicis folio non serrato. *Jasminum arboreum cheusan*. Cnghm. P. 167.

Periclymenum erectum sinense *Frangulae* foliis. P. 167. Tab. 435, fig. 4.

Periclymenum herbaceum cheusan. erectum, Circaeae majoribus foliis mollibus, incanis. P. 167. Tab. 438, fig. 3.

Periclymenum scandens hirsutum sinicum, subrotundis foliis binis, oppositis. Caprifolium flore minore ex albo flavescente tubulato in duo labia dehiscente, quorum sup. 4 fidum, inf. linguiforme recurvum. Flores prodeunt plerumque bini, ex foliorum alis et caulium summitatibus, cum duobus foliolis, eorum calycibus adnexis. Calyci vix conspicuo insidet bacca rotundo semine foeta. Sept. floret. Sin: *Kin in hoa* i.e. flos auro argenteus. Cngm. P. 167. Tab. 435, fig. 1.

In China *Lonicera chinensis*. Wats. is called 金銀花 *Kin yin hua*.

Persicaria cheusan. Lapathi foliis, calyce floris ex rubro purpureo, spica rigida, rara, longiori. Sin: *loon king*. Cngm. P. 168. Tab. 436, fig. 5.

Persicaria cheusan. foliis subtus argenteis, spica florum elegantiori. P. 168. Tab. 436, fig. 6.

Persicaria minor multicaulis. Ins. *Crocodil.* P. 168. Tab. 436, fig. 3.

Persicaria sinensis, longioribus et angustis foliis. *Cheusan.* P. 168. Tab. 436, fig. 1.

Persicaria pusilla Sinarum, angustissimis foliis, spica rara gracili. P. 168. Tab. 436, fig. 4.

Phalangium ramosum flore parvo longo gracili. Ins. *Crocodil.* P. 168.

Phillyrea Myrsinitis Sinarum. P. 171.

Planta peculiaris longioribus foliis, Cepeae Pancii capitulis papposis. *Cheusan.* P. 172.

Planta cheusanica tenerifolia, unicaulis triphylla, spithami plerumque longitudine, fructum fert absque flore in caulis summitate, ovatum, nucleo similem, membrana tenui inclusum, acrem radicis Ari gustum referentem, et alterum ejusmodi fructum cauli prope radicem, ad terrae superficie appressum. Oct. 1702 collegit. Cngm. P. 174.

Prunifera Elaeagni foliis, sin: *Yang muy* dicta, fructu hispido fraga redolente. In vino destillato toto anno conservant. P. 178.

Myrica sapida Wall. Comp. above Semedo 6.

Pulegii vulgaris species Sinarum, herba capsularis, pluribus capsulis ad nodos junctis, caule quadrangulari. *Tounde Chedde* a Sinis nominatur. P. 179. Tab. 439, fig. 2.

Pyracanthae similis Sinarum, foliis rotundioribus, subtus leviter tomentosus. Ins. *Crocodil.* P. 179.

Pyrolae nostratae similis, serratis foliis. Planta sinica, baccata, monopyrena, ad pedalem altitudinem vix assurgens,

non ramosa, foliis Cerasi, ex adverso binis, fructu rubro, rotundo, caudato, semine unico, calyce 5 fido. Nov. maturescit. Cnghm. P. 179.

Pyrola frutescens, Arbuti folio. *Cheusan*. P. 179.

Quercus julo rotundo, calyce echinato, glande minore laevi. *Cheusan*. Cnghm. P. 180.

Quercus (forte.) *cheusanensis*, Castaneae minoris folio prona parte candicante. P. 180.

See above Philos. Trans. 87.

Quercus cheusan. minoribus et serratis foliis hirsutis. P. 180.

Rapuntium minimum cheusan. Campanulae autumnalis folio et facie, flore Lini coeruleo, pentapetaloides, cujus pistillum abit in vasculum 3 capsulare, campaniforme. Sept. flor. Cnghm. P. 181.

Rapuntii parvi species altera *cheusanensis*. Flore ex carneo purpurascente, monopetalo, anomalo, tubulato et sulcato, in 5 partes linguiformes digitatim diviso, extremis longioribus et angustioribus, vagina ad basim 3 fida excipit et amplectitur pistillum ad summitatem. Calyx 5 fidus. Semina exigua rotunda. Folia fert Alsines fere similia, alternatim posita et leviter serrata. Sept. flor. Cnghm. P. 181.

Rhamni cathartici similis, longioribus foliis, fructu nigro dipyreno, ex insula *Tow whey san*. Frutex est bacca nigra rotunda, umbone notata, succo lutescente, instar *Rhamni cathartici*, praedita, et duobus seminibus callosis, gibbosis et quasi cylindraceutis foeta, foliis oblongis et obtusis, leviter serratis, spinis rarioribus et longioribus donatus. Oct. fructum matur. Cnghm. P. 182. Tab. 408, fig. 2.

Rhamno nostrati cathartico accedens minor. Ins. *Cheusan*. P. 182. Tab. 408, fig. 4.

Rhamnus cheusan, cortice albo, Berberidis instar fructum ferens calyculatum. Frutex est spinosus, flore superius purpureo parum striato, inferius ex viridi et albo purpurascente, hypocrateriformi multifido, 5 partito, plerumque tubo breviori, ex cujus calyce 4 fido surgunt stamina alba cum pistillo, quod abit in fructum mollem, seu baccam rubram ovatam, polypyreram. Sept. flor. Cnghm. P. 182.

Rhamnus Pruni sylvestris folio *cheusan*. cortice querno, validioribus foliatis spinis, bacca minore nigra, unicum intus semen claudente. P. 183. Tab. 427, fig. 4.

Rhamnus sinensis flore coeruleo, ex oris maritimis ins. *Cheusan*. P. 183.

Rhus quinquefolia Sinarum, lactescens, rachi medio alata, foliis molli hirsutiae pubescentibus. P. 183.

Miller identifies this with his *Rhus chinensis*. Comp. also above Philos. Trans. 89.

Rorella parva cheusan. nostrati similis, caule folioso. P. 184.

Plukenet means *Drosera*.

Rosa sylvestris cheusan. foliis subtus incanis, floribus purpureis parvis. P. 185.

Rosa alba cheusan. foliorum marginibus et rachi medio spinosis.

Rubia sinica, fructu majore nigro, foliis partim Galii stellatis, partim Smilacis aspere effigie scabris. P. 185. Tab. 441, fig. 3.

Rubia quadrifolia aspera, baccis numerosis, singularibus, nigris, succulentis, semine unico, rotundo, umbilicato foetis. Nov. collecta. Cnghm.

One of these two species is probably *Rubia cordifolia*. L. But the fruit of the latter is of a brown colour, when ripe.

Rubus sinensis non spinosus triphyllus, floribus parvis rubropurpureis. P. 186.

Rubus parvus spinosus, foliis subtus canescentibus ex insula Emoy. P. 186.

Rubus odoratus minimus sinensis, cauliculis asperis provolutis. P. 186.

Scabiosa graminifolia nudicaulis, capitulis argenteis, sive *Staticae* minima elatior Sinarum. P. 188.

Scorodoniae affinis *Sinarum*, floribus ex albo purpurascens, spica florum compactiore. Flore monopetalo, labiato, cujus stamina labii sup. locum occupant, labium vero inf. in 5 partes dividitur, media ampliori, et Cochlearis ad instar excavata, ceteris in floris cervice e regione positis. In calyce 5 fido reconduntur 4 semina subrotunda et oblonga. Sept. flor. Cnghm. P. 188. Tab. 441, fig. 2.

Scutellaria sinica Betonicae folio, floribus albis. P. 190. Tab. 441, fig. 1.

Linnaeus identifies it with his *Scutellaria indica*.

Scutellariae accedens *cheusanensis* Ocymi folio, flore ex albo purpurascens, semine singulari. Flore intus purpureo, exterius ex albo purpurascens, monopetalo, infundibuliformi, 4 fido, leviter inciso, tubulato, tubo incurvo. Ex calyce brevi, multifido, surgit pistillum, quod deinde abit in semen unicum ovatum, extra calycem prominens. Folia bina, oblonga, acuminata, superne laete, inferne pallide viridia. Flores in spicis. Sept. Oct. flor. Cnghm. P. 191. Tab. 443, fig. 3.

Scrophularia minor sinica, Betonicae subrotundis foliis. P. 190.

Sena spuria sinensis, Mimosae foliis minimis, floribus parvis, magis expansis. Ins. *Crocodil.* P. 193.

Sium minimum umbellatum sinicum. Flore albo rosaceo, umbellato, ex 5 petalis subrotundis, in orbem positis et 5 staminibus composito, calyce insidentibus. Fructus e duobus seminibus compositum, subrotundis, crassis hinc gibbis et profunde striatis. Folia brevia, crassa, costae per conjugationes innascentia, ultimo impari claudente trifido et pinnis aliquando trifidis. Ex insula *Pum si san.* Oct. flor. Cnghm. P. 193.

Siler Aquilegiae foliis angustioribus. Ins. *Crocodil.* P. 193.

Smilacis asperae seu *Zarzae* latis *Canellae* foliis. Planta claviculata, pediculis foliorum vaginatis, *Cynorrhodi* fructu, profundius striato, *Mali punici* ad instar, tubulo brevi pergamenno, summa parte coronato. Ins. *Crocodil.* P. 194. Tab. 438, fig. 7.

Solanum mordens sinicum, *Berberidis* fructu singulari, viticulis suis spinis longioribus aculeatum. P. 195. Tab. 443, fig. 2.

Sorbi species *Sinarum* Cucurbitiferae *Panorama* dictae (Almag. bot.) foliis, aculeato caudice. Frutex est spinosus, scandens, baccis rubris rotundis in umbellae modum dispositis, in pulpa subrubra, succulenta, gustus parum acidi et adstringentis latent semina ossea plura, inaequalis figurae, plana vel convexa, circa axem seu placenta disposita. Folia Polygonati fere, sed circinatae rotunditatis, singulas foliorum et ramorum divaricantium insertiones duo amplectuntur foliola, in cirros plerumque terminantia. Nov. fructum perficit. Cnghm. P. 196. Tab. 444, fig. 3.

On pag. 198 of *Plukenet's Amalth.*, sub *Tamarindus monococos*, the author suggests, that the celebrated *Soy* of the Chinese and Japanese, (made as is known from the *Soja-bean*, *Soja hispida* Moench.) may be obtained from the seeds of *Tamarind*, of which he gives a drawing. Tab. 441, fig. 4.

Tetraglottis baccifera Sinarum seu *Ligularia* arbor sinensis, *Gossypii* quinquefidi amplioribus foliis, quator ligulas foliaceas, longo pedunculo ex alis insidentes, pro floribus ferens, e ligularum margine baccifera. *Ou tom chu Sinarum.* P. 199. Tab. 444, fig. 4.

Sterculia platarifolia. Cav. See above *Philos. Trans.* 82.

Teucrium cheusan. folio molli, incano, subrotundo. serrato, flore coeruleo, monopetalo, labiato, cujus lab. sup. parum fornicatum, surrectum, et fimbriatum, infer. vero 3 fidum. Calyx 5 fidus. Semina 4, triangularia, fusca. Flores in umbella quasi dispositi. Nov. flor. Ins. *Pu to.* Cnghm. P. 200.

Triapteris Sinarum, Hederae folio, scandens, fructu minore. P. 202.

Triapteris Sinarum, Tiliae fere foliis alternis, ad genicula fructum fasciculatim proferens, monospermum, semine, triquetro, nitente, nigro. Vasculum seminale cordiforme, ex tribus alis membranaceis, sagittae extremitatis instar conflatum in medio semen unicum nigrum includens. Caulis nodosus et fistulosus. Aug. flor. Cnghm. P. 203. Tab. 444, fig. 5.

Trifolium maritimum. Planta est trifolia, flore papilionaceo, siliculis lenticularibus caudatis, confertim nascentibus, unum semen lentis figura continentibus. Ins. *Tow whey san*. Oct. 20. 1702. Cnghm. P. 205. Tab. 446, fig. 8.

Trifolium monocarpon Meliloti affine, folliculis parvis compressis. *Cheusan*. P. 205. Tab. 446, fig. 1.

Verbasci similis quadrato caule, *Cheusan*. minore folio acuminato, subtus molli tomento candicante. P. 207. Tab. 448, fig. 2.

Veronica cheusan., Grossulariae folio, flore amplo purpureo. Alysso montano Dioscor. Fabio columno proxime accedit. P. 208.

Viburnum cheusan. Frutex baccifer, foliis Ulmi subrotundis, ad summitatem latioribus, in acumen brevius desinentibus, serratis, et inferne parum incanis, ex adverso binis, Bacca rubra, rotunda, acida, adstringente, semine unico, subrotundo, duro et compresso, racematim congesta. Oct. matur. Cnghm. P. 208.

Viola parva cheusan, grumosa radice. P. 208.

Virgo aurea minor, spicato flore luteo. *Chusan*. P. 209.

Visci similis frutex *cheusan*. Clematidis. P. 210. Tab. 448, fig. 3.

Vitex Sinarum, subrotundis argenteis foliis bijugis, caule quadrangulare. Ins. *Crocodil*. P. 210. Tab. 449, fig. 1.

Vitis Idaea seu *Vaccinia chusanensis*. Frutex est flore rufescente, campaniformi, urceolato, globoso (inter Ericae.) ad os parum diviso. Ex calyce 5 fido surgit pistillum, quod deinde abit in baccam nigro-purpuream edulem. Foliis pruni serratis subrotundis, acuminatis. Nov. flor. Cnghm. P. 210.

Comp. above Mus. Petiv. 987, Gazoph. tab. 35, fig. 7.

Vitis vinifera sylvestris. *Cheusan*. P. 211.

Vitis vulpina dicta Virginiana alba. Almag. 392. Hujus ramulum Cnghm. ex ins. *Chusan* ad nos transmisit. Et circa Constantinopolin frequens est (Dr. Timone.)

Vitis agrestis sinica minor "The least Fox grape." *Chusan*.

Vitis vulpina. L. has been observed also in Manchuria and Japan. One of the above mentioned grapes may be *V. labrusca*, which has been observed in Formosa, Amoy, Peking.

Ulmus nana cheusan. Frutex fructu ovato, plano, membranaceo, ad sumitatem parum diviso, semine foeto unico, lentiformi, in fructus centro, foliis Ulmi fere splendentibus, glabris, serratis et acuminateis. Fructus prodit ex flore, vel calyce 5 fido et Nov. maturescit. Sin: *Kin tchang lang*. Cnghm. P. 211.

Urtica racemifera maxima Sinarum, foliis subtus argentea lanugine villosis. Planta sylvestris *Ma* dicta, unde efficitur filum instar Lini *na sien* dictum. Cnghm. P. 212. Tab. 429, fig. 2.

Boehmeria nivea. Hook. and Arn.

Planta sativa *Co* dicta, unde efficitur *Co-pou* pro vestibus aestivis. Cnghm. P. 212.

Pueraria. See above Le Comte 10.

Xanthium seu *Lappa minor* Chenopodii foliis. Cheusan. P. 213.

Xeranthemum sesamoides flore albo, Ericae foliis cauli tomentoso adstrictis, ad radicem vero Staechadis citrinae longioribus, et solutis. Ins. *Crocodil*. P. 213. Tab. 449, fig. 5.

This plant is identified in Lam. Enc. Bot. III. 239 with *Xeranthemum heterophyllum* from the Cape of G. H.

Arbusculum bacciferum Canellae folio trinervi, subtus argentea lanugine villosa. Cheusan. Cnghm. P. 213. Tab. 450. fig. 2.

Arundo sinica ramosa, plurimis squamulis ad culmum donata. P. 213.

Calamintha montana sinica, Betonicae folio, floribus coeruleiscentibus P. 213. Tab. 450, fig. 8.

Eupatorium cheusanense, Urticae foliis, pediculis alatis et auriculatis, floribus summo caule conglomeratis. P. 213. Tab. 451. fig. 2.

Frutex cheusan. foliis rugosis, Jasmini flore tetrapetaloide. P. 213. Tab. 451, fig. 1.

Frutex sinensis alatis foliis, siliquis torosis, villis aureis densius obductis. Tab. 451, fig. 8.

Frutex sinensis, Senae sylvestris folio angustiore, nodosa siliqua rostro longiore donata. Tab. 451, fig. 10.

Gramen parvum cheusan. spicatum, granulis compressis cordiformibus. Tab. 452, fig. 6.

Gramen cheusan. foliis brevibus aculeatis globiferum, globulos aureos Chamaemeli nudi similes, inter folia proferens. Tab. 451, fig. 9.

Mespilus oxycantha cheusan. oblongis, mucronatis et serratis foliis, fructu longiore, summis ramulis innascente. P. 216. Tab. 453, fig. 3.

Loureiro Fl. coch. 392 identifies this with his *Mespilus pyracantha* (see below.)

Muscus denticulatus minor. Cheusan. Tab. 453. 9.

Lycopodium?

III. SWEDISH COLLECTORS OF PLANTS IN SOUTH-CHINA, 1751 AND 1766.

The greater part of the accounts presented in this chapter have been borrowed from a book, which bears the following title:

A VOYAGE TO CHINA AND THE EAST INDIES BY PETER OSBECK
together with

A VOYAGE TO SURATTE BY OLOF TOREEN
and

AN ACCOUNT OF THE CHINESE HUSBANDRY BY CAPTAIN CH. ECKEBERG.

translated from the German by

JOHN REINHOLD FORSTER.*

to which are added

A FAUNULA AND FLORA SINENSIS.

London 1771. Two volumes.

PETER OSBECK, a Swede and a pupil of the great Linnaeus, to whom the latter was indebted for the greater part of the Chinese plants and animals he has described—was born in 1723. In 1750 he set out on a journey to China, as chaplain to a Swedish East Indiaman, the *Prince Charles*, which left Gothenburgh 18 Nov. 1750, and arrived at Cadiz 4 January 1751. After a stay of 10 weeks they left this place 20 March, sailed around the Cape, without landing there, in the second half of May. June 12 they passed St. Paul, on July 15 anchored in the harbour of Angeri (Java, Sundastr.), left again on the 17th. Here Osbeck was able to collect some plants. On the 25 Aug. 1751 the *Prince Charles* anchored at Whampoa (near Canton) and remained there more than four months, weighing anchor on the 5th Jan. 1752. On the way home Osbeck again collected Javanese plants and beasts in New Bay, where the *Pr. Charles* stopped a few days. In April O. made some collections on the island of Ascension and on the 26. June 1752 came back to Gothenburgh.

* The well known naturalist and traveller, who accompanied Capt. Cook on his second circumnavigation of the globe 1772-75.

Osbeck was a zealous naturalist and brought home a rich collection of natural objects, chiefly Chinese specimens, for during his long stay at Whampoa and Canton he had ample opportunity of visiting the neighborhood of these places. All his collections he placed in the hands of Linnaeus, who described them, the plants in his *Species plantarum*, published a year after Osbeck's return.

Osbeck's original account of his voyage appeared in 1757 in his native language: *Dagbok öfver en ostindisk resa*. He published also some botanical articles in the Act. acad. Holm. 1762, 1765, and 1769. He was member of the Academy of Stockholm and of the Soc. of Upsal, and died as Rector of Hasloff and Woxtorp in 1805.

A German translation of Osbeck's narrative was made in 1765 by *J. G. Georgi*, and revised and completed by Osbeck himself. *Georgi** was Professor of Mineralogy at the Academy of St. Petersburg. He accompanied Pallas on his travels to Siberia and died 1802.

The English translation of Osbeck's book was made from the German by *J. R. Forster*, the well known companion in travel of Capt. Cook.

All the Chinese specimens gathered by Osbeck belong to the neighborhood of Canton. During his stay at Whampoa he repeatedly made excursions to Canton and investigated the Flora of the islands in the river. He often mentions *Danes* island, *French* island, only separated from the latter by a stream, and *Honam* (erroneously written *Stonam* in the narrative), an island west of the two first mentioned and on which a large suburb of Canton is situated. Not many of the botanists in Europe will be aware, I think, that *Danes* island on which Osbeck collected plants 130 years ago, has been for nearly 20 years the residence of one of the most distinguished botanists of our time, who has done so much to throw light on the Flora of China and whose name has a world-wide reputation. The numerous papers on botanical matters which have been published by Dr. *H. F. Hance* are generally dated from the British Consulate at Whampoa, which has been established on *Danes* island and not, as might be presumed, at the Chinese city of Whampoa, situated opposite the Consulate on the left bank of the river.

* Willdenow named the genus *Georgina* (*Dahlia*) after him. Thus this favored gardenflower was not, as is erroneously believed by some authors, dedicated to King George III of England.

Osbeck's notes on his plants collected near Canton are found scattered in his diary. He enumerates in the whole 244 Chinese plants, giving their Linnaean names, often describing them. Sometimes he adds also the Chinese names according to the Canton dialect, but generally he sadly perverts the Chinese sounds. He says himself (II. 10) that it is possible that the Chinese, who gave him these names, have imposed upon him on many occasions.

Linnaeus, when determining Osbeck's Chinese collection seems to have been under the impression, that the habitats marked on the herbarium tickets, as Danes island, French island etc, referred to places of India, for in his *Species plantarum*, published 4 years before Osbeck's narrative appeared, all plants gathered by the latter, figure, with a few exceptions, as Indian plants only. But as we have seen O. never visited India. He collected a few plants on the coast of Java, but the bulk of his collection was represented by Chinese specimens. I may quote a few instances. In Linnaeus' *Spec. plant.* it is clearly stated, that Osbeck had gathered *Rubus parvifolius*, *Cyperus Iria*, *Barleria cristata* in India, whilst Osbeck had brought these plants from Canton. It seems that Linnaeus had a very confused idea with respect to the position of China and we cannot but think, that he considered the latter name to be a synonym for India. He describes many plants not known from elsewhere than from China as natives of India. Thus he states himself, that his *Rosa indica* and *Lagerstroemia indica* are Chinese plants. He describes his *Daphne indica* from specimens gathered by Osbeck at Canton, and this plant has, as far as I can conclude from the quotations in D. C. Prodr. XIV. 543, never been observed in India. On the other hand *Sphaeranthus chinensis* in his *Spec. plant.* figures as an Indian plant only. Compare D. C. Prodr. V. 371 "cur chinensis cum ipse auctor ex India ortam dicat?" It is strange to say that none of the botanists who after Linnaeus have compiled general systematic works on Botany, as Lamarck, Willdenow, Sprengel, De Candolle, Kunth etc., ever ventured to refer, with respect to Chinese plants directly to Osbeck's book. They draw from Linnaeus and mention Osbeck's Canton plants only in such cases for China, when the former had happened not to give India as habitat. But, as we shall see further on, by far the greatest part of the plants Linnaeus knew from China were collected by Osbeck near Canton.

A considerable number of Osbeck's Chinese specimens were known previously from India (Rumphius, Rheede), but were

then new for China and of many of them Linn. had hardly seen original specimens from India. There are in his collection about 50 (probably more) entirely new plants, 12 of which are represented by drawings in his book, viz:

- | | |
|---|--|
| Tab. 1 <i>Baeckia frutescens</i> . | Tab. 6 <i>Trichomanes chinensis</i> . |
| Tab. 2 <i>Osbeckia chinensis</i> . | Tab. 7 <i>Rhamnus lineatus</i> . |
| Tab. 3 fig. 1 <i>Pteris semipinnata</i> . | Tab. 8 <i>Barleria cristata</i> . |
| fig. 2 <i>Utricularia bifida</i> . | Tab. 9 <i>Gerardia glutinosa</i> . |
| Tab. 4 <i>Pteris vittata</i> . | Tab. 10 <i>Carpesium abrotanoides</i> . |
| Tab. 5 <i>Helicteres angustifolia</i> . | Tab. 11 <i>Clerodendron fortunatum</i> . |

Besides dried specimens of plants Osbeck had brought also from China many seeds from which Linnaeus succeeded in raising several new plants. It does not seem, that he had examined the whole of Osbeck's collection, for we meet in Osbeck's narrative some names and descriptions of Chinese plants not found in the Spec. Plant.

LIST OF CHINESE PLANTS KNOWN TO LINNAEUS.

Forster in compiling his *Flora sinensis*, or Catalogue of Chinese plants (see above.) enumerates all Osbeck's specimens from China (244) and adds the names of 56 more Chinese plants known in 1771. In the following list I venture to present a more complete list of Linnaean Chinese plants (for Forster has overlooked many species) arranged according to Bentham and Hooker's *Genera Plantarum*. I always give their new names in the system, should the Linnaean name have been changed. The plants collected by Osbeck I mark with *Osbeck*. As in his narrative (Engl. transl.) the accounts of Chinese plants are found in the first volume from p. 208 to the end, and in the second from p. 1 to 17, I shall quote only the pages not the volumes.*

DICOTYLEDONS.

1. ***Clematis chinensis***, resembling *Cl. vitalba*. Danes isl. Canton. *Osbeck*. 329. 393.

* Abbreviations of the titles of some botanical works, to which I shall have to refer frequently in the subsequent pages:

G. P.=Bentham and Hooker, *Genera Plantarum*.

D. C.=De Candolle's *Prodromus Syst. nat. veg.*

Kth.=Kunth's *Enumeratio Plantarum*.

Lour.=Loureiro's *Flora cochinchinensis* 1793 (edit. Willdenow.)

Fl. hgk.=Bentham's *Flora hongkongensis*. 1861.

Add. Fl. hgk.=Dr. Hance's Supplement to the *Flora hongk. Journ. Linnaean Soc.* XIII.

This name was given by Osbeck and is not found in Lin. Sp. pl. Retz described the plant under the same name in his Obs. bot (1780). D. C. I. 3. According to Maxim. Dec. XX probably the same as *Cl. terniflora*. D. C.

2. **Illicium anisatum**. Lin (Forster.)

Star Anis was first brought to Europe from the Phillipines in 1588. Linnaeus had hardly seen a specimen of the Chinese plant producing Star Anis.

3. *Lan fa* or *Leen fa* Chinensium. Canton. Osb. 209.—*Gnao* or *Laen gao* (*Nymphaea Nelumbo* L.) white roots of the thickness of carrots, but longer, articulated and hollow inside. Poor people eat them raw, but they are not very palatable. Osb. 310.

Nelumbium speciosum. Willd. Sin: 蓮花 *lin fa*, the roots 蓮藕 *lin ngau*.*

4. *Fumaria spectabilis*. Lin. (Amoen. acad II. (1751) and VII. (1768; drawing) described as a Siberian plant, but Gmelin, from whom Linnaeus draws, states clearly that the plant had been received from China. This is **Dicentra spectabilis**. Miq. It grows wild in the Peking mountains.

5. Chinese Cabbage (**Brassica chinensis**. L.), does not form heads. In Chinese *kay lan*. Another sort called *pack-so-a* with bulbous root is sold here (Canton) likewise. Osb. 313.

The Chinese names intended are probably 芥藍 *kai lan* and 白菘 *pak sung*. Linnaeus states, that his plants had been raised from seeds brought by Osbeck.

6. **Brassica violacea**. Lin. This plant, which Linnaeus describes as a Chinese plant, is only known, it seems, from his specimens.

7. Oriental Mustard (**Sinapis orientalis**. Lin.) Osb. 309.

Known to Tournefort from the Levant. Linnaeus does not mention it for China.

8. **Sinapis chinensis**. Lin. This plant was first noticed by Boerhave, who in 1710 received the seeds from Batavia. D. C. I. 219, and Lour. 485, mean that it is rather a variety of the next.

9. **Sinapis juncea**. Lin. Asia, China (Lin.) Cultivated in Europe since 1710.

10. **Sinapis brassicata**. Lin. China. According to Lour. 485 also a variety of *S. juncea*.

11. *Raphanus sativus*. Lin. var *oleifera*. D. C. I. 228. **R. chinensis annuus oleiferus**. Lin. Seeds of this had been brought from China by Capt. Eckeberg (s. further on.)

* As Osbeck gives (or tries to give) the Chinese names in the Canton dialect I shall write the Chinese sounds according to the same dialect.

12. **Polygala chinensis**. Lin. I am not aware whether this species is really found in China. Lin. gives only India as habitat.
13. *Polygala ciliata*. L. Danes isl. French isl. Osb. 356, 393. Known from Ceylon before. *Salomonina?* *ciliata*. D. C. I. 334.
14. **Dianthus chinensis**. Lin. Introduced into Europe from China about 1702.
- 15 **Hypericum chinense**. L. Danes isl. Osb. 2.
Hance. Journ. bot. 1879. 8. Canton prov, *H. monogynum*. L. is the same.
16. On p. 246 and 39 Osb. gives some accounts of the **Tea** shrub. When the ship departed from Whampoa Osbeck's Tea shrub, which stood in a pot fell upon the deck during the fring of the canons and was thrown over board.
17. **Camellia japonica**. L. sin : *fo kai*. Osb. 17.
Known previously in Europe.
18. **Vatica chinensis**. Lin. Mant 242. Smith icon. ined. Linn. I 36, tab. 36. Benth. Hook. G. P. I 192 however state, that this is not a Chinese but an Indian plant.
- 19 **Althaea rosea**. Cav. According to the Bot. mag. 3198 introduced from China 1753. Bat Linn. (*Alcea rosea*) says only : in Oriente. The plant is very common in China.
20. **Malva verticillata**. L. *Malva sinensis erecta floribus albis minimis*. Boerhave Lugd. (1720). Cultivated in England as early as 1683. *M. chinensis* Mill. Dict. 5 is probably the same.
21. **Sida spinosa**. L. Canton. Osb. 329.
Known previously from India.
22. **Urena chinensis**, caule erecto, floribus majusculis. French isl. Osb. 363.
This name is not found in botanical works.
23. **Urena lobata**. L. French isl. Osb. 354.
Known from China before. *Urena sinica*, Dillenius. 1732.
24. **Urena procumbens**. L. a little tree, near Canton. Osb. 387.
25. **Hibiscus mutabilis**. L. Whampoa. Osb. 198.
Known from China before. *Ketmia sinensis*. Tournef.
26. **Hibiscus ficulneus**. L. Canton. Osb. 328.
Known from Ceylon before.
27. **Gossypium herbaceum**. L. French isl. cultum. Osb. 349.
28. **Sterculia platanifolia**. Cav. introduced from China in 1757, known to Lin. under the name of *Hibiscus simplex*., Plukenet's *Tetraglottis*.

29. **Helicteres angustifolia**. L. sin: *Kay ma*. Danes isl. Osb. 376.

30. **Waltheria indica**. L. Danes isl. Osb. 375.

Known from Ceylon before. Fl. hgk. 38.

31. **Bartramia indica**, Danes isl. sin: *hoang fa mo*. Osb. 376.

B. indica not mentioned in any system. botan. work. *Bartramia* is now considered a section of **Triumfetta**. Sparrmann (s. further on) gathered at Canton *Triumfetta Bartramia*, which is probably the same. D.C. I 508 dubious plant. The Chinese name given by Osb. is probably 黃花罌 *wong fa mo*, which is applied in Canton to *Sida rhombifolia*. L. (Parker)

32. **Oxalis corniculata**. L. sin: *Syn mee*. Danes isl. Osb. 389.

The Chinese name of this plant is 酸味 *sin mi* (Parker.) It was known from India before Osbeck.

33. **Averrhoa Bilimbi**. L. An oblong, yellow, sourish fruit with 5 deep furrows, which has the quality of Lemons, but is sooner spoiled. The Chinese at Canton call it *samm-nim* and make a conserve of it called *ka la mang* Osb. 306.

A. Bilimbi, known from India before, sin: 三捻 *sam nim*.

34. **Impatiens Balsamine**. L. Canton. Osb. 209.

Known from India before.

35. **Impatiens chinensis**. L. Canton. Osb. 344.

36. **Paullinia asiatica**. L. with sharp pointed hamated thorns. It makes good hedges. Danes isl. Osb. 9.

Known from India before. D.C. II, 83 *Toddalia aculeata*. Pers Fl. hgk. 59.

37. There are in Canton 2 sorts of *China Oranges* (*Citrus sinensis*. L.) The first is that called the *Mandarin Orange*, whose peel is quite loose, and the Chinese call them *kamm*. It is the best kind. The peel of the other sort sits close. It is called *tiang* or rather *kang*. Osb. 307.

The Mandarin Orange, *Citrus nobilis*. Lour. is termed 柑 *Kom* in Canton, the Coolie Orange (see above Martini 8) is known in China under the name of 橙 *ch'eng*

38. A sort of low sweet Orange trees, with a small fruit called *gatt*. Canton. Osb. 208.

橘 *Kwat* is a generic term for Oranges.

39. *Kamm-kat* is the name of a sort of small Lemons, which are not much larger than Cherries. Canton. Osb. 306.

Citrus japonica. Thbg. sin: 金橘 *Kam Kwat*.

40. *Buxoides aculeata*. It is like our Boxtree but thorny. Danes isl. In Chinese *sow pann ghip*. Osb. 394.

Perhaps *Atalanta buxifolia*. Oliv. Fl. hgk. 51.

41. Here are also two sorts of Lemons (**Citrus decumana**. L.) which are called *Yao* by the Chinese. The first is round and its name is *Lo Yao*. The second called *Han Yao* is long and is usually offered as a sacrifice to their idols. Osb. 307.

The Chinese name for *Citrus decumana* is 柚 *Yau*.

42. The *Lemt yes* tree (*Citrus medica*. L.) in Canton bears little round sour Lemons called *na mang*, and which are used instead of Tamarinds, or common Lemons, generally before they are ripe. The trees are sold in pots and seldom about a yard high. Osb. 208. 306.

This is I believe *Citrus medica*. L. var. *acida*. Hook flor. Ind. I 514. Sin: 檸檬 *ning meng*.

43. **Ailanthus glandulosa**. Desf. (1786.) This Chinese tree has been introduced into Europe in 1751 and was at the time of Linnaeus known under the name of *Vernis du Japon*.

44. *Chinese Olives* in Canton, *pack-la*. Osb. 309.

Osbeck evidently means *Canarium album*. Raeusch. sin: 白欖 *pak lam*.

45. *Olom sio*, a certain great tree with pinnated leaves, smooth, with opposite folioles. A resin comes out of the tree much like the Gum arabic. Danes isl. Osb. 9

Canarium Pimela. Koenig. sin 烏欖樹 *u lam shü*.

46. **Salacia chinensis**. L. See D. C. I. 571.

47. *Rhamnus oenoplia*. L. in Chinese *Kog-ne-im*. Near Canton. Osb. 386.

Known from India before. *Zizyphus oenoplia*. D.C. II. 21.

48. *Rhamnus lineatus*. L. French island. Osb. 353.

See above Pluk. Amalth. Frutex sin. Majorani fol. *Berchemia lineata*. D. C. II. 23. Fl. hgk. 67.

49. *Rhamnus Thea*. L. Poor man's tea. The leaves of this shrub are made use of by the poor Chinese instead of tea. They call it *tia*. Danes isl. Osb. 375.

Sageretia theesans. Brong.—Fl. hgk. 68.

50. **Koelreuteria paniculata**. Laxm. *Sapindus chinensis*. L. fil. Introduced into England 1763, described 1772 by Laxmann.

51. *Lat-ye* is the Chinese name of a fruit, which is eaten in Canton with tea. It tastes almost like a plum, and looks like large gallapples, covered with a brownish, thin, and warty skin. *Long-an* is less than *lat-ye*. They have a smooth skin and sweet pulp. Osb. 308.

Nephelium Litchi Camb. and *N. longan*. Camb.

52. **Rhus chinense.** Osb. Danes island, in Chin: *monkhi*. Osb. 375.

Probably the same as *Rh. chinense* Mill. Dict. known before Osbeck from China. See above Pluk. Amalth. *Rhus quinquefol.* sin.

53. *Rhus javanicum.* L. germine rubro, Danes island. In Chin: *tay sha*. Osb. 375.

D. C. II. 67. **Rhus semialata.** Murr. var. *Osbeckii*.

54. **Mango** (**Mangifera indica.** L.) This fruit is sold in China by the name of *quai mao*. In the Javan. language it is called *Po*.

I am not aware what name is intended by *quai mao*. The Chinese call the fruit *mango* as the Malays do. Fl. hgk. 70.

55. **Crotalaria juncea.** L. Canton. Osb. 336.

Known from India before.

56. **Crotalaria chinensis** Lin. China. D. C. II. 130.

57. **Crotalaria sessiflora.** Lin. China.—Fl. hgk. 74.

58. **Endigofera tinctoria.** L. French isl. In Chin. *tong um* or *va*. Osb. 350.

Known from India before.

59. **Astragalus chinensis.** Lin. fil. China. D. C. II. 294. According to Lam. Enc. Bot. I. 310 cultiv. in Paris.

60. **Astragalus sinicus.** Lin. China.

D. C. II. 282. *Astr. lotoides*.

61. *Phaca trifoliata.* Lin. China. A dubious plant. D. C. II. 275. G. P. I. 507. **Crotalaria** or **Astragalus.**

62. **Arachis hypogaea** L. Danes island, cultiv. In Chinese: *fy shin*. Osb. 377.

Known before from Asia and America. Sin: 花生 *fa shang*.

63. *Hedysarum triquetrum.* L. Danes isl.—In Chin: *Ka song* so. Osb. 374.

Known from Ceylon before. D. C. II. 326. **Desmodium triquetrum.**

64. *Hedysarum gangeticum.* L. Canton. Osb. 330.

Known from Ceylon before. D. C. II. 327. **Desmodium gangeticum.**

65. *Hedysarum maculatum.* L. Danes isl. Osb. 8.

Known from India before. D. C. II. 327. **Desmodium maculatum.**

66. *Hedysarum triflorum.* L. Danes and French isl. Osb. 353. 392.

Known from Ceylon before. D. C. II. 334. **Desmodium triflorum.**

67. *Hedysarum heterocarpum.* L. French isl. Osb. 354.

Known from Ceylon before. D. C. II. 337. **Desmodium heterocarpum.**

68. *Hedysarum biarticulatum.* L. French isl. Osb. 378.

Known from Ceylon before. D. C. II. 339. *Desmodium biarticulatum*.

69. *Hedysarum pulchellum*. L. Danes island. Osb. 374.

Known from Ceylon before. D. C. II. 339. *Desmodium pulchellum*.

70. *Hedysarum lagopodioides*. L. Canton. Osb. 346.

D.C. II. 324. *Uraria lagopoides*.

71. *Hedysarum styracifolium*. L. Danes island. Osb. 8.

D.C. II. 352. *Alysicarpus styracifolius*.

72. ***Abrus precatorius***. L. A sort of little red pease with a black spot. They are valued as the lowest coin and used in weighing gold. Osb. 384.

Known from India before.

73. *Uang teo*, a sort of small pease of which cheese is said to be made. Canton. Osb. 305.

Glycine (Soja) hispida. Moench. The Soja bean, sin: 黃豆 *wong tau* of which Bean curd is made. First known from Japan (Kaempfer).

74. *Lack tao* is the Chinese name of a sort of pease, which are much less than our wild vetches. Osb. 304.

Phaseolus radiatus. L. sin: 綠豆 *luk tau*. First known from Ceylon.

75. ***Dolichos sinensis***. L. Callvanses. A dish which is like our sweet cheese and which they call *Fidou fu* is prepared of this. Osb. 218. 304.

The name of *D. sinensis* is first met in Rumphius' *Amb. V. 375*. Chinese *Bean curd* 豆腐 *tau fu* is made of different kind of beans.

76. *Dolichos scandens maximus*, with large black beans which were said to be poisonous. The pods likewise grow black, when the fruit ripens. The Chinese call it *syoe lock tao*. Osb. 394. But p. 375 Osb. gives the Chinese name of the same plant, which he observed on Danes island as *min tao*.

By the first name is probably intended 小綠豆 *siu luk tau*. According to Lour. 539 *min teu* is a variety of *Dolichos Catjang*. L. Parker gives 麵豆 *min tau* as the Cantonese name of *Cajanus indicus*. Spr. Comp. also Fl. hgk. 88 with respect to the poisonous seeds of *Canavalia virosa*.

77. ***Cassia sophera***. L. Canton. Osb. 330.

Known from Ceylon before.

78. *Cassia procumbens*. L. Canton Osb. 336.

D.C. II. 504. *Cassia pumila*. Lam. E. Bot. I. 651. China. India.

79. ***Tamarindus indica***. L. Canton. Osb. 309.

Known from India before. Lour. 488 mentions the Tamarind as growing in Cochinchina, not in China.

80. *Mimosa chinensis*, inermis, stipulis foliolo longe majoribus, semicordatis. French isl. Osb. 80.

Perhaps *Acacia concinna* Fl. hgk. 101.

81. **Rubus parvifolius**. L. Canton. Osb. 11.

D.C. II. 564. identifies this sp. with *R. moluccus*. Rumph. but Bth. Fl. hgk. 105. seems to exclude this synonym.

82. **Rosa indica** L. Whampoa. Osb. 198.

83. *Mo quai fa*. Canton. Osb. 209.

玫瑰花 *mei kui fa* is the Chinese name of a Rose; according to Lour. 395. *R. cinnamomea*. L.

84. **Saxifraga sarmentosa**. Lin. fil. (1781.)

This plant, a native of China, was introduced into our gardens about the middle of the last cent. Bot. mag. 92.

85. **Baeckea frutescens**. L. Danes isl. In Chin: *tióng ma*. Osb. 373.

This name *Tiongine* applied to this plant by Poiret (Lam. Enc. Bot. VII. 681.) seems to be derived from this (evidently wrong) Chin. name. Fl. hong. 118.

86. **Psidium Guajava**. L. eaten in Canton. Osb. 309.

As is known, this tree, generally cultivated in tropical countries, is a native of trop. America.

87. **Osbeckia chinensis**. L. Canton. Osb. 342. On the drawing of this plant, Tab. 2. Osbeck gives the Chinese name of it in Chinese characters, 金香蘆 *komm heong loaa* (feather of goldroses. Osb).

According to Parker the Chinese name of it in Canton sounds 鐵 | | *tip heong lo*.

88. **Melastoma octandra**. L. Canton. In Chin: *te limm*. Osb. 341.

Known from Ceylon before. D. C. III. 142. *Osbeckia octandra*. Not mentioned for China by other authors. According to Parker 地拈 *tei nim* is the Canton name for *Mel. repens*. Desc.

89. **Melastoma malabarica**, with fine red flowers. French isl. Osb. 354.

M. malabathricum. L. Known from India before.

90. **Ammania baccifera**. L. Near Canton. Osb. 387.

D. C. III. 78, 79. Linnaeus' *A. baccifera*. seems to be a dubious plant; perhaps. *A. vesicatoria*. Roxb. (India).

91. *Lythrum fruticosum*. Lin. known to Linnaeus from China. Also in India. D. C. III. 92. **Grislea tomentosa**. Roxb. Not mentioned for China by later authors.

92. **Lawsonia inermis**. L. French isl. Osb. 354.

Known from India and W. Asia before.

93. **Lagerstroemia indica**. Lin. known to Linnaeus as a native of China, mentioned earlier by Rumphius and Cleyer (Japan).

94. **Punica Granatum.** L. Whampoa (cult.) Osb. 198.

This tree, a native of N. Africa and W. Asia, is cultivated in China.

95. **Jussiaea repens.** L. Honam. Osb. 17.

Known from Ceylon before.

96. *Trapa natans* L. in Chin: *ling kamm* or *leng ka*. Osb. 305.

Linn. fil. described the Chinese sp. as a new plant *Tr. bicornis*. The spec. cult. at Peking under the name of 菱角 *ling kio* (ling kok, Canton.) is *Trapa bispinosa* Roxbg.

97. **Trichosanthes anguinea.** Linn. Hort. Cliff. This plant was known as a Chinese plant before Linn.—Rumph. amb. V. 407,—*Cucurbita sinensis* fructu longo etc. Tilli Cat. pl. h. Pisani I. t. 71. (1723).

98. **Cucurbita lagenaria.** L. in Chin: *po-o* Canton. Osb. 272.

Cultivated throughout China. The Chinese sounds intended by Osbeck are probably 瓠瓠 *po u*.

99. *Cucumis acutangulus.* Lin. China. India. D. C. III. 302.

Luffa acutangula. Ser.

100. **Cucurbita chinensis,** grows spontaneously on French isl. Osb. 362.

This name is not found in system. botan. works.

101. *Gourds, Melons, and Water melons,* which are red on the inside. Canton. Osb. 309.

102. **Bryonia cordifolia.** L. Danes isl. Osb. 374.

Known from Ceylon before.

103. *Molugo pentaphylla.* L. Near Canton. Osb. 387.

Known from Ceylon before. Flora hgk. 23, where the plant is mentioned as a variety of *M. stricta*. L.

104. **Hydrocotyle asiatica.** L. ? Danes isl. Osb. 7.

Known from Ceylon before.—Fl. hgk. 134.

105. **Celery** cultivated at Canton. Osb. 313.

Apium graveolens. L. is cultivated throughout China.

106. **Sium ninsi.** Linnaeus describes it as a Chinese plant but I am not aware that any botanist after Linn. has mentioned it for China. But the plant may be found there as it is frequently seen in Japan.

Sium sisarum. Linnaeus supposes this plant also to be a native of China, but Maximowicz. (Dec. XIII.) has proved that it is a Persian plant, which has never been gathered in China.

107. *Hydrocotyle chinensis.* Linnaeus, China. Sprengel Syst. I. 878. identifies it with **Crantzia lineata.** Nutt. an American plant. But D. C. IV. 71. considers it a dubious plant.

108. *Athamantha chinensis*. Lin. This is **Cnidium Monnieri**. Cass or *Selinum Monnieri*. L. D. C. IV. 152. Europa, Asia.

109. **Aralia chinensis**. L. a tree about 2 yards high covered with thorns. Leaves decomposite. French isl. Osb. 378.

110. **Panax quinquefolia**. L. *Ginseng*, in Chin. *yan sam* Osb. 222.

Osbeck of course does not mention it as a plant of South-China.

111. *Zanthoxylon trifoliatum*. L. a tree not observed before. French isl. In Chin: *lack fa*. Osb. 364. 394.

This is *Panax aculeatus*. Ait. or **Acanthopanax aculeata**. Benth. Hook. G. P. 939. According to Dr. Hance common in South-China.

112. **Sambucus nigra**. L. Danes isl. Osb. 8.

S. nigra is hardly found in China. The *S. nigra* of Lour. 226. is a different species. D. C. IV. 323.—According to Dr. Hance *S. chinensis* Lindl. is a common spec. near Canton.

113. **Nauclea orientalis**. L., in Chin: *moy fa*. Danes and French isl. Osb. 355. 395.

Known from Ceylon before. After Osbeck not gathered in China.

114. *Hedyotis herbacea*. L. ? Danes isl. Osb. 4.

Known from Ceylon before. Fl. hgk. 151. **Oldenlandia Heyniana**.

115. **Oldenlandia umbellata**. L. Near Canton Osb. 386.

Known from Ceylon before. Not observed in China after Osb.

116. **Mussaenda frondosa**. L., in Chin: *kau li mang*. French isl. Osb. 363. The characteristic white calycine leaf is not mentioned in Osbeck's description.

Known from Ceylon and E. India before. Flora hongk. 153.

117. **Gardenia florida**. Lin. See Pluken. Amalth. p. 29, *um ki*. Flora hgk. 153.

118. *Ipoea coccinea*. L. in Chin: *kan long fa* or Emperor's flower. French isl. Osb. 354.

According to D.C. IV. 486. Osbeck's plant is *I. stricta*. Roxb. By Osbeck's Chinese name is probably to be understood "Flower of the Emperor Kien lung."

119. **Morinda umbellata**. L. ? in Chin: *pa kock fa*. French isl. Osb. 363.

Known from Ceylon before. Flora hgk. 159.

120. **Spermacoce verticillata**. L. (description) French isl. Osb. 355.

According to D. C. IV. 541, this is an American plant.

121. **Rubia cordifolia**. Linnaeus describes it as a Chinese and Siberian plant. It is very common in North-China but I do not find it mentioned for South-China.

122. **Eupatorium chinense**. Lin. See. D. C. V. 179. Not observed in China by other collectors since Linn.

123. **Solidago chinensis** (a name given by Osb. not Linn.) Danes island. Osb. 393.

Solidago virgo aurea. L. is found in Hongkong. D. C. V. 342. states *Solidago chinensis* Spreng.=*Senecio vagans*. But Sprengel does not describe a plant of that name.

124. *Aster indicus*. L. French isl. Osb. 378.

This is *Boltonia indica*. Bth. Fl. hgk. 174.

125. *Aster chinensis*. Linn. described it first in the Hrt. Cliff. (1737) but it was previously known in Europe. D. C. V. 274.

Callistephus chinensis. Nees. Much cultivated in Peking.

126. *Conyza chinensis*. L. Near Canton. Osb. 386.

D. C. V. 445. *Blumea chinensis*.

127. *Conyza hirsuta* L. In Chin: *ky lat soy*, also *kang gan fa*. Danes isl. Osb. 374. 394.

D. C. V. 453. *Pluchea hirsuta*. Less.

128. *Baccharis indica*. L. In Chin: *ka te gnai*. Danes isl. Osb. 394.

Known from Ceylon before. D. C. V. 451. *Pluchea indica*. Less. Flor. hgk. 179.

129. **Sphaeranthus chinensis**. Linn. Mant. 119. But he gives only India as habitat. It seems the plant has not been observed after Linn.

130. **Carpesium abrotanoides**. L. Canton, Honam, Osb. 329, 17.

Has been observed also in Formosa, India.

131. *Verbesina chinensis*. L. In Chin: *ka ling fa*. Danes isl. Osb. 393.

Fl. hgk. 180. *Anisopappus chinensis*. Hook. Arn.

132. *Xanthium orientale*. Linn. China. It is identical with *X. indicum* Roxb. and **X. strumarium**. L.—Fl. hgk. 181.

133. **Siegesbeckia orientalis**. L. In Chin: *chi mag*. Danes isl. Osb. 374.

Described by Linnaeus in 1737, but Plukenet described it previously in the Amalth. 58.

134. *Verbesina prostrata*. L. French isl. Osb. 356.

Known from India before. D.C. V. 490 *Eclipta prostrata* L.

135. *Verbesina calendulacea*. L. French isl. Osb. 356.

Known from Ceylon before. D.C. V. 539 *Wedelia calendulacea*. Less.

136. **Chrysanthemum indicum**. L. In Chin: *cock fa*. On the walls of Canton, also in pots. Osb. 6.

The Chin. name 菊花 *kok fa*. *Matricaria sinensis*. Rumph. Amb.

137. **Chrysanthemum indicum**. L. cultivated in gardens, Canton. Flowers as large as those of *Tagetes patula*, white, double or full like a round brush. Osb. 15.

138. *Artemisia minima* Linn. Chin. D.C. VI. 140 and G. P. II. 430. **Centipeda orbicularis**. Lour.—Flor. hgk. 186.

139. *Artemisia chinensis*. Lin. Sent to Linnaeus by Lagerstroem, who received the plant from China. *Absinthium maritimum Sinarum*. Pluk. Amalth. p. 3. **Tanacetum chinense**. A. Gray. Maxim. Dec. XI.

140. **Artemisia vulgaris**. L. This is the only Swedish plant in this country (Canton), though it varies in some measure with it. The Chinese heal wounds with it, and to that purpose apply the fresh plant bruised. They call it *gnai* Danes isl. Osb. 394.

A. vulgaris L. (*A. indica* Willd.) is very common throughout China. Sin 艾 *ngai*.

141. *Ethulia tomentosa*. Linn. China. D.C. VI. 110. **Artemisia lavandulacea**, which is identified by Maxim. Dec. XI. with *A. vulgaris*.

142. *Senecio divaricatus*. L. French. isl. Osb. 378.

D.C. VI. 301. *Gynura divaricata*. Only known from China.

143. *Cacalia incana*. L. French. isl. Osb. 378.

Linnaeus' plant (from India) is dubious. *Gynura nitida*. D.C. VI. 299 ?

144. *Cacalia sonchifolia*. Linn. Ceylon. China. D.C. VI. 302. **Emilia sonchifolia**. Common in China.

145. *Lobelia zeylanica*. L. Danes island. Osb. 391.

Linn. confounds several species in his *L. zeyl.* and *L. trigona* Roxb. (Fl. hgk. 196.) is probably the plant Osb. saw in China. D.C. VII. 360.

146. *Black Ebony*, in Chin: *ghome* is brought to Canton from the E. Indies and from Maurice. Osb. 227.

Ebony sin: 烏木 *u muk* seems to be produced also in China. *Maba Ebenos*. Spreng.

147. *Nyctanthes hirsuta*. L. (description.) Canton, Honam Osb. 328. 16.

D.C. VIII. 302. *Jasminum pubescens*. Willd. Also in India (Roxbg.)

148. **Nyctanthes orientalis** (name given by Osb). Wood of Roses. Canton. Osb. 209.

149. *Quai fa*, a tree about 6 yards high with small, white, sweet scented flowers. Belongs to the Tetrandria class. Canton gardens. Osb. 14.

桂花 *kwai fa* is *Olea fragrans*. Thbg.

150. *Nerium Oleander*. Lin. Forster, Fl. sin. mentions it as known from China. I may observe, that the species generally

cultivated in China is **N. odorum**. Soland. the Oleander sinicus of Rumph. Introduced into Europe from India 1683.

151. **Periploca graeca**. L. Canton, French isl. The flowers are an ornament to our hot houses, on account of their velvet colour Osb. 336, 363.

The plant Osb. saw was hardly our European species.

152. *Fan sio* or *fay-sio*, **Convolvulus Batatas**. L. the Chinese potatoes, grow with long tendrils, which they extend along the ground. They never flower in China. Osb. 311.

Batatas edulis. Choix. Sin: 番薯 *fan shü* (Canton). At Peking also the plant never flowers.

153. **Convolvulus reptans**. L. In Chin: *or-say*. It grows spontaneously everywhere in ditches and low places. We daily eat this spinach. Osb. 313.

Known from India before. *Otus vagum*. Rumph. According to Parker **Ipomoea reptans** Poir. is called 藝菜 *ang tsoi* in Canton.

154. **Ipomoea Quamoclit**. L. In Chin: *kam fan fang*. It adorns the hedges without the city of Canton. Osb. 210.

Known from India before. Sin: 錦屏風 *Kan ping fung* (Parker).

155. **Convolvulus pes caprae**. L. French isl. Osb. 363.

Known from India before. Fl. hgk. 238. **Ipomoea pes caprae**. Sw.

156. **Convolvulus biflorus**. Linn. described it as a Chinese plant. **Ipomoea biflora** Pers. It does not seem that this plant has been observed after Linn.

157. **Convolvulus hederaceus**. L. Canton. Osb. 326.

Pharbitis Nil. Choix. Common in tropical countries.

158. **Convolvulus hirtus**. L. with yellow flowers, in Chin: *ta qua*. Danes isl. Osb. 376.

Linn. describes it as an Indian plant. It is dubious. D. C. IX. 412. **C. farinosus**. L. ? But this has pink or rose coloured flowers. Perhaps **Ipomoea chryseidis** Ker. Fl. hgk. 239.

159. **Evolvulus alsinoides**. L. (description). Danes isl. Osb. 392.

Known from India before. Fl. hgk. 240.

160. They eat (at Canton) a reddish fruit like figs, but longer, and almost everywhere likewise thick, called *ay qua* or *lea*. Osb. 297.

This seems to be **Solanum melongena**. L. the Egg plant, in Chin: 茄 *te* or 矮瓜 *ai kua* (Canton).

161. **Solanum aethiopicum**. Lin. (Forster Fl. sin.)

162. **Solanum indicum**. L. French isl. Osb. 357.

Known from Ceylon before.

163. *Solanum diphyllum*. L. French isl. Canton. Osb. 350. 328.

Linn.'s *Sol. diph.* is an American plant. But Osbeck's plant is the same as *S. biflorum*. Lour. *S. decemdentatum*. Roxb. *S. Osbeckii* Dun. D. C. XIII. 1. 178. 179. Fl. hgk. 242.

164. **Capsicum frutescens**. L. Canton. Osb. 209.

Known from India before.

165. *Lycium barbarum*. L. Honam. Osb. 16.

Loureiro's and probably also Osb.'s *L. barb.* are *L. chinense*. Mill. dict. 5 (1768.), which was cultivated in England as early as 1696 in the Roy. garden. (Hort. Kew 2. ed. II. 3). But there is much confusion in system. botany with respect to *L. barbarum*, *chinense* and *vulgare*. Meyen, obs. bot. notices *L. barbarum* as a plant of Macao. It seems to me that Hook. and Arn. (Voy. Beech. 267) are perfectly right in doubting, whether these species are really distinct.

166. **Datura ferox**. Linn. mentions it as a Chinese plant. It was known before him (Ph. Miller cultivated it 1731) but it seems from India. *D. ferox* is common in N. China.

167. **Nicotiana rustica** L. (Turkish Tobacco, universally smoked in China. Osb. 319.

168. **Nicotiana fruticosa** is described by Linn. and Miller as a Chinese plant. But as Hooker has proved (Bot. mag. 6207.) it is a little known plant received from Guinea, Brazil and the Cape of G. H.

169. *Ruellia ringens*. L. Danes isl. Osb. 370.

Known from Ceylon and India before. D. C. XI. 69. *Adenosma uliginosa*. R. Br. Osb. is quoted with a ? Not observed, it seems after Osbeck in China.

170. *Gerardia glutinosa*. L. Danes isl. Osb. 370.

Pterostigma grandiflorum. Benth. Fl. hgk. 247. *Adenosma grandifl.* G. Pl. II. 949.

171. *Gratiola virginiana*. L. Canton. Osb. 329.

Linn. confounded under this name an American and an Indian plant. The latter is acc. to D/C. X. 389. *Limnophila gratioloides*. R. Br. After Osb. not observed in China.

172. **Torenia asiatica**. L. French isl. Osb. 354. 337.

It would seem from Osb.'s statement, that Toreen, after whom Linn. named this plant, gathered it near Canton, not in India, as Linn. states. It is also not mentioned in the list of Indian plants collected by Toreen at Surat. As we shall see further on, Toreen was in Canton at the same time when Osbeck was there. It seems however that after Osbeck *T. asiatica* has not been observed in S. China. *T. rubens* and *flava* grow in Hongkong.

173. *Capraria crustacea*. Linn. China. D. C. X. 413. **Vandellia crustacea**. Benth. Fl. hongk. 251.

174. *Ruellia antipoda*. Danes isl. Osb. 370.

D. C. XI. 155. *Bonnaya veronicaefolia*. Spreng.

175. *Digitalis glutinosa* Gaertn. Nov. Com. Ac. Petrop. XIV. p. 544 (1770) China. D. C. IX. 275. **Rehmannia glutinosa**. Lib.

176. *Buchnera asiatica*. Linn. Ceylon, China. D. C. X. 503. *Striga hirsuta*. Benth. **Str. lutea**. Lour.

177. **Utricularia bifida**. L. (description). Danes isl. Osb. 1. Flora hongk. 256.

178. **Columnnea**? **chinensis** (name given by Osb.) in Chin: *pan ge ka* is plentiful along the river side of Danes isl. Osb. 371.

I am not aware what plant is meant.

179. **Ruellia crispa**. L. (description) in Chin: *patt fa*. Danes isl. Osb. 390.

Linn. mentions it only as an Indian plant. It has not been observed in China after Osb.

180. **Barleria cristata**. L. French isl. Canton walls, in Chin: *ab key fa*. Osb. 181. 362.

Known from India before. Flora hongk. 262.

181. *Justicia purpurea*. L. (description) a new plant, in Chin: *hap key lee* or *hap key sa*. Danes isl. Osb. 372.

J. purp. was known to Linn. from the Moluccas and China. *Rostellaria diffusa*. Nees. D. C. XI. 438. There is a great confusion with respect to the former name. *Just. purp.* of Loureiro 30 is *Peristrophe tinctoria* Nees. (D. C. XI. 493). *Just. purp.* Vahl is *Hypoestes purpurea* R. Br. Both of these plants have been observed in Southern China.

182. *Justicia procumbens*. L. Near Canton. Osb. 381.

Flor. hong. 265. *Rostellaria procumbens*. Nees.

183. *Justicia chinensis*. Linn. China. Flor. hgk. 266. **Di-cliptera chinensis**. Nees.

184. *Verbena nodiflora*. L. French isl. Osb. 363.

Known from Ceylon before. D. C. XI. 585. *Lippia nodiflora*. Rich. Not observed in China after Osb.

185. **Vitex negundo**. L. Canton. Osb. 330.

Known from India before. Fl. hgk. 273. According to Benth. *V. incisa*. Lam. from China, cultivated in Europe since the middle of the last cent. is only a cut-leaved form of *V. negundo*.

186. **Clerodendron fortunatum**. L. In Chin: *hatag nang*. Danes isl. (description) smells like musk. Osb. 369.

Known from Ceylon before. *Planta fortunata*. Herm. Mus. zeylan.

59. Dr. Hance add. Fl. hgk. 117.—Sin: 苦燈籠 *Ku teng lung* (Parker.)

187. *Volkameria inermis*. L. Danes isl. Osb. 374.

Known from Ceylon before. Fl. hgk. 271. *Clerodendron inerme*. R. Br.

188. **Ocimum gratissimum**. L. Danes isl. Osb. 376.

Known from India before.

189. *Ocimum capitellatum*. Linn. Mant. 276. China. D. C. XII. 47. **Acrocephalus capitatus**. Benth. India orient. Not observed in China after the time of Linn.

190. *Scrophularia chinensis*. Lin. China. In D. C. X. 317 we read: Scr. chin.=*Celsia coromandelina* Vahl cum **Salvia plebeja**. R. Br. The latter is a common plant in China. Fl. hgk. 277.

191. **Monarda chinensis**. (name given by Osbeck, description.) Danes isl. Osb. 391.

192. *Hyssopus Lophanthus*. Linn. North-China. D. C. XII. 369. **Lophanthus chinensis** Benth. Ledebour Fl. ross. III. 372. Altai mountains, Transbaicalia. Not observed in N. China after the time of Linn. But another species, *Lophanthus rugosus*. Fisch. is cultivated at Peking.

193. **Scutellaria indica**. L. (description). In Chin: *tím gam sa*. Not described before by any botanist. Danes isl. Osb. 3. Pluken. Amalth. 190. *Scutellaria sinica*.

194. **Leonurus sibiricus**. Linn. Sibiria. China. This is a common weed throughout China.

195. **Plantago asiatica**. Linn. Sibiria. China. Common in temperate Asia. According to Dr. Regel a variety of *Pl. major* L.

196 *Mirabilis odorata*. L. grows as nettles grow in our country. Canton. Osb. 326.

D. C. XIII. 2. 428. *M. dichotoma*. L. of American origin. Much cultivated in Peking.

197. *Valeriana chinensis*. Linn. French isl. Osb. 353.

D. C. XIII. 2. 455. *Boerhavia repanda*. Willd. Also in India.

198. **Celosia argentea**. L. Danes isl. Canton. Grows as a weed. Osb. 336.

First described by Linn. in the Hort. Cliff (1737).

199. **Celosia cristata**. L. in Chin: *lat-sio*. Canton. Osb. 209.

This is only a variety of *C. argentea*. Known from India before. Osbeck's Chin. name is wrong. *Lat tsiu* is Cayenne Pepper in Cantonese.

200. **Amarantus cruentus**. Linn. China. Known before Linn. *Amar. sinensis*. Martyn cent. 6. (1728.)

201. **Amarantus tristis**. L. in Chin: *in soy*. Its leaves are used instead of cale. French isl. Osb. 350.

Known from India before. 莧菜 *in ts'oi* is a general name for *Amarantus*.

202. *Achyranthes lappacea*. L. Canton. Osb. 329.

Known from India before. D. C. XIII. 2. 331. *Pupalia lappacea*. Mocq.

203. **Achyranthes aspera**, L. Canton. Osb. 336.
Known from India before. Fl. hgk. 285.
204. **Achyranthes chinensis**, (name given by Osb. botan. description.) Canton. Osb. 329.
205. **Gomphrena globosa**, L. Canton. Osb. 209.
Known from India before. Introduced in Europe 1714.
206. *Spinage* is called *bout-say* in Canton. Osb. 313.
The Chin. name for *Spinacia oleracea*, L. is 菠菜 *po ts'oi*.
207. *Chenopodium scoparium*, Linn. China. D. C. XIII. 2.
130. **Kochia scoparia**, Schrad. Common weed in North-China.
208. **Basella alba**, Linn. China. Known also from the Indian Archip. Japan. After Linn. not mentioned for China.
209. **Basella rubra**, L. in Chin: *tand soy*. The spots which the berries make in white linen are very hard to be got out. Canton factory. Osb. 12.
Known from India before. Sin: 藤菜 *t'ang ts'oi* (Parker) Flor. hgk. 283.
210. **Polygonum barbatum**, L. in Chin: *ka yong moea*. French isl. Osb. 353.
Common in S. China.
211. **Polygonum orientale**, L. in Chin: *yong moea*. French isl. Osb. 353.
Known from India before. Common in China.
212. **Polygonum chinense**, L., in Chin: *ka yong ma*. Danes isl. Canton. Osb. 393. 330.
Common in S. China. Sin: 火炭毛 *fo than mu*. (Parker.)
213. **Rheum palmatum**, Linn. China. Seeds of the true Rhubarb plant, observed in 1872 near lake Kukonor by Col. Przewalsky, were first received in Kiakhta, in 1750, and since that time the plant is cultivated in Europe.
214. **Rheum undulatum**, Linn. *Rhabarbarum sinense* Amman Herb. 206. The seeds of this had been received in 1740 from Siberia, its native country. Linn., who thought, that it was of Chinese origin, described it under the name of *Rh. Rhabarbarum*.
215. **Rheum compactum**, Linn. gives as habitat China, Tartary. It is stated to have been introduced in 1758 from Tartary. Pallas observed it in Dauria. It is not found in China.
216. **Piper betle**, L. Canton. Osb. 314.
Fl. hgk. 335 describes the *Chavica sarmentosa*, Miq. which is very near the Chav. betle. But the true Betle pepper is also cultivated in S. China.

217. A Chinese told to Osb. that the Camphor tree, **Lauurs Camphora**, was found near Canton, and called *tyong sio*. Osb. 253.

This tree was known to Linn. only from Japan. Sin: 樟樹 *tiang sio* (Fu chou dialect.)

218. **Cassytha filiformis**. L. Climbs on the Euphorbia. Danes isl. Osb. 395.

Known from India before.

219. *Daphne indica*. L. (description.) Danes isl. Osb. 6.

D. C. XIV. 543. **Wickstroemia indica**. C. A. M. Not found in India.

220. **Loranthus scurrula**. Linn. China. According to Benth. Fl. hgk. 141 this is probably the *L. chinensis*. D. C. gathered by Staunton in China, but not as Linn. thinks the species represented in Petiver's *Gazophyl*. Tab. 63, fig. 8.

221. **Viscum baccis rubentibus**. Kaempfer. amoen. 785. French isl. Osb. 353.

Kaempfer's plant, quoted by Osb. is *V. Kaempferi*. D. C. IV. 285. The Fl. hgk. 141 notices for Hongkong *V. articulatum*. Burm. and *V. orientale*. Willd.

222. **Euphorbia nerifolia**. L. used for hedges. Canton. In Chin: *fu yong fa*. Osb. 328. 336.

Known from Ceylon, India, before. Sin: 火秧花 *fo yong fa* (Parker.)

223. *Andrachne fruticosa*. L. Danes isl. Osb. 368.

Flor. hgk. 313 *Melanthesa chinensis* Blume. G. P. III. 276. **Breynia fruticosa**.

224. *Agyniea pubera*. L. and *Agyniea impubes*. L. Both known to Linn. as Chinese plants. D. C. XV. 2. 307 considers the second to be only a variety of the first, as do also Benth. and Hook. G. P. III. 271. Müller in D. C. 1. c. refers both to **Phyllanthus puberis**, of which he enumerates 4 varieties. Two of these have been observed in China by Fortune and others, but for the above mentioned varieties Müller quotes only Linnaeus.

225. **Phyllanthus niruri**. L. Danes isl. Osb. 2.

Known from Ceylon before.

226. *Croton tomentosus*. Müll. D. C. XV. 2. 588. states that he has seen in Linnaeus' herbarium a specimen of this plant brought by Osbeck from China. It seems that Osbeck does not mention it. **Croton crassifolius**. Geisel is the oldest name and must be restored. *Cr. chinense* Bth. Fl. kgk. 309. is the same.

227. *Croton sebiferum*. L. a little tree, which the Chinese call *o-ka-o*, and at first sight looks like an asp. It has yellow flowers. Danes and French isl. Osb. 359, 5.

Stillingia sebifera. Mchx. Sin: 烏 栢 *u kau*.

228. *Humulus lupulus*. L. Canton. Osb. 336.

This is *H. japonicus*. S. et Z. common throughout China.

229. *Ficus indica*. L. with round figs. Canton wall. Osb. 381, 215.

This is probably *Ficus retusa*. L. the Bastard Banyan, very common in S. China; also in India.

230. *Ficus pumila*. Linn. China (Forster Fl. sin.) known also from Japan, introduced in Europe 1759. Loureiro mentions it only for Cochinchina. It is not found in the Fl. hongk. But Dr. Hance has seen specimens of it from Formosa.

231. *Morus alba*. Linn. China.

232. *Urtica nivea*. L. on the walls of Canton. Osb. 215, 331.

Known from India before. *Boehmeria nivea*. Hook. and Arn. Flora hkg. 331.

233. *Thuja orientalis*. L. Canton. Osb. 209.

Known to Linn. from China before, described in the Hort. Cliff (1737) Seeds received from China. *Biota orientalis*. Endl.

234. *Juniperus chinensis*. Linn. Mant. (1767). China.

235. *Latt fa* is the Chinese name of a little tree (Canton), which looks like the Yew tree, but the leaves are ornamented on the inferior side with white strips, running length-ways as in *Pinus balsamea*, or the *Phalaris picta*. It seems to be *Taxus nucifera*. L. or the *Fi* of Kaempf. Amoen. 814.

The Japanese tree alluded to by Osb. is *Torreya nucifera*. S. et Z. not found in China, as far as I know. But *Torreya grandis* has been observed by Fortune in Chekiang. D. C. XVI. 2. 505.

236. *Abies chinensis*. Chinese pine. French isl. Osb. 348. The timber of which their ships are built is called *sao mock*. Osb. 196. *Shau pann* is the Chinese name of that sort of wood, from which they make coffins. Osb. 228.

All these names refer it seems to *Cunninghamia sinensis*. R. Br. D. C. XVI. 2. 432. Sin: 杉 木 *sha muk*. Boards of that timber are called 板 *sha pan*.

MONOCOTYLEDONS.

237. *Musa paradisiaca*. L. Plantain tree, called *Tseu* by the Chinese. Canton. Osb. 308. In a note Forster states, that the plantain tree has flowered for the first time in the Upsal garden, and has also brought forth ripe fruits.

The Chinese name of the Plantain, which is cultivated in S. China, is 蕉 *tsiu*.

238. *Musa Cliffortiana*. L. Canton. Osb. 341.

There is no difference between this and *M. paradisiaca*.

239. **Canna indica**. L. Canton. Osb. 330.
A native of India, frequently cultivated in China.
240. *Maranta Galanga*. Linn. China. *Galanga major*. Rumph.
Alpinia Galanga. Swartz. Fl. hgk. 348.
241. **Curcuma chinensis**. (name given by Osb.) Canton. Osb. 329.
242. *Epidendron ensifolium*. L. planted in flowerpots. Its flowers have an exceeding fine scent. Canton. Osb. 15.
Cymbidium ensifolium. Sw. Much cultivated in China.
243. *Ixia chinensis*. Linn. (Forster Fl. sin. from China) cultivated 1759 by Ph. Miller. **Pardanthus chinensis**. Ker.
244. **Narcissus Tazetta**. L. flowers in January. Canton. In Chin: *soi sinn fat*. Osb. 209.
Frequently cultivated in China. Sin: 水仙花 *shui sin fa*.
245. **Dioscorea alata**. L. Yams, in Chin: *tdai sio*. Cultivated, Canton. Osb. 311.
Known before from Ceylon, India. Sin: 大薯 *t'ai shu* (in Canton.)
246. **Convallaria chinensis**. Osb. 353. Canton.
I am not aware what plant is meant.
247. **Smilax China**. L. China root, in Chin: *long fan tao*. It grows near the river on dry hills and is very cheap in Canton. Osb. 255. 9.
Cmp. Hance Add. Fl. hgk 130.
248. **Smilax Sassaparilla**. L. Danes island. Osb. 10.
It was certainly not this American species, which Osb. saw there.
249. *Dracaena ferrea*. L. The Iron tree (description.) in Chinese *tat sio*. Canton gardens. Osb. 14.
Cordyline Jacquini. Kth. V. 24. Sin: 鐵樹 *tih shü*.
250. Two sorts of *Leek* are cultivated at Canton, viz. *tsong* and *lo fra*. Osb. 309.
By the first sound evidently 葱 *tsung*, *Allium fistulosum*. (Peking.) in intended.
251. **Heimerocallis fulva**. Linn. China. Common in China, cultivated and wild.
252. **Commelina communis**. L. Danes isl. Osb. 393.
Known from Ceylon before. Common in China.
253. **Commelina chinensis**. (name given by Osb.), in Chin: *Katyaa*. Danes isl. Osb. 393.
254. *Oo tao* are roots so called by the Chinese. They cannot be eaten raw because the acidity would prevent the action of swallowing. Osb. 310.

The name of 芋頭 *u tau* is applied to several species of *Colocasia* with edible tubers, viz: *C. esculenta*. Schott., *C. antiquorum*. Schott., *C. indica*. Kth.

255. *Lemna*. Honam. Osb. 17.

Probably *Lemna minor*. L., which is very common in China.

256. *Sagittaria bulbis oblongis*. Canton. In Chin: *succoyee fa*. Osb. 334.

We know two species of *Sagittaria* from S. China, viz: *S. chinensis*. Sims. and *S. cordifolia* Roxb. Fl. hgk. 346. I think it is the former which is largely cultivated in China for the sake of its edible roots under the name of 茨茹 *tsz' ku*,—*Sagittaria trifolia*. L. (China.) is according to Kth. III. 157. perhaps *S. chinensis*.

257. *Eriocaulon sexangulare*. L. Near Canton. Osb. 386.

Known from Ceylon before. Hance Add. Fl. hgk. 130.

258. *Cyperus Iria*. L. ? Danes isl. Osb. 371.

Known from India before. Fl. hgk. 386. Common in China.

259. *Cyperus haspan*. L. Danes isl. Osb. 376.

Known from India before. Fl. hgk. 386. Also in America.

260. *Cyperus oderatus*. L. French isl. 361.

This is an American species.

261. *Cyperus dichotomus*. L. ? Danes island. Osb. 371.

This name is not found in Kth. enum. pl.

262. *Cyperus rotundus*. L. Whampoa. Osb. 199.

Flor. hgk. 387. Widely diffused, New and Old World.

263. *Scirpus glomeratus*. L. Canton. Osb. 326.

Known from India before. Kth. enum. II. 133. *Kyllingia triceps*. Rottb.

264. *Scirpus chinensis*, culmo triquetro subnudo. Rheede Malab. XII. 71, motto pulla. French isl. Osb. 354.

Kth. II. 202. identifies the motto pulla with *Scirpus squarrosus*. L. or *Isolepis squarrosa*. Roem. Schult., an Indian plant, not found in China. But Bth. Fl. hgk. 389. states that *Lipocarpha microcephala* R. Br. found in Hongkong, closely resembles the former. Osbeck's *Sc. chinensis* is not to be confounded with *Sc. chinensis* Munro. Fl. hgk. 395.

265. *Saccharum officinarum*. L. Sugar Cane. In Chin: *kee a*. French isl. Cultivated. Osb. 350.

266. *Saccharum chinense* (name given by Osb.) grows in the river (Canton) like reeds. In Chin: *mao*. Osb. 10.

茅 *mao* is according to Lour. 67 *Saccharum spicatum* L. or *Perotis latifolia* Ait. Fl. hgk. 418. Osb.'s plant is not to be confounded with *Saccharum chinense*. Roxb.

267. *Saccharum pluviatile* (not a Linnaean name). Whampoa. Osb. 199.

268. **Andropogon schoenanthus.** L. Canton. Osb. 346.
Known from Ceylon, India before.
269. **Andropogon ischaemum.** L. Canton. Osb. 346.
Europa, Siberia. Frequent in N. China.
270. *Andropogon fasciculatum.* L. Canton. Osb. 346.
Kth. I. 265. *Chloris radiata.* Sw. an American plant.
271. **Ischaemum aristatum.** L. Danes isl. Osb. 376.
It is found also in India but has not been observed in China since the time of Linn.
272. **Apluda mutica.** L. Canton. Osb. 330.
Fl. hgk. 422. Found also in India.
273. *Panicum crus galli.* L. Canton. Osb. 346.
European species, the same as *P. crus corvi.* L. Also common in China.
274. **Panicum alopecuroides.** L. Danes isl. Osb. 375.
Kth. I. 163. *P. Linnaei.* India orient.
275. *Panicum arborescens.* L. Canton. Grows from 10 to 12 feet high and is very ramose. Osb. 330.
Known from Ceylon before. Kth. I. 426. *Arundinaria glaucescens.* Beauv.
276. **Panicum glaucum.** L. Danes isl. Osb. 374.
Flora hgk. 411. Europa, Asia.
277. **Panicum patens.** L. Canton. Osb. 346.
Kth. I. 126. India orient.
278. *Panicum dissectum.* L. Canton. Osb. 346.
This is a plant of S. America. Forster Fl. sin. means, that Osb. probably saw *P. dimidiatum.* L. (India orient.)
279. **Panicum brevifolium.** L. Canton. Osb. 346.
This is a plant of Mexico.
280. *Alopecurus hordeiformis.* L. Danes isl. Osb. 376.
Kth. I. 158. *Gymnotrix cenchroides.* Roem. et Sch. *G. hordeiformis.* Nees. India orient. C. B. Sp. Peking (Hance.)
281. **Oryza sativa.** L. The Chinese call the Rice *waa*, while it is yet in the ground. Osb. 350.
禾 *wo*, growing grain, Paddy in the southern provinces (Williams.)
282. *Kow-sonn* is the Chinese name of white, long roots, of the thickness of Parsneps, the extremes of which had been cut off, and with which a sampan, that passed by, was quite filled. They were tied into bunches with their ensiform leaves, and were offered to sale. Osb. 11.
I have no doubt, that Osb. saw *Hydropyrum latifolium.* Griseb. the basis of the stem of which is a vegetable much in esteem among the Chinese. Comp. Dr. Hance's interesting article on the subject. Journ. Bot. 1872. 146. The Chinese call it 茭笋 *kao sun*. It is cultivated in Peking as well as in Canton, and grows wild in Southern Siberia.

283. *Agrostis indica*. L. Canton. Osb. 346.

Widely diffused over the warmer regions of the globe. Fl. hgk. 426. *Sporobolus indicus*. R. Br.

284. *Aira seminibus hirsutis*, aristis terminalibus flore longioribus. French isl. Osb. 354.

Eriachne chinensis. Hance. Add. Fl. hgk. 136.

285. *Holcus latifolius*. L. Danes isl. Osb. 8.

Kth. I. 366. *Centotheca lappacea*. Desv. Found also in India, the Indian Archip., Australia.

286. ***Briza elegans*** (not a Linnaean name). Canton. Osb. 6.

287. *Poa chinensis*. L. Canton. Osb. 330.

It seems, that this is the *Leptochloa chinensis*. Nees. Fl. hgk. 430. Nees gives as synonym *P. chinensis*. Roth. See Kth. I. 270.

288. ***Poa malabarica***. L. Canton. Osb. 29.

Kth. I. 365. India orientalis.

289. ***Poa angustifolia***. L. French isl. Osb. 378.

European species.

290. *Poa tenella*. L. Canton. Osb. 330.

Known from India before. Fl. hgk. 431. *Eragrostis tenella*. Beauv.

291. *Cynosurus aegyptiacus*. L. Danes isl. Osb. 376.

Common weed in warm countries. *Eleusine cruciata*. Lam. *Dactyloctenium aegyptiacum*. Willd.

292. *Arundo Bambo*. L. Bamboo roots is what we call Asia, when preserved with salt, vinegar, leek, and Capsicum. Paper is made of the inner bark of Bamboo. Osb. 310, 276.

Munro in his article on Bambusaceae (Trans. Lin. Soc. XXVI.) states, that the Chinese bamboo of which Osbeck speaks, which is said to flower once in 60 years, is *Bambusa flexuosa* Munro, gathered also by Staunton.

293. A reed which the Chinese call *lu ta*. It looks like ***Arundo Donax***. Near Bocca Tigris. Osb. 29.

蘆筍 *lu ta* (Williams' Dict. p. 840). Comp. also Dr. Hance Journ. Bot. 1879. p. 99.

294. ***Nardus articulata***. (name given by Osb.) Canton Osb. 346.

295. ***Nardus ciliaris***. L. French isl. Osb. 353.

Kth. I. 461. species dubia. India orient.

CRYPTOGAMS.

296. ***Lycopodium cernuum***. L. French isl. Osb. 356.

Common throughout the tropics.

297. ***Lycopodium nudum***. L. French isl. Osb. 356.

East and West Indies.

298. ***Lycopodium varium***. French isl. Osb. 356.

This is not a Linnaean name. *L. varium*. R. Br. is an Australian plant and has probably nothing to do with Osbeck's plant.

299. *Ophioglossum scandens*. L. In Chin : *ka yin sey*. Danes isl. Osb. 375.

Known from Ceylon before. Fl. hgk. 441. *Lygodium scandens*. Sw.

300. *Polypodium varium*. L. Danes isl. Osb. 9.

Known also from India. Hce. Add. Fl. hgk. 140. *Aspidium varium*. Sw.

301. *Polypodium Barometz*. L. French isl. Osb. 356.

Cibotium Barometz. J. Sm. India, China. Add. Fl. hgk. 143.

302. *Polypodium cristatum*. L. French isl. Osb. 356.

This is an European species. *Aspidium cristatum*. Sw.

303. ***Pteris semipinnata***. L. In Chin : *ka lao*. Danes isl. Osb. 375. New plant.

Fl. hgk. 448. China. India.

304. ***Pteris vittata***. L. Canton walls. Osb. 381. New plant.

305. ***Acrostichon punctatum***. Lin. China. (Forster Fl. sin.)

306. ***Acrostichon dichotomum***. Lin. China (Forster Fl. sin.)

307. ***Adiantum flabellatum***. L. (description) in Chin : *siag mao quang*. Danes isl. Osb. 7.

Adiantum chinense perelegans. Pluk. Alm. 11 (see above). Common in S. China.

308. ***Blechnum Orientale***. L. French isl. Osb. 375.

Flor. hgk. 444. Also in India.

309. ***Onoclea sensibilis***. L. or *Filix indica*, *Polypodii* facie. Menz. pag. 6. tab. 10. Danes isl. Osb. 371.

This is an American species.

310. *Trichomanes chinensis*. L. Danes isl. French isl. A new plant. Osb. 357, 9.

Davallia chinensis. Sw.—Sprengel Syst. IV. 120 refers to this species also *Adiantum chusanum*. Linn. Syst. veg. p. 940.

311. ***Jungermannia chinensis*** (name given by Osb.). See Dill. Musc. t. 49. fig. 4. French isl. Osb. 356.

312. ***Lichen chinensis***. Osb. French isl. Osb. 356.

313. ***Lichen parietarius***. L. ? or very like our *L. parietarius*. Danes isl. Osb. 8.

314. *Lichen* (Euphorbiae.) *foliaceus pulverulentus*. French isl. Osb. 378.

315. ***Agaricus chinensis***. Osb. French isl. Osb. 356.

316. ***Boletus favus***. Linn. China.

317. *Siu*. Chinese Truffles are carried for sale in the streets of Canton. Osb. 312.

蕈 *sun* is a general term for Mushrooms. Comp. Loureiro 849. *Agaricus deliciosus*.

318. **Byssus flos aquae**. Linn. (Forster Flora sin.)

319. **Fucus Tendo**. Linn. China.

Dubious Chinese plants mentioned by Osbeck.

Cryptanthus chinensis. Small bushes bearing a great resemblance to Blackberry bushes. Leaves opposite, as large as those of the Rosemallow, cordated, obtuse; their margin is unequally serrated, they are somewhat rough at the top, but smooth below and have at least 8 pretty large veins. The flowers are white, double and grow in bunches at the top of the branches. Near Canton. Osb. 345.

There is no Linnaean genus *Cryptanthus* and the genus of this name proposed by Nuttal (Salsolaceae) is even not mentioned in the Gen. Plant.

For the food of gold and silver fishes a species of plant is put into the water, the leaves of which resemble *Ceratophyllum demersum* and *Pistia stratioides*. They call it *Siu yan gai*. Osb. 208.

Large high trees called *lean see*. Canton. Osb. 325.

Laan fa a tree with yellow corymbose flowers and pinnated leaves. Canton gardens. Osb. 14.

Ka tong qua, a shrub, which twists round other plants. Leaves heart-shaped, thick. Corolla 4 fid, 4 filaments, 1 pistil. Danes isl. Osb. 374.

Kay in. Leaves lanceolate and woolly on the under side. Flowers blue. 4 filaments. Pistil longer than the filaments. Danes isl. Osb. 374.

Ko su or *Yam ko sua* is the name, which the Chinese give to the great trees, which grow near the plantations. Osb. 9.

Pa lamm is the name of the leaves with which they cover their fruit baskets. Osb. 9.

Ka toa is a long climbing plant with round leaves and red flowers. Danes isl. Osb. 394.

OLAF TOREEN, Chaplain of the *Gothic Lion*, a Swedish East India man, visited Canton at the same time, when Osbeck was there. The *Gothic Lion* anchored at Whampoa on the 7. July 1751 and left the 4. Janr. 1752. Toreen presented to Linnaeus, his instructor, a collection of Indian plants, chiefly from Suratte, where he had made a stay

of more than 5 months. It would seem that he gathered also some Chinese plants. I have already stated (see above Linn. Chin. plants. 172.) that *Torenia asiatica*, named by Linnaeus after Toreen, was probably brought from China, not from India. In D. C. V. 543 I read under *Pluchea (Conyza) hirsuta*: China (Torr. ex Linn.) I cannot now refer to Linn.'s original work in order to decide whether Toreen is quoted. Toreen died a year after his return to Sweden. Linnaeus published the letters Toreen had addressed to him during his voyage. In his narrative there is nothing of interest concerning Chinese botany. He speaks of some cultivated plants and reports, that the Tea shrubs he took with him on his return, died, on the road, notwithstanding his care.

The third account of Swedish naturalists in China translated by Forster, is a Treatise on **CHINESE HUSBANDRY** by **CHARLES GUST. ECKEBERG**. Eckeberg was Captain of a Ship in the Swedish E. I. Comp.'s service. We know from Sparrmann's brief account of his voyage to China, (see further on) that Eckeberg was Captain of the Navarcha and that this ship arrived at Canton Aug. 24. in 1766. It was at this place, that Eckeberg made his observations on Chinese husbandry, on which subject he subsequently published a very interesting account, of which I shall give an abstract. It seems that E. had previously visited Canton, about 1762.

E. states that *Rice* is largely cultivated in the neighborhood of Canton. But he saw also *Wheat* there and *Barley*.

He mentions a coarse species of plant, with thin roots, whose leaves, flowers and seed capsules were like those of *Radishes*. These were sown in the beginning of Dec. In Febr. they were all in blossom, but in April the seed capsules turned yellow, and then the plants were plucked, dried, and the numerous seeds beaten out. From the seeds they press an oil, which they turn to many purposes in economy, but especially they burn it in lamps, and dress several dishes with it while it is fresh. The oil is so fat, that it cannot be used in painting, because it will not dry. The soot which comes from the lamps in which this oil is burnt is used in making the well known Indian ink.

The plant here alluded to is the *Raphanus chinensis annuus oleiferus*. L. *Raphanus sativus*, var. *oleifera*. D. C. I. 228. It is stated in the Collect. acad. partie étrang. XI. 379 (quoted by Grosier, la Chine III. 234. I have not seen the original.) that the seeds of this plant, which the Chinese cultivate under the name of *sui fa* or *sui fa tun*, had been supplied

by Eekeberg and sown in Sweden, where they produced a good crop. I am not prepared to say what Chinese name is intended by *sui fa tun*. Evidently it has been incorrectly rendered.

It seems to be the same plant, which Osbeck II. p. 29 mentions. 21. Dec. 1752. The high fields about Bocca Tigris (mouth of the Canton river) were green with a plant out of whose seeds the Chinese press the oil, which they call *loam*, and which is most probably Sesam.

Fortune (Wander. 55.) states, that the Cabbage oil plant of the Chinese in Chusan, Chekiang, Kiangsu is *Brassica chinensis*. L.

Commonly the seeds of Cotton, which they call *min foo* succeed to those oily seeds. They are sown in April. Flowers appear in July, pods in August.

The Cotton plant, 棉花 *min fa*, in Canton.

Potatoes, which they call *foe cee* make the third and last crop, which they plant after the cotton crop being over. These potatoes are different from ours. The roots have red peels, are longer, yellow, sweet, but the leaves are like those of European potatoes.

E. means evidently *Batatas edulis*. Chois (s. above Lin. Chin. pl. 152.) sin: *fan shü*, but he is mistaken with respect to the leaves.

Sometimes the place of Cotton is supplied with lentils, beans *Locktaus* and *Culvanses*.

Luktan is *Phaseolus radiatus* L. (Lin. Chin. pl. 74.) *Calvanses* = *Dolichos sinensis*. L.

Yams, which they call *ou tau* are planted like potatoes but set in swampy wet places.

Colocasia (Lin. Chin. pl. 254.)

After this some particulars with respect to the cultivation of the *Sugar cane* by the Chinese are given.

In the kitchen gardens they cultivate *Salads*, long and short *Cucumbers*, *Leeks*, white *Onions*, *Spinage*, *Celery*, *Carrots*, *Orach*, a species of watery *Turnips*, long *Radishes*, *Gourds*, and *Water melons*. Of these they have procured the seeds from the Portuguese. *Purslane* grows wild. They keep a coarse sort of *Water Spinage* in ponds about $\frac{1}{2}$ fathom deep, in which it grows so plentifully, that it quite covers the surface of the water. This is one of the most usual pot herbs.

This Water spinage seems to be *Ipomoea reptans*. Poir. See above Lin. Chin. pl. 153.

After this E. speaks of the cultivation of *Ginger* and of *Tobacco*, *yeen* of the Chinese.

They cultivate a plant, which they call *fock yong*, not unlike *Mint*, but with paler leaves. They value this plant very highly and sell the pekul of it for 50 tael. It is said to be of great service in consumption.

Perhaps 藿香 *hol hong*, which Lour. 441 thinks to be a *Betonica*. In Peking *Lophanthus rugosus*. Fisch. is cultivated under this name.

The greater and the less *Palma Christi* (the less in particular *Ricinus*) is planted everywhere. The kernels being pressed afford a white clear oil.

Instead of cabbage they use a plant with great coarse leaves like those of Burdock, all issuing out of a little root. The yellow flowers, the stalk with the pods, and the seeds themselves are like *Cale*. They daily use this plant and therefore it goes off so fast, that they immediately sow the void beds with it again. It grows very fast in all seasons. They boil and dry it and take it with them upon sea voyages.

Besides this the Tartars of Peking have a species of *White Cale* with long, narrow heads, which is scarce in Canton.

The first mentioned is probably *Sinapis brassicata*. L. (Lin. Chin. pl. 10.) which is distinguished by its large leaves, the second *Brassica chinensis*. L. which does not form heads.

Eckeb. then enumerates the following fruits: *Citrus decumana*, sweet *Oranges*, which come to great perfection in Fokien, Amoy, little sour *Citrons*, *Leicki*, *Lonyan*, *Mango* trees, *Olives*, *Pear-and Apple* trees, and likewise *Grapes*.

The *Bettle* bushes grow spontaneously without being planted.

I may finally mention, that according to Linnaeus Eckeberg was the first, who succeeded in bringing a living *Tea* shrub to Europe, which Linn. received 3. Oct. 1763.

Lindley Rosar. Monogr. 108 quotes Eckeberg in connection with *Rosa semperflorens*. Curt. China.

Sparrmann has dedicated to Eckeberg a new genus of plants, *Eckebergia*. (Meliaceae.)

A small collection of S. Chinese plants was made by **Andreas Sparrmann** in 1766. A brief account of his voyage to China and his botanical investigations there is found in Linnaeus' *Amenitates academ.* vol. VII. 1769. p. 497—506. Sparrmann, born 1747, a Swedish botanist and traveller, visited besides China also the Cape of G. H. (1771—72). He died 1787 and has written many botanical articles in the *Act. acad. holm.* and in *Nov. act. soc. Upsal.* Linn. fil. dedicated to him the genus *Sparrmannia* (Tiliaceae.) As to his voyage to China he states that Capt. Eckeberg had invited him to accompany him. Their ship, the *Navarcha* passed by Macao 24. Aug. 1766 and anchored not far from the city of Canton 26. Aug. Sparrmann enumerates the following plants gathered at that place :

<i>Thea Bohea</i> . Linn. Chin. pl. 16.	<i>Polygonum chinense</i> . l. c. 212.
<i>Ixora coccinea</i> . l. c. 118.	<i>Torenia asiatica</i> . l. c. 172.
<i>Rhamnus lineatus</i> . l. c. 48.	<i>Aralia chinensis</i> , sed tota glabra. l. c. 109.
<i>Bacckea frutescens</i> . l. c. 85.	<i>Verbesina calendulacea</i> . l. c. 135.
<i>Triumfetta Barthramia</i> l. c. 31.	<i>Cucurbita citrullus</i> . l. c. 101.
<i>Urena procumbens</i> . l. c. 24.	<i>Hedysarum biarticulatum</i> . l. c. 68.
<i>Barleria cristata</i> . l. c. 180.	<i>Tamarindus indica</i> . l. c. 79.
<i>Hedyotis fruticosa</i> . D. IV. 123.	<i>Citrus decumana</i> . l. c. 41.
Planta dubia. <i>Spermacoce</i> ?	<i>Citrus aurantium</i> . l. c. 34.
<i>Sinapis brassicata</i> . Linn. Chin. pl. 110.	<i>Bromelia Ananas</i> .

In my notice of the services rendered by Swedish naturalists with respect to the investigation of Chinese Botany, I ought not to omit mentioning the name of **MAGNUS VON LAGERSTROEM**, born in 1696. He was an ardent naturalist and a friend of the Great Linnaeus. His position as Director of the Swedish East India Comp. at Gothenburg enabled him to procure many rare objects of natural history from India and China, which he used to present to Linnaeus. He died in Gothenburg in 1759. Linnaeus dedicated the genus *Lagerstroemia* to his friend. Toreen in his letters repeatedly speaks of Lagerstroem.

There is in Linn. Amoen. acad. IV. p. 230—266 a paper by J. L. Odhello, written in 1754, devoted to the *Chinensia Lagerstroemiana*. The author reports, that Lagerstroem had obtained from India not only dried specimens of plants, but had also succeeded in introducing living plants from those distant countries into the botanical garden of Upsala. He enumerates namely: *Cocos*, *Phoenix*, *Cycas*, *Saccharum Pentapetes*, various species of *Hibiscus*, *Sanguis Draconis*, *Bambu*, *Conyza*, *Amaranthus*, *Arum chinense* (I do not know to what plant the last name refers. There is no Chinese Arum in Linn. Spec. Plant.)

Besides this, Lagerstroem is stated to have been possessed of a *Botanicon chinense*, written in Chinese characters, in 36 volumes, of which 2 volumes contained engravings of plants, beasts, and minerals. (This was probably the well known *Pen ts'ao kang mu*.) Lagerstroem had moreover received from China a collection of about 1000 Chinese drugs.

IV. EARLY RESEARCHES INTO THE FLORA OF PEKING.

Let us return again to the Jesuit missionaries and continue to illustrate the services they have rendered in extending our knowledge of the vegetable products of China.

We have first to consider in this chapter the merits of Father **Petrus d'Incarville** in having sent to Europe dried plants and seeds from North-China. He was a Frenchman born in 1706. In 1740 he joined the Chinese mission of the Jesuits and died in 1757 at Peking, where he seems to have labored during the whole period of his sojourn in China. D'Incarville's name has been repeatedly inscribed in the annals of botanical science. From the seeds of various Peking plants procured by him a number of interesting new species, now-a-days much cultivated in Europe, have been raised. A. L. de Jussieu dedicated to him the genus *Incarvillea* represented by one species only, the *I. sinensis*, a beautiful Bignonaceous plant with large scarlet flowers, met frequently with in the Peking plain and in the mountains, towards the end of summer.

Besides this, D'Inc. transmitted to his instructor Bernhard de Jussieu in Paris a collection of dried Peking plants. I am not aware to what number of species this collection amounts. It has been incorporated with the herbarium of the Museum of Paris, but has never been worked up in any regular form. Only a few new plants of it have been occasionally selected for publication by French botanists, and, it is strange to say, from 30 to 80 years and more after the specimens were received in Paris. As far as I have been able to trace out from various botanical works, the name of Inc. is connected with the following Chinese plants, of which he has supplied dried specimens or seeds.

1. ***Ailantus glandulosa***. Desf. Inc. first mentions this tree under the name of *Frêne puant* (stinking Ash.) in a memoir on Chinese wild silkworms, published a long time after his death by Cibot in the 2d vol. of the *Mém. conc. les Chin.* (1777.) p. 583. According to Loudon (*Arb. et Frut.*) seeds of this tree, sent by d'Incarville, had been received in England in 1751. It was cultivated in France also, but described for the first time by Desfontaines only in 1786.

2. ***Cedrela sinensis***. Adr. Jussieu. Inc. mentions this tree in the above quoted memoir, p. 583, as *Frêne odorant*. From the dried specimens of it sent to Bernh. Jussieu in 1743, Adr. Jussieu described it for the first time in 1830.

3. In the same memoir, p. 583, Inc. speaks of an *Oak* (of Shantung province it seems) which he means to be identical with *Quercus orientalis castaneae folio, glande recondita in capsula crassa et squamosa*, which he had seen cultivated in Paris and in Toulouse. Lamarck *Enc. Bot.* I 719, refers this

diagnosis (Tournef.) to a variety of *Quercus aegylops* L. of the Levant. But there can be no doubt that Incarville's Chestnut oak is the **Quercus chinensis**. Bge., very common in North-China.

4. **Zanthoxylum Avicennae**. D. C. It was first described by Lamarck l. c. II. 445, in 1786, under the name of *Fagara Avicennae*, from a specimen sent by Incarville, probably from the province of Shantung. It seems this is his *Fagara* or *Poivrier de Chine*, the leaves of which are used to feed a kind of silkworm. (see the above mentioned memoir.)

5. **Syringa villosa** first described by Vahl 1805, from specimens gathered by Incarv. in the mountains of Peking.

6. **Incarvillea sinensis**, described by A. L. Jussieu in 1789. Lam. l. c. III. 243.

7. **Dicentra spectabilis** Miq. *Fumaria spectabilis*. L.—Lam. l. c. II. 571, saw dried specimens of this plant sent by Incarv. in Jussieu's herbarium. (comp. also above Linn. Chin. pl. 4.)

8. **Polygonum tinctorium**. Lour. Grosier (la Chine III. 276) reports that Inc. had sent to Paris seeds of the *Peking Indigo* (which is *Pol. tinctorium*.) accompanied with a memoir on the cultivation of the plant and directions for the extraction of its coloring matter. Jussieu cultivated the plant in the Royal Garden.

9. **Callistephus chinensis**. Nees. *Aster chinensis*. L. Thouin (Diction. d'Agriculture l. 710.)* states that seeds of the "Reine Marguerite" sent by Incarv. to Jussieu had been for the first time received in 1728. There seems to be some misapprehension. Seeds of the Chinese Aster or *Reine Marguerite* may have been sent by Incarville but not in 1728, for he arrived in China only in 1740. Dillenius describes the plant for the first time in his Hort. Eltham. 1732.

There is a strong probability that many other plants of North-China cultivated in European gardens and especially in Paris since the middle of the last century, were first raised from seeds sent by Incarville, although in botanical works his name does not appear in connection with the introduction of these plants. I may mention the following:

10. **Koelreuteria paniculata**. Laxm. a tree hitherto observed in a wild state only in the neighborhood of Peking. Laxmann, a Russian botanist, described it first in 1772. Nov. Com. Acad. Petrop. XVI. He states that this shrub, the native

* I have not seen the original but quote from Grosier. l. c. III. 129.

country of which then was unknown, had been cultivated for 20 years in the hot-houses of the bot-garden of St. Petersburg. It had first flowered in 1772. Lam. l.c. VI. 667 (1804) notices the *K. paniculata* as cultivated in Paris, but says nothing about its introduction. In England it was introduced in 1763. I am not aware what plant is intended by *Sapindus Koelreuteria*. Blanco. Fl. Philippin. 289.

11. **Zizyphus chinensis.** Lam. l. c. III. 318 states, that this tree is cultivated in the Royal Garden, Paris, and that it is said to be a native of China. *Z. chinensis*, the same as *Z. vulgaris*. Lam is very common at Peking.

12. **Caragana Chamlagu.** Lam. First described as *Robinia Chamlagu* by l' Héritier, *Stirpes novae*, 1784. p. 161. Ex traditione in horto Parisiensi accepta gignitur in China eamque dicunt *Chamlagu* ubi nomen vulgare Sinarum. I am not prepared to explain this name. *C. Chamlagu* is a common plant in the Peking mountains. It has also been gathered at Ningpo and Shanghai (Fortune, Forbes.)

13. **Gleditschia sinensis.** Lam. l. c. II. 466 (1786) states: cultivated in the Royal garden, Paris; it is said to have been raised from seeds received from China. The tree is common in N. China.

14. **Vitex incisa.** Lam. l. c. II. 612 (1786.) said to be a native of China, cultivated in the Royal garden, Paris. Miller (Fig. Gard. Dict. tab. 274.) states that seeds of this plant had been sent by missionaries from China to Paris. This shrub is very common at Peking and has been observed only in N. China, as far as I can conclude from the quotations in D. C. XI. 684. See above Linn. Chin. pl. 185.

15. **Lycium chinense.** L. Miller in his Gard. Dict (1768) No. 6 states with respect to *L. halimifolium* (*L. chinense*) that Bernh. Jussieu, who had received the seeds of this plant from the missionaries in China, transmitted them to Miller. Lam. l. c. II. 509 says that *L. chinense* is cultivated since a long time in the Royal Garden.

It is generally believed that **Sophora japonica.** L. has been first introduced into our gardens by James Gordon in 1753 (See Acton Hort. Kew. III. 2). But in a letter which I lately received from Mr. J. Decaisne he kindly informs me that *Sophora japonica* was introduced into the Jardin des Plantes by d'Incarville.

During my last stay in St. Petersburg, in 1878, I fell in with a curious memoir by Incarville, an *Alphabetic Catalogue of Peking Plants* and other objects of natural history,

published in the Memoirs of the Soc. of Naturalists of Moscow, in 1812. (In French.) In an introductory note it is stated, that the original M. S. of this paper exists in the Archives of the Foreign Office at Moscow and had been communicated to the Society by Mr. Molinofsky, councillor of state. It seems that this catalogue had been drawn up by Incarville at the request of Bernh. Jussieu, his instructor. The Chinese characters accompanying the native names of plants, given in the M. S. have been omitted in the printing. Dr. Fischer, inspector of the botanical garden at Gorenki (subsequently Director of the Bot. Garden St. Petersburg) has supplied some scientific botanical names, for Incarville, besides the Chinese names, gives only old French popular appellations of plants. Even at the time when Incarville's paper was published the Flora of Peking had not yet been investigated by men of science and I venture to believe, that in the herbariums of the Botan. Garden and of the Academy in St. Petersburg, which now are so abundantly provided with plants from North-China, there was then hardly a specimen procured from Peking. Thus Fischer, in commenting on Incarville's accounts merely identifies the old French names of plants with the scientific Latin genus names. Incarville notices about 260 Peking plants or drugs, adds generally the Chinese names and occasionally some particulars regarding the economical uses of these plants. As I am tolerably well acquainted with the Flora of North-China and as I know also the popular names applied by the Chinese to the cultivated and some wild growing plants, I find no difficulty in ascertaining the plants mentioned by Incarville. But it would draw out my paper to an unconscionable length, were I to reproduce Incarville's enumeration and to comment on it.

From some allusions in Incarville's memoir it can be inferred that he used to keep up a correspondence with some of the learned academicians in St. Petersburg. He refers to a letter *Krashenimikov* had written to him about some seeds received from Peking. His collections destined for Jussieu, Inc. used to intrust to the care of the Russian caravans from Kiakhta (resp. Moscow) which every three years visited Peking. Jussieu seems to have forwarded European plants to Inc. by the same way, for in one instance the latter speaks of some bulbs and seeds sent by Jussieu in 1748, and of the delay in their transmission from Kiakhta by the Russian caravan.

In Koch's Dendrology, II. 307. I find a statement, that Adr. Jussieu after his death left a M. S. by Incarville, relating his

voyage to China, and a collection of 4010 Chinese drawings representing plants and animals, which then became the property of the Muséum d'histoire naturelle. Anxious to see these documents I addressed myself personally to Mr. Decaisne, the eminent French botanist and director of that Museum. As they were found not to exist there M. Decaisne was kind enough to inquire about them at some other libraries in Paris, where he supposed they might have been deposited. But all inquiries proved unsuccessful. Koch has probably been mistaken, not, I believe, with respect to the real existence of such manuscripts and drawings, but evidently as to their fate after Jussieu's death.

I go on now to illustrate the labours in the way of botanical researches of another Jesuit missionary of Peking, who followed Incarville's footsteps.

PIERRE MARTIAL CIBOT was born in 1727 in Limoges, in France. He came to China in 1759 (thus two years after Incarville's death.) and died in Peking in 1784. He was a prolific author and had a predilection for Botany. There are a considerable number of interesting observations from his pen, relating to Peking plants and their economic uses. All his papers have been printed in the *Mémoires concernant les Chinois* etc., this vast repertory of the scientific labours of the Jesuit Missionaries at Peking in the second half of the 18th cent., issued in 16 vol. from 1776 to 1814. Cibot's articles are found in vol. II. (1777), III (1778), IV (1779), V (1780), VIII (1782), XI (1786). We are of course not to seek for scientific botanical names in Cibot's accounts. He confines himself to good popular descriptions and adds generally the names. The following is the list of the plants spoken of in Cibot's papers, with the modern botanical names and the Chinese characters added.

1. On the *Chinese Cabbage* called *Pe tsai* and its culture. l. c. IV. 503.

Brassica chinensis. L. sin: 白菜 *pai ts'ai*.

2. The *Lien hoa* treated of in vol. III. 437, and XI. 218, is *Nelumbium speciosum*. Willd. sin: 蓮花 *lien hua*

3. A good description of the water plant *Lien kien* or *Ki teou* is found in vol. III 451.

This is *Euryale ferox*. Salisb. sin: 蓮茨 *lien kien* or 雞頭 *ki t'ou* (fowl's head.)

4. The *Lin kio* or Water Chestnut. III. 449, is *Trapa bispinosa*. Roxbg. sin: 菱角 *ling kio*.

5. The true Water Chestnut, *Pitsi* III. 451, is *Eleocharis tuberosa*. Schultes. Sin: 芡 臍 *pi t'si*.

6. The *hong hoa* used as a red dye, V. 498, is *Carthamus tinctorius*. L. sin: 紅 花 *hung hua*.

7. The *siao lan* from which in Peking a blue dye is obtained, a "Persicaire," as Cibot correctly states, V. 499, is *Polygonum tinctorium*. Lour. sin: 小 藍 *siao lan*.

8. Various kinds of *Artemisia* used by the Chinese for preparing their *moxa* and also a sort of tinder
Artemisia vulgaris L. (*A. igniaria*. Maxim.) and *Tanacetum chinense*. A. Gray.

9. On the cultivation of Cotton in China. II. 603.

10. Tobacco in China. VIII. 267.

11. The Moutan flower, III. 432, is *Paeonia Moutan* Sims.
sin: 牡 丹 *mu tan*.

12. The *Kui hoa*, *Matricaire de Chine*, III 455, is the celebrated *Chrysanthemum indicum* L. and *Chr. sinense*. Sab. sin: 菊 花 *Kü hua*.

13. The *Mu kin*, XI. 500, is *Hibiscus syriacus*. L. sin: 木 槿 *mu kin*.

14. The *Pe ge hong*, III. 480, is *Lagerstroemia indica*. L. sin: 百 日 紅 *po ji hung*.

15. The *Yu lan*, III. 441, is *Magnolia Yulan*. Desf. sin: 玉 蘭 *yü lan*.

16. Under the name of *Ye hiaug hoa* Cibot gives a good description, III. 478, of *Pergulatoria odoratissima*. Smith. Sin: 夜 香 花 *ye hiaug hua*.

17. The *Mo li hoa*, III. 446, is *Jasminum Sambac*. L. sin: 茉莉 花 *mo li hua*.

18. The *Tsieou hai tang*, III. 443, is *Begonia discolor*. R. Br.
sin: 秋 海 棠 *t'siu hai tang*.

19. On the Peaches of Peking. XI. 280.

20. On the Apricots of Peking, cultivated and wild. V. 505.

21. On Chinese Chestnuts. III. 484. Cibot states, probably on the authority of ancient Chinese authors, that the Chinese graft the Chestnut tree upon the Walnut tree.

22. Cibot asserts further, that the Chinese graft the Quince tree upon the Orange tree. III. 495.

23. On Chinese Jujubes. III. 482.

24. 25. The *Tcheou tchune* or *Frêne puant*, and the *Hiang tchune* or *Frêne odorant*. II. 598. Cibot gives good descriptions of both trees. *Ailantus glandulosa*. sin: 臭 椿 *ch'ou ch'un*.—*Cedrela sinensis*. ADR. Juss. sin: 香 椿 *hiang ch'un*.

26. The tree *tsao kia*, XI. 493, is *Gleditschia sinensis*. Lam. Sin.: 皂莢 *ts'ao kia*.

27. The tree *chou keou*, resembling the Mulberry tree and the fibrous bark of which is used for making paper, XI. 295, is *Broussonetia papyrifera*. Vent. sin.: 楮 穀 *ch'u ku*.

28. On Chinese Oaks. III. 484.

29. Cibot translates from Emperor Kanghi's memoirs an account of a barkless tree of Mongolia, called *Tcha ke*, furnishing an excellent fuel. IV. 460.—This is the *Haloxylon ammodendron* C. A. Mey, the *dshak modo* of the Mongols.

30. The tree *Lo ye song*, a Fir tree with deciduous leaves, in South-Mongolia, IV. 454, is *Larix dahurica*. Fisch. sin.: 落葉松.

31. An interesting memoir on *Chinese Bamboos* is found II. 623.

32. The *mou chou kouo tse*, a tree on which peculiar Galls are produced, XI. 294, is *Celtis sinensis*. Pers. sin.: 木樹果子. *mu shu kuo tsz'*.

33. The *Lin tchi*, *Agaric ramifié*, described in vol. IV. p. 500, with an engraving, is a Chinese Agaric, termed 靈芝 *ling chi* in Peking, not yet examined by botanists.

34. The *Mo kou sin*. IV. 500, accompanied with an engraving. This is the *Clathrus mokusin* Spreng. *Phallus mokusin*. L. A more detailed article on this Fungus, has been published by Cibot in the Mémoires de l'Académie de St. Pétersb. IX (1774) The Chin. characters are 磨菰蕈 *mo ku sin*.

35. Finally I ought not to omit to mention a treatise written by Cibot on *Chinese Hot-houses*, in which he furnishes interesting details with respect to the primitive but practical mode of Peking gardeners to protect Southern plants in winter; and how they proceed to cause plants to put forth blossoms in winter. Vol. III. 423.

For the sake of completeness I may mention moreover in connection with papers on botanical matters two Jesuit missionaries of Peking, contemporaries of Cibot. One of them **L. COLLAS**, +1781, wrote an article on *Chinese Bamboos*, and another on the plants, flowers and trees of China, which could be cultivated in France. Mém. conc. Chin. XI. 553, 183.

L. de Poirot, +1802, has written a paper on Chinese Worm wood (*Artemisia*). *ibid.* IX. 244.

Before quitting the subject dealt with in this chapter it may not be out of place to call the attention of the reader to a slight account of Northern Chinese fruits and vegetables found

in **PALLAS'** notable work **REISEN DURCH VERSCH. PROVINZEN DES RUSSISCHEN REICHES**, 1768-1773. In the 3d. volume Pallas details some natural products sold in the streets of the Chinese market town *Maimaicheng*, opposite Kiakhta, which place he visited in 1772. Most of these fruits and vegetables, brought for the greater part from Peking, were completely unknown to him, but he describes them and adds the Chinese or Mongol names. As it may be presumed, that hardly any botanist, not acquainted with the native names of North-China and Mongol names of plants, would be able to ascertain what fruits are enumerated in Pallas' account, I venture to make some brief commentary on it.

Small green Peas, called *lo dou*, which Pallas correctly identifies with *Phaseolus radiatus*. L. See above Linn. Chin. pl. 74.

Arbuzes, *Pears*, *Apples*, called *pinsa* and resembling green Rennet apples.

Watermelons (*Arbuz* in Russian) are cultivated in Transbaikalia, but no edible pears or apples are grown in Southern Siberia. 蘋果 *p'in tsz'* in Peking is a small dark-red Apple.

Oblong *Quinces*, called *mugha*.

Cydonia sinensis. Thouin. Sin: 木瓜 *mu kua*. The fruits of this are brought to Peking from the province of Shantung. They are oblong and often of enormous size.

Lemons, sweet and acid *Oranges*, *Walnuts*, *Chestnuts*, called *idsa*.

Castanea vesca 栗子 *li tsz'*.

Small red *Medlars*, *Mespilus fructu obtuse pentagono, ruberrimo*. These are said to grow wild in North-China. The Chinese boil them with sugar and thus make a kind of Jam.

An excellent Jam is prepared in Peking from the fruit of *Crataegus pinnatifida*. Bge.

The fruit *Alema* is the fruit of the tree *Akashu*, an Apple tree of Southern-China.

Alema is the Mongol name for Apple. It seems that the other name is a corruption of 沙果樹 *sha kuo shu*, Apple tree. *Sha kuo* at Peking is a small red-cheeked Apple.

Pallas saw also a most curious kind of *Citron*, splitting into 12 fingerlike divisions. It is devoid of pulp and seeds, but is very fragrant. The Chinese called it *Fui shu*.

Citrus Chirocarpa. Lour. Fl. coch. 568. Sin: 佛手 *fo shou*.

Small fruit of a kind of *Elaeagnus* with a peculiar stone. The Bukhars call it *dshigde*, the Mongols *zagda*, the Chinese *sazusa*.

The fruit Pallas saw was probably that of *Elaeagnus hortensis* M. B. var. *songarica* or the var. *orientalis*, (D. C. XIV. 609.) The Kirghizes call the *Elaeagnus* fruit *dshigde*, the Chinese 沙棗 *sha tsao*. (Sand Jujube, name applied in Peking to *E. latifolia*. L.)

Smoke dried red *Plums*, *shuptaga*, with roundish stones.

Shuptaga is the Mongol name for Jujubes. *Zizyphus chinensis*. Lam. has small fruits with roundish stones. The Chinese use to dry them.

Black sweetish fruit with many flat seeds, called *hodsoi*.

Probably *Diospyros Lotus*. L. Sin: 黑棗 *hei tsao*.)

Pallas states that the same fruit is brought to Kiakhta from Persia, and called *sorokum*.

Pallas describes also the fruit *lun yen* (*Nephelium Longan*).

He saw further some leguminous fruit, each containing two seeds, resembling in taste those of the tree *Arabis curasavica* (?)

Probably *Arachis hypogaea*. L.

White nuts with a smooth shell like the stone of the Apricot and of a bitter taste. They call them *lanziu* or *boigo*.

Salisburia adiantifolia. Smith. 白果 *pai kuo* in Peking.

Long dried flowers, called *tchetcheng*, brought from the South. The Chinese boil and eat them.

Hemerocallis fulva. L. and other species. Sin: 金鍼花 *kin cheng hua*. The flowers are a favorite vegetable of the Chinese. In Mongol *shira tsitsik*.

Long articulated spongy roots of a water plant. This was I think the root of *Nelumbium speciosum* Willd. from which the Chinese prepare a kind of Arrow root.

V. SONNERAT.

About a quarter of a century after Osbeck had herborized in the neighborhood of Canton, China was visited by a French naturalist, who gathered some plants at the same place it seems. **P. SONNERAT** was born in 1745 and spent a great part of his life, from 1768-1803, in travelling to different distant countries of the old and the new world. In 1768 he went to Isle de France, visited with *Commerson* Madagascar and Bourbon. From 1774 to 1781 he travelled to China and India, and settled finally at Pondicherry. In 1803 he returned to France with an immense collection. He died in 1814. Lamarek in his Enc. Botan. has described a great number of Sonnerat's specimens.

There is a work entitled: *Voyage aux Indes Orientales et à la Chine 1774-1781 par M. Sonnerat, Commissaire de la marine, naturaliste du Roy. 1782. 2 vol.*

All that I can gather with respect to Sonnerat's voyage to China is on the title of this book. The text contains no allusion to his journey but consists of several articles on the countries he visited and the natural objects he collected there. It may be assumed however, that Canton was the place he visited in China. In the 2d volume p. 222-248 we find descriptions of plants with good engravings. Only 3 Chinese plants are there represented, viz:

Litchi chinensis. p. 230. tab. 129. *Nephelium Litchi*. Camb.

Cookia punctata. p. 231. tab. 130. *Clausena Wampi*. Oliv. Fl. hgk. 50.

Marsana buxifolia, Buis de Chine. p. 245. tab. 139. *Murraya exotica*. L. Fl. hgk. 50.

Besides this Lamarck noticed some plants gathered by Sonnerat in China. I name those which I have happened to find mentioned.

Uvaria odorata. Lam. I. 595. *Unona odorata* Dunal. *Alanguilan de la Chine*. Sonnerat.

Melastoma repens. Lam. IV. 54. Flor. hgk. 113.

Ipoea chinensis. Lam. III. 344.

Capsicum sinense. Lam. V. 327.

Bignonia chinensis. Lam. I. 423. *Tecoma grandiflora* Del.

Phyllanthus lucens. Lam. (Poir.) V. 296. *Andrachne fruticosa*. L. Fl. hgk. 313.

Phyllanthus villosus. Lam. (Poir.) V. 297.

Adiantum flabellatum. Lam. I. 42. Flor. hongk. 447.

Pteris crenata. Lam. (Poir.) V. 715. Fl. hgk. 448.

VI. LOUREIRO.

We come now to the most conspicuous among the Jesuit missionaries, who have devoted themselves to the investigation of Chinese botany. I shall attempt presently to give an account of **LOUREIRO'S FLORA COCHINCHINENSIS**, a valuable monument of conscientious labour and considerable research. Although it deals properly, as the title intimates, with the Flora of CochinChina, there are also described in it a considerable number of Chinese plants.

Let me introduce the subject with a short biographical notice derived principally from the preface to the book, written by the author himself. I have also consulted *Colmeiro's* History of Botany in Spain and Portugal 1858. (in Spanish.)

Ioannis de Loureiro was a Portuguese. According to Colmeiro he was born in 1715 and proceeded in 1735 as a missionary to CochinChina. But from Loureiro's own account we infer

that he arrived in Cochinchina about 1743, for he says that when in 1779 he established himself in Canton, he had spent 36 years in Cochinchina. As he states, p. 818, that in 1742 he was in Cambodja, we can therefore infer that he first lived in that country. It seems, that after his arrival in Cochinchina he had soon gained influence, for we find him holding an office at the Court of the King. (Rebus mathematicis ac physicis in Aula praefectus). Some knowledge of medical practice which he had previously acquired rendered him very popular among the people. He tells us that, European medicines not being within his reach, he was obliged to depend entirely on native drugs, and by investigating them he was necessarily induced to study the flora of the country and to make botanical collections. This was the origin of his herbarium. His collection of plants of Cochinchina (nearly 1000 species) seems to be confined for the greater part to a small area of the littoral region. He says, that his herbarium is far from being complete and may represent only about a quarter of the flora of Cochinchina. It had been impossible for him to procure plants from the distant forests. Only a few specimens had been obtained with great pains and not without danger from the (neighboring) forest-covered mountains. As at the time of Loureiro the capital of Cochinchina, where he lived, was at *Hué* (near the sea coast, about 17° N.L.) it may be assumed, that the largest part of his Cochinchinese specimens were gathered in the neighborhood of that place. He generally does not specify the stations of the plants he collected in Cochinchina but confines himself to the statement that they are natives of that country. It is only in a few cases, which I shall notice here, that he refers to the stations.

Huae, the metropolis of Cochinchina, is only once mentioned p. 129.

The port of *Eo* near *Huae*, ibidem.

The rivulet *Hon mo*, not far from *Huae*, p. 32.

The mountain of *Ho chen* opposite *Huae*, p. 201.

The mountain of *Con mit* situated at a distance of 6 miles from *Huae*, p. 753.

The port of *Turan*, called *Han* by the natives, south of *Huae*, p. 208.

Province of *Doung nai* in the Southern part of Cochinchina, 10°. N.L. p. 109.

Province of *Binh khang* in the southern part of Cochinchina, 14°. N.L. belonging in former times to Champava. p. 154. 283.

Province of *Quang binh* in North-Cochinchina. p. 404.

Via (province?) *Nha ho* in North-Cochinchina. p. 544.

The country of the *Moji* (tribe) in the west, p. 679.

Mountain *Ngon nhung* (Cochinchina) p. 646.

Sandhills of *Son koun* (Cochinchina) p. 248. 547.

River *Larus* flowing between Cochinchina and Laos. p. 327.

In 1779 Loureiro proceeded to *Canton*, where he continued his botanical researches during three years. As at that time foreigners living in *Canton* were not allowed to walk beyond the limits of the factories, L. hired a Chinese peasant, acquainted to a certain degree with the medicinal plants of the country, to collect such for him. This Chinaman used to communicate also the native names of the plants he brought in the vernacular Cantonese dialect. But as the information thus derived seemed not always to be reliable, L. compared it with a Chinese book on Botany, in which he was able to find the correct names of the plants used for medical and economic purposes, and in his *Flora cochinchinensis* tried to spell these names according to the Mandarin dialect.

Loureiro seems to have embarked with his botanical treasures in 1782. On his way home he visited the island of Mozambique, where he made a stay of three months, enriching his herbarium with many rare specimens. He states further, that during his peregrinations he had improved the opportunity by herborizing in Cambodja, Champava, Bengal, Malabar, Sumatra. All the plants gathered in those regions he describes also in the *Fl. cochin.*

After having reached his native country L. was taken up during several years, in Lisbon, with the preparation of his work for publication. In 1788 the M.S. of the *Flora coch.* written in Latin, and arranged according to the Linnaean system, was completed, but the book was not brought out before 1789. Three years later *Willdenow* edited it anew, adding some notes, which however throw little light on dubious questions and as he had no opportunity of referring to Loureiro's herbarium his identifications are not always happy.* In the following notes, quoting Loureiro, I always refer to Willd. edition.

According to the *Catal. Patr. Jes. Sin.* Loureiro died in 1794. But *Colmeiro* makes him die two years later.

There is no allusion in L.'s preface to his having belonged to the Soc. of the Jesuits. On the title page he styles himself only: *olim in Cochinchina Catholicae Fidei praeco.* But in

* On p. 458 he identifies Loureiro's *Campsis adrepens* with *Incarvillea sinensis*. But the former is *Bignonia grandiflora* and bears no resemblance to *Incarvillea*.

the *Catalogus* he is stated to have entered the Jesuit mission in China in 1779.

Loureiro occupies without doubt one of the most prominent places among the botanical collectors of the last century. We owe to him one of the most important contributions illustrating the Flora of the eastern part of the transgangetic peninsula and of South-China, and his book is still a standard work to which botanists dealing with Chinese plants have frequently to refer. Although a self-taught and not professional botanist, L. had acquired good botanical knowledge, at least he was up to the level of his time. Modern botanists often find fault with his description of plants. But may we not ask whether it would be possible to identify even a quarter of Linnaeus' plants only from the short characters he gives, had his herbarium been lost, as is the case with the greater part of Loureiro's collection. Thus Loureiro is not to be blamed for want of scientific accuracy in our modern sense or for mistakes occasionally met with in his work. Generally it can be said, that he was a conscientious observer and his veracity is always beyond question.

One great merit of the *Flora cochin.* consists in descriptions made by a botanist upon living or fresh plants. It is a matter of regret, that the greater part of the existing Floras of various exotic regions have necessarily been based upon the description of dried specimens and often unsatisfactory material. The botanist in Europe, who works up these collections then knows nothing more about the plants he has to describe than he observes on the dry specimens. Thus it is quite exceptional to find in *De Candolle's Prodr.* the colour of the blossoms noticed, although this is a very important characteristic.

The value of Loureiro's elaborate work lies also in the illustrations he gives with respect to the economical use, medical virtues etc. of the plants. The Chinese names he adds are for the greater part correct.* He gives them

* I take the opportunity of noticing here a very valuable list of Canton plants with the Chinese names added, and accompanied with interesting annotations, published two years ago in the *Hongkong China Mail*, July 10 to Spt. 11. 1878. The anonymous author of this paper, which gives the Chinese, (Cantonese) names of nearly 300 plants, states, that in compiling this list he did not refer to any printed authority for the application of any one Cantonese name to any single botanical name. But every plant had been shown to at least three natives to ascertain the Chinese names and then referred to a competent botanical authority, to supply the scientific name. This is indeed the only rational way to identify Chinese appellations of plants. I have been informed, that Mr. E. H.

now in the Mandarin, now in the popular Canton dialect and makes sometimes mistakes in transliterating the characters.

A considerable number of plants described by Loureiro, especially of Southern Chinese ones have been gathered by later collectors, who investigated the Floras of Canton, Macao or Hongkong. Loureiro's name occurs frequently in *Hooker* and *Arnott*, Botany of Capt. *Beechey's* voyage—in *Meyen's* Observ. botan. in it. c. terram.—in *Bentham's* *Flora hongkongensis*. Dr. Hance has also rediscovered many Loureirian specimens. But a great part of Loureiro's plants, in particular those from Cochinchina are still known only from his description, although they are probably very common in that country. It may be also that many Loureirian species relegated by botanists among the species dubiae are known under other scientific names. From the diagnoses alone given by L., without examining the original specimens, it is impossible to identify them.

I may say finally a few words with respect to the fate of Loureiro's herbarium. From his preface we learn, that in 1774, when he was still in Cochinchina, he had sent by way of Canton to England and Sweden about 60 specimens of plants, accompanied with his own original descriptions, and that Berg in his *Materia med.* p. 5 and *Linnaeus fil.* Suppl. p. 331, have noticed these plants. In 1779, when he was already established in Canton he transmitted to London 230 species more, which seemed to him to be novelties. This collection is now in the British Museum. As we can conclude from some references found in *Benth.* and *Hook. Gen. Plant.* these plants have been badly preserved and their examination is of little use for deciding dubious questions. According to *Colmeiro* the bulk of Loureiro's herbarium was

Parker of the British Cons. Serv. at Canton is the author of this paper, and I need hardly say, that the competent botanical author alluded to in it, is my respected friend Dr. *H. F. Hance*. I hope these gentlemen will pardon my having disclosed their names. The only faults I have to find with Mr. *Parker's* paper, are its publication in a Newspaper, where hardly any one interested in these questions would dream of looking for it, and the arrangement of the list in no intelligible order, scattered over 8 numbers of the *China Mail* with the interesting annotations generally not placed in the same number as the plants to which they refer. It would be worth reprinting in a form more accessible for reference.—*M. Parker* is right in supposing that a great part of the Chinese names of plants, given by Dr. *Williams* (*Bridgman's* *Chrestomathy*) have been derived from *Loureiro*.

kept by the Academy of Lisbon, but in 1808, when Napoleon I. had taken possession of Portugal a part of the herbarium was transferred to Paris, where it still exists in the Muséum d'hist. nat. as Mr. Decaisne has kindly informed me. My late friend Mr. D. Hanbury gives the following account with respect to Loureiro's herbarium. (Science Papers 98) M. Pereira Da Costa of Lisbon had informed him, that the herbarium in question had never been at the Academy; it was supposed to have formerly belonged to the Museu da Ajuda; but upon the removal of that establishment to the Academy, no trace of it could be discovered.

A great number of new plants have been described by Loureiro. Among the new *Genera* he has proposed, the following 30 have been ascertained and retained in Bentham and Hooker's (or Endlicher's) *Genera Plantarum*.

Aerides.	Dichroa.	Osmanthus.
Aglaja.	Enhydra.	Phajus.
Argyreia.	Enkianthus.	Rhynchosia.
Baccaurea.	Fibraurea.	Salomonia.
Blastus.	Grona.	Sarcodium.
Bragantia.	Helicia.	Stephania.
Centipeda.	Homonoia.	Streblus.
Coleus.	Limacia.	Striga.
Cyathula.	Mallotus.	Trema.
Derris.	Mazus.	Triphasia.

The total number of plants described in Loureiro's *Flora cochin.* is 1257 of which 36 must be deducted as having been gathered in India, Sumatra, Mozambique. Of the remaining 1221 he enumerates 976 for Cochinchina and of these, 294 he had also gathered in China. As found only in China he mentions 245 spec. Thus the total number of Chinese plants observed by Lour. is 539. Of 341 of these China in general is given as habitat. With respect to the rest he indicates the habitat precisely, viz.

Canton and Macao 193 plants.

Southern China in general 2.

Province of Yunnan 1. *Amomum medium*. p. 5.

Mountains of West-China 1. *Nardus indica*. p. 57.

North-China 15 species. These plants or accounts of them had probably been sent to Loureiro from Peking by the Jesuits there (Incarville? Cibot?)

- Dorstenia chinensis. p. 114.
 Rhamnus soporifer. p. 196.
 Rheum palmatum. p. 314.
 Pyrus Malus. p. 393.
 Pyrus Cydonia. p. 394.
 Potentilla fruticosa. p. 399.
 Sinapis pekinensis. p. 485.
 Glycyrrhiza echinata. p. 543.
 Robinia flava. p. 556.
 Cichorium Endivia. p. 583.
 Artemisia annua (Peking.) p. 599.
 Tussilago Farfara. p. 614.
 Tussilago Anandria. p. 614.
 Paeonia officinalis. p. 419.
 Juglans regia. p. 702.

CHINESE PLANTS DESCRIBED IN LOUREIRO'S FLORA
COCHINCHINENSIS.

In what follows I shall give a list of all the plants Loureiro mentions for China and include also those species which he had gathered only in Cochinchina but which subsequently have been observed also in China.

I arrange the list according to the Natural System adopted by Bentham and Hooker, giving for each plant at first the Loureirian name, the habitat and the Chinese name as noticed by Loureiro, and quoting the page in the Flora cochin. After this I shall add, if necessary, my observations. Many of Loureiro's plants have by the progress of science received other names and mistakes made by that author have been occasionally corrected. In my researches with respect to Loureirian plants I depend upon *De Candolle's Prodrornus*, *Kunth's Enumeratio plantarum*, *Bentham and Hooker's Genera Plantarum*, *Bentham's Flora hongkongensis*, the botanical papers published by *Maximowicz*, *Dr. Hance* and others. I shall also give the Chinese names of plants noticed by Loureiro, as far as I have been able to ascertain them.

With respect to the abbreviations used in the following notes I beg to refer to my list of Chinese plants known to Linnaeus. When quoting Osbeck I always refer to that list not to Osbeck's Voyage.

DICOTYLEDONS.

1. **Clematis minor.** Lour. Canton. Sin: *uei leng sien* (威靈仙). 422.

Cl. terniflora. D. C. Maxim. Dec. XX. *Cl. ternifolia.* Fl. hgk. 7. *Cl. chinensis.* Retz. (?) Osb. 1.

2. **Clematis sinensis**, Lour. China. Sin: *mu tum* (木通). 422.

Willdenow thinks, that it is the same as *Cl. chinensis*. Retz. Osb. 1.

3. *Clematis virginiana*. Lour. (non Linn.) Cochin-China. 422.

Clem. apiifolia. D. C.—Maxim. Dec. XX. Amoy, N. China (Fortune).

4. **Thalictrum sinense**. Lour. China. Sin: *poi mu* (貝母). 423.

D. C. I. 16. *Planta dubia*.

5. *Hecatonia palustris*. Lour. Sin: *chu lien*. Canton. 371.

D. C. I. 34. **Ranunculus sceleratus**. Linn.—Hce. add. Fl. hgk. 98.

6. *Hecatonia pilosa*. Lour. Canton. Sin: *Khao tsao*. 371.

D. C. I. 43. **Ranunculus cantoniensis**. Not observed after Lour.

7. *Paeonia officinalis*. L. China borealis. *Culta per tot. imp. Sinense*. Sin: *wo yo* (芍藥). 419.

The above Chinese name is applied in China to *P. albiflora*. Pall.

8. *Calligonum asperum*. Lour. Cochin. 418.

D. C. I. 70. *Trachytella Calligonum*.—*Delima sarmentosa*. Linn. Fl. hgk. 7. G. Pl. I. 12.—**Tetracera sarmentosa**. Willd. Hce. Add. Fl. hgk. 99.

9. *Actaea aspera*. Lour. Canton. Sin: *tsia ip* (錫葉). 405.

D. C. I. 70. *Trachytella Actaea*.—G. Pl. I. 12. spec. valde dubia.—Bridgm. Chrest. 457 (3).

10. **Illicium anisatum**. L. Provinciae ad occasum Canton. Sin: *pa co huei hiam* (八角回香). 432.

Comp. above Linn. Chin. pl. 2.

11. *Liriodendron Coco*. Lour. Macao, Canton, Cochin. culta. 424.

Hance Advers. in stirp. crit. 6. **Magnolia pumila**. Andr.—Fl. hgk. 8.

12. *Liriodendron liliifera*. Linn. Canton. Lour. 424.

D. C. I. 81. **Magnolia inodora**. Not observed after Lour. Comp. also Trim. Journ. bot. IV. 225. *Liriodendron* in China.

13. *Liriodendron Figo*. Macao, Canton, cult. 424.

Hance Advers. 6. **Michelia** (*Magnolia* Andr.) *fuscata*.

14. **Michelia Champaca**. Linn. Macao, Coch. cult. Lour. 425.

15. *Uvaria uncata*. Lour. Canton. Sin: *yin chao* (鷹爪). 426.

The above Chin. name is applied in Canton to *Artabotrys odoratissima*. R. Br. (Parker.)—Fl. hgk. 10.

16. *Desmos chinensis*. Lour. Canton. Sin: *caru tsit fung*. 431.

D. C. I. 91. **Unona chinensis**. Species non satis nota.

17. **Anona squamosa**. Linn. China, Coch. cult. Sin: *pu uon* (*vu*). Lour. 427.

As is known this is a native of tropical America. The name Lour. gives as a Chinese appellation is the Malay name of the fruit, being *burwa nona* (Cyclop. of India.)

18. **Fibraurea tinctoria.** Lour. Sin: *tien sien tan* (天仙藤?). China, Coch. 769.
 G. Pl. I. 39. *Planta imperfecte nota.*
19. **Nymphaea Nelumbo.** Linn. Sin: *lien hoa* (蓮花). China, Coch. Lour. 416.
 D. C. I. 113. *Nelumbium speciosum.* Willd.—Osb. 3—Fl. hgk. 15.
20. **Chelidonium majus.** Linn. China, Sin: *hoam lien* (黃蓮). Lour. 402.
Chel. majus is common in North-China. D. C. I. 123. means that Lour.'s plant is a new species: *Ch. sinense.*
21. **Lepidium petraeum.** Linn. China, Sin: *tim li* (葶藶). Lour. 479.
 D. C. I. 236. *Nasturtium?* *chinense* (Lour.'s plant). Not observed in China after Lour.
22. **Cardamine Chelidonia.** Linn. Canton. Lour. 484.
 D. C. I. 152. European plant, not observed in China, after Lour.
23. **Ricotia cantoniensis.** Lour. Canton. 482.
 D. C. I. 157. *Dubia.*
24. **Brassica oleracea.** Linn. China, Coch. cult. Lour. 481.
25. **Brassica chinensis.** Linn. Sin: *chai lan ts'ai* (芥藍菜). Cult. China, Cochin. Lour. 482.
 Osb. 5. The above Chin. name given by Lour. is found in the Kuang tung tung chi. (vegetables).
26. **Sinapis chinensis.** Linn. Sin: *kiai ts'ai* (芥菜). Cult. China, Coch. Lour. 485, means, that it is only a variety of *S. juncea.* L.
 Linn. Chin. pl. 8. In Peking different varieties of *S. juncea.* L. go under the above Chinese name.
27. **Sinapis pekinensis.** Lour. Sin: *pe ts'ai.* (白菜). Peking. cult. 485.
 In Peking this Chin. name is applied to *Brassica chinensis.*
28. **Sinapis brassicata.** Linn. Sin: *pe kiai.* (白芥). China, Coch. cult. Lour. 485.
 Linn. Chin. pl. 10.—D. C. I. 219.
29. **Thlaspi bursa pastoris.** Linn. China. Lour. 480.
 D. C. I. 177. *Capsella bursa past.* Moench.—Fl. hgk. 14. Frequent in N. China.
30. **Raphanus sativus.** Linn. Cult. China, Coch. Sin: *tsai fu ken* (菜菔根) or *la bac* (蘿蔔).—Lour. 481.
 Flor. hgk. 17.—Cultivated throughout China.
31. **Cleome icosandra.** Linn. Cochin. Lour. 483.
 D. C. I. 242. *Polanisia viscosa.*—Fl. hgk. 18.

32. **Capparis cantoniensis**. Lour. Canton. Sin: *hiang lac phung*. 404.
D. C. I. 253. Spec. dubia.
33. **Capparis falcata**. Lour. Canton. 405.
D. C. I. 243. **Crataeva falcata**. Not observed after Lour.
34. **Reseda chinensis**. Lour. Sin: *thin ki hoam*. Canton. 367.
Not observed after Lour.
35. **Viola primulaefolia**. Linn. Canton. Lour. 628.
D. C. I. 293. **Viola Patrinii** var. **chinensis**. (Lour.'s plant.) Fl. hongk. 20.
36. **Viola odorata**. Linn. Canton. Sin: *kiet tuong hoa*. Lour. 627.
Maxim. identifies Lour.'s plant with **V. serpens**. Wall. Fl. hgk. 20.
V. confusa
37. **Phoberos chinensis**. Lour. China. Sin: *Co tsu*. 389.
Flora hongk. 19. **Scolopia chinensis**. Clos.
38. **Salomonina cantoniensis**. Lour. Sin: *siao lam teng*. Canton. 18.
D. C. I. 334. Specimen in hb. Mus. Paris. Fl. hgk. 44.
39. **Polygala sibirica**. Linn. Canton. Lour. 517.
Frequent in North-China.
40. **Polygala glomerata**. Lour. Canton. Sin: *tai kam* (大金 Parker). 518.
D. C. I. 326. specim. in Mus. Paris.—Fl. hgk. 44.
41. **Dianthus caryophyllus**. Linn. China, colitur. Lour. 345.
Probably another species.
42. **Dianthus chinensis**. Linn. China, Coch. cult. Lour. 346.
Lin. Chin. pl. 14.
43. **Hedona sinensis**. Lour. Canton. Sin: *yu mi*. 351.
According to Willdenow this is **Lychnis grandiflora**. Jacq.—Bridgm. Chrest. 454 (66.) **Lychnis coronata**, Sin: 虞美人 *ü mi yan*.
44. **Cerastium repens**. Linn. Canton, Cochin. Sin: *a kin tsao*. Lour. 349.
D. C. I. 419. **Cerastium arvense**. L. ?—The latter plant occurs in North-China.
45. **Portulacca oleracea**. Linn. Sin: *ma chi hien* (馬齒莧) China, Coch. Lour. 359.
Fl. hgk. 327.
46. **Tamarix chinensis**. Lour. Provincia Canton. Sin: *cuon nham lau* (觀音柳). 228.

- Hook. et Arn. voy. Beech. 186. South-China. Frequent in N. China.
47. *Hypericum aureum*. Lour. Canton, spont. et cult. Sin : *quei thoung hoa* 578. Lour. says: suspicio hoc esse *H. monogynum* Thbg.
- Hook. et Arn. voy. Beech. 172. *H. chinense*. Mill. S. China.—Linn. Chin. pl. 15.—Sin: 金絲海棠花 *kin sze hai t'ang hua* (Parker.)
48. *Hypericum olympicum*. Linn? Canton, Cochin. Sin : *hoang xoc*. Lour. 577.
49. *Hypericum petiolatum* Linn. Sin : *hoang nieu thau* (黃牛頭). Canton. Lour. 577.
- Linn.'s plant is a dubious species. D. C. I. 543. *Vismia?* *petiolata*. Brasilia.
50. *Cambogia Gutta*. Linn. Sin : *hoam lo* (黃欖?). Cochin. Siam, Cambodja. Lour. 406.
- D. C. I. 561. *Garcinia Cambodja*. Desr.—According to Hanbury (Science pap. 329.) the Gamboge of Siam and Singapore is yielded by *Garcinia Morella*.
51. *Thea cantoniensis*. Lour. Sin : *Ho nam cha yong* (河南茶). Canton. 414.
- D. C. I. 530. *Thea chinensis*, var. *Bohea*. L. In the Chinese name given by Lour. *Ho nam* means probably the island of this name on which a suburb of Canton is situated.
52. *Thea cochinchinensis*. Lour. Cochin. boreal. 413.
53. *Thea oleosa*. Lour. Sin : *yeu cha* (油茶). Canton 414.
- Not observed after Lour.—Not to be confounded with *Thea oleifera*. Abel, which according to Hance is *Camellia Sasanqua*. Thb.
54. *Camellia drupifera*. Lour. Cochin. Oleum ex nucleis expressum aestimatur ab indigenis. 499.
- D. C. I. 529. Dubia.
55. *Malva verticillata*. Linn. Canton, Coch. rara. Sin : *tung quei tsu* (冬蔡子). 514.
- Comp. Linn. Chin. pl. 20.
56. *Sida cordifolia*. Linn. Cochin. Lour. 503.
- Fl. hgk. 33.
57. *Sida scoparia*. Lour. Cochin. 504.
- D. C. I. 460. *Sida acuta*. Burm. Fl. hgk. 32.
58. *Urena polyflora*. Lour. Canton. Sin : *xie than fo*. 508.
- D. C. I. 441. *Malachra Urena*. Dubia.
59. *Urena procumbens*. Linn. China, Coch. Lour. 507.
- Os. 24.
60. *Urena sinuata*. Linn. Cochin. Lour. 507.
- Flor. hgk. 34.

61. **Urena lobata**. Linn. China, Coch. Sin: *sie than fo* (see 58). Lour. 507.

Osb. 23.—Fl. hgk. 34.

62. **Hibiscus syriacus**. Linn. Coch. In China non visus. Lour. 511.

Journ. Bot. 1879. 9. Hance. Canton prov.—Frequently cultivated in China.

63. **Hibiscus mutabilis**. Linn. China. Coch. cult. Sin: *fu yung* (芙蓉). Lour. 511.

Osb. 25.—Journ. Bot. 1879. 9. Hance. Canton prov.

64. **Hibiscus Rosa sinensis**. Linn. China. Coch. cult. spont. Lour. 510.

D. C. I. 448, gives only India as native country. I know that it is much cultivated in South-China.

65. **Hibiscus esculentus**. Linn. China, Coch. cult. Sin: *hoang souc quei* (黃蜀葵). Lour. 512.

D. C. I. 450. India orient. cult.

66. **Hibiscus tiliaceus**. Linn. China, Coch. Lour. 509. Fl. hgk. 35.

67. **Gossypium herbaceum**. Linn. Cult. China, Coch. Sin: *mien fu* (棉花). Lour. 505.

Osb. 27.

68. **Bombax pentandrum**. Linn. China, Coch. Sin: *mo mien hoa* (木棉花), *uen vu*. Lour. 504.

D. C. I. 479. **Eriodendron anfractuosum**. India orientalis.—The tree is well known to the Chinese.

69. **Helicteres undulata**. Lour. Coch. 649.

Spreng. Syst. III. 81. **Sterculia lanceolata**. Cav.—Fl. hgk. 36.

70. **Helicteres angustifolia**. Lour. Canton. Sin: *san chi ma* (山芝麻). 647.

Osb. 29.—Fl. hgk. 37.—Parker, the same Chin. name as Lour.

71. **Pentapetes phoenicea**. Linn. Cult. China, Coch. Lour. 497.

D. C. I. 498. India orient.—Cultivated Canton (Williams).

72. **Fallopia nervosa**. Lour. Canton. Sin: *hai pu ip*. (薜寶葉 Williams). 410.

Hance, Journ. Bot. IX. 239. **Grewia microcos**. Linn. known to Linn. from Ceylon.—Fl. hgk. 42.

73. **Arsis rugosa**. Lour. Coch. 409.

G. Pl. I. 233. **Grewia rugosa**.—Hook. et Arn. bot. Beech. 170

74. **Corchorus capsularis**. Linn. Canton, agrest. cult. Sin: *san lim ma*. 408.

Fl. hgk. 40.

75. **Oxalis corniculata**. Linn. China, Cochin. Sin: *tso tsian tsao* (酢漿草). Lour. 350.

Os. 32.—Fl. hgk. 56.

76. **Oxalis sensitiva**. Linn. Canton, Cochin. Sin: *chan tsu*. Lour. 350.

D. C. I. 690. **Biophytum sensitivum**. Ind. orient.—Not observed in China after Lour.

77. **Averrhoa Carambola**. Linn. China austr. Cochin. Sin: *yam tao* (楊桃). Lour. 354.

Os. 33.—Fl. hgk. 56.

78. **Impatiens Balsamine**. Linn. Cochin. agrest. cult. Lour. 626.

Os. 34.—Much cultivated throughout China.

79. **Impatiens chinensis**. Linn. Canton, cult. spont. Sin: *hum thau kio*. Lour. 625.

Os. 35.

80. **Impatiens mutila**. Lour. China, Cochin. cult. 627.

81. **Impatiens cochleata**. Lour. Canton, cult. Sin: *tsien chi hum*. 686.

82. **Tribulus terrestris**. Linn. China, Cochin. Sin: *cie li tsu* (蒺藜子). Lour. 331.

Very common in North-China. Has been gathered also in Formosa.

83. **Ruta chalepensis**. Linn. China, Cochin. cult. Sin: *sao tsao*. Lour. 330.

D. C. I. 710. **R. bracteata**. According to Parker, list of Canton plants, the Chinese call it 臭草 *ch'ou ts'ao*.

84. **Lepta triphylla**. Lour. Cochin. 104.

Flora hgk. 59. **Evodia Lamarckiana**. Bth.

85. **Fagara piperita**. Linn. Cochin. Lour. 101.

Fl. hgk. 58. **Zanthoxylum nitidum**. D. C. I. 727.

86. **Piper pinnatum**. Lour. China. Sin: *vu tsiao* (蜀椒). 38.

D. C. XVI. 1. 383. ignotum.—Judging from the Chin. name it seems to be a **Zanthoxylum**.

87. **Zanthoxylum clava Herculis**. Linn. China, Cochin. Sin: *so*. Lour. 810.

D. C. I. 727. American species.

88. **Jambolifera pedunculata**. Linn. Macao. Lour. 283.

Benth. et Hook. G. Pl. I. 302. **Acronychia Cymnosma**.—**Cymnosma pedunculata**. D. C. I. 722.—Fl. hgk. 59.—Loureiro's *Jamb. resinosa* 285 is the same.

89. **Triphasia aurantiola**. Lour. China, Cochin. cult. 189, 572.

G. Pl. I. 303. Species *chinensis*. **Limonia trifoliata**. Linn. Known to Linn. from India.

90. *Chalcas paniculata*. Linn. China, Cochin. Sin: *cao li yong* (九里香). Lour. 331.

D. C. I. 537. *Murraya paniculata*. Ind. orient.

91. *Chalcas japonensis*. Lour. China, Cochin. 332.

D. C. I. 537. *Murraya exotica*. L. India. Flor. hgk. 50. According to Parker the Chin. name given by Lour. for *Ch. paniculata*, is applied to *Murraya exotica*.

92. *Quinaria lansium*. Lour. Canton, cult. Sin: *uan pi chu* (黃皮樹). 334.

D. C. I. 536. *Cookia punctata*. Retz.—G. Pl. I. 304. *Clausena Whampii* Oliv.—Fl. hgk. 50.

93. *Limonia monophylla*. Linn. China, Cochin. Sin: *sao peng lac*, lingua Cantonensi *xac may lac*. Lour. 333.

D. C. I. 535. *Atalantia monophylla*. India orient.—Loureiro's plant may be *Atalantia Hindsii* Oliv. or *A. buxifolia* Oliv.—Fl. hgk. 51. Osb. 40.

94. **Citrus aurantium**. Linn. China, Cochin. cult. Sin: *can xu* (柑樹). Lour. 569.

Osb. 37. As far as I know the above Chin. name in Canton is rather applied to the Mandarin orange.

95. **Citrus nobilis**. Lour. Abundanter in Cochinchina, etiam in China, quamvis Cantone illam non viderim. Sin: *tsem can*. 569.

Kerr bot. reg. t. 211. Mandarin Orange. Introduced into Europe from China in 1805.

96. **Citrus fusca**. Lour. Cochin. rarius in China. Sin: *chi keu*. (枳殼?). 571.

97. **Citrus margarita**. Lour. Canton. Sin: *chu tsu*. 570.

98. **Citrus madurensis**. Lour. China, Cochin. cult. Sin: *kim kuit* (金橘). 570.

In Peking the above Chinese name is applied to Bunge's *Citrus microcarpa*, which is I think the same as *Citrus japonica*. Thbg. fructu globoso. Hooker bot. mag. 6128 (1874) refers also Loureiro's *C. margarita* to this species.—See also Osb. 39.

99. **Citrus Decumana**. Linn. China, Cochin. Sin: *yeu xu* (柚樹). Una varietas *hiam yuen* (香櫞). Lour. 571.

Osb. 41. Largely cultivated in South-China.

100. **Citrus medica**. Linn. China, Cochin. cult. Lour. 568.

Cultivated also in Peking.

101. **Citrus digitata** seu **Chirocarpus**. Varietas *Citri medicae*. Lour. 568.

This curious fruit with its lobes separating into fingerlike divisions is frequently seen in China. It is cultivated in Peking as well as the *Citrus medica Cedra*, of which it is a variety. Ten years ago I stated in my

paper: On the Study and Value of Chin. bot. Works, p. 12, that the Chinese fingered Citron is the *Citrus Sarcodactylis* or *Sarcodactylis helicterides* of Gaertner Fruct. III. 39. t. 185. But that was an error. The latter, which Gaertner had received from Guyana, is as Benth. et Hook. G. Pl. I. 305 correctly state, a variety of *C. decumana*.

102. *Citrus Limon*, varietas *Citri medicae*. Sin: *tsim pi xu* (青皮樹). Lour. 102.

Os. 42. *Citrus medica*, var. *acida*.

103. *Gonus amarissimus*. Lour. China, Cochin. Sin: *a tam tsao*. 809.

D. C. II. 88. *Brucea sumatrana*. Roxb.—Fl. hgk. 60.

104. *Pimela nigra*. Lour. China, Cochin. Sin: *o lam* (烏欖). 495.

Os. 45.—D. C. II. 80. *Canarium Pimela*. Koen.

105. *Pimela alba*. Lour. China, Cochin. Sin: *pa lam* (白欖). 495.

D. C. II. 80. *Canarium album*. Raeusch.—Os. 44.—Dr. Hance, Chinese Olives. Journ. Bot. 1871.

106. **Melia Azedarach**. Linn. Cochin. Sin: *wun lien*. Lour. 329.

D. C. I. 621. Ceylon, Syria.—Parker, Canton, 森棟 *shen lien*.

107. **Aglaja odorata**. Lour. Camunium sinense seu *Tsju lang*. Rumph. Amb. VII. 28. China, Cochin, 216.

According to Parker in Canton 米仔蘭 *mi tsz' lan*.

108. **Euonymus chinensis**. Lour. Canton. Sin: *kam kua* 194.

D. C. II. 4. Spec. dubia.

109. *Salacia cochinchinensis*. Lour. Cochin. 642.

D. C. I. 571. *S. chinensis*. L. China. Idem ac *S. cochin.* ex adnotat. in herb. Banksiano.—Linn. Chin. pl. 46.

110. *Aubletia ramosissima*. Lour. Canton. Sin: *an pat pouc*. 110.

D. C. II. 22. *Paliurus Aubletia*. Schult.—Lour. specim. in herb. mus. Paris.—Fl. hgk. 66.

111. *Rhamnus Jujuba*. Linn. China, Cochin. cult. Sin: *ta tsao* (大棗). Lour. 195.

D. C. II. 21. *Zizyphus Jujuba*. Lam.—Journ. Bot. 1879. 10. Hance, Canton.

112. *Rhamnus Zizyphus*. Linn. Cochin. Canton. Sin. *hun tsao* (紅棗). Lour. 196.

D. C. II. 19. *Zizyphus vulgaris*. Lam.—Maxim. Rhamneae, the same as *Z. chinensis*. Lam. Frequent in China. Journ. Bot. l. c. Hance. Canton.

113. *Rhamnus soporifer*. Lour. In provinciis boreal. Sinarum. Sin: *soan tsao* (酸棗). 196.

In North-China the above Chinese name is applied to *Zizyphus vulgaris*. Lam.

114. *Rhamnus lineatus*. Linn. China, Cochin. Sin: *che lum*. Lour. 197.

Os. 48.—Fl. hgk. 67. *Berchemia Loureiriana*. D. C. II. 23.

115. ***Vitis vinifera***. Linn. China cult. rara Cochin. Sin: *pu tao* (葡萄). Lour. 192.

116. ***Cissus umbellata***. Lour. Canton. Sin: *yong co loi*. 106.

Not observed after Lour.

117. ***Cardiospermum Corindum***. Linn. Canton. Lour. 294.

D. C. I. 602. Brazilian plant.

118. *Sapindus abruptus*. Lour. Canton. Sin. *mu hoan xu* (無患樹). 293.

According to Parker this Chinese name in Canton is applied to *Sap. mukorossi*. Gaert. (Japan).

119. *Dimocarpus Lichi*. Lour. Colit. abund. China austr. Cochin. Sept. Sin: *Ly chi* (荔枝). 287.

Os. 51.—Fl. hgk. 47. *Nephelium Litchi*. Camb.

120. *Dimocarpus Longan*. Lour. China, Cochin. cult. Sin: *lum yen* (龍眼). 288.

Os. 51.—Fl. hgk. 47. *Nephelium Longan*.

121. *Rhus javanicum*. Linn. In sylvis cantoniens. Sin: *xiong tsat*. Lour. 228.

Os. 53.—D. C. II. 67. *Rhus semialata*. L. var. *Osbeckii*.—Add. Fl. hgk. 101.

122. ***Augia sinensis***. Lour. China, Cochin. Cambodia, Siam. Sin: *tsi xu* (漆樹). 411.

The Chinese Varnish tree.—G. Pl. I. 418. *Augia* est genus omnino ignotum; ex descr. multis notis cum *Rhoide* quadrat.

123. ***Baryxylum rufum***. Lour. Montes Cochin. bor. Sin: *tie li mu* (鐵力木). 326.

G. Pl. I. 464. *Baryxylum*, genus dubium.

124. ***Aloexylum Agallochum***. Lour. Montes Cochin. Sin: *chin hiam* (沉香). 327.

G. Pl. I. 464. Planta ignota. Comp. *Aloe wood* Samedo. 8.

125. *Trifolium Melilotus indica*. Linn. Canton. Sin: *sam pa lim*. Lour. 541.

D. C. II. 187, 189. Linn.'s plant *Melilotus sulcata*. Desf. and ex parte *M. parviflora*, Europe, North-Africa.

126. ***Trifolium globosum***. Linn. Canton. Sin: *tsin li quong*. Lour. 542.

D. C. II. 196. Syria, Arabia, Italia.

127. **Indigofera tinctoria.** Linn. China, Cochin. Spont. cult. Sin: *lan tsao* (藍草), *ta cim* (大青).

Osb. 58.—Fl. hgk. 77.

128. **Indigofera rotundifolia.** Lour. Canton. Sin: *o tam sin.* 559.

D. C. II. 233. Species dubia.

129. **Indigofera coccinea.** Lour. Canton. Sin: *louc ham tsao.* 559.

D. C. II. 232. Indig. *hedysaroides.* Lam. ? India orient.

130. **Robinia amara.** Lour. China, Cochin. Sin: *thru sem* (苦參?) 556.

D. C. II. 262. Species dubia. In Japan the above Chinese name is applied to *Sophora angustifolia.* S. et Z.

131. **Glycyrrhiza echinata.** Linn. China borealis. Sin: *Fu chau can tsao* (府州甘草). Lour. 543.

D. C. II. 248. Tataria.

132. **Glycyrrhiza glabra.** Linn. China, in variis locis. Sin: *Fan chau can tsao* (汾州甘草). Lour. 543.

D. C. II. 247. Europa austr.—*Gl. glabra*, var. *glandulosa* has been observed in North-China and may yield a part of Chinese Licorice root (*kan tsao*). According to Chinese books the best comes from the north-western provinces. *Fu chou* (see 131.) is an ancient name for Fu ku hien in N. Shensi, *Fan chou fu* is in Shansi.

133. **Diphaca cochinchinensis.** Lour. China, Cochin. cult. 554.

G. Pl. I. 515. Genus *Ormocarpum.* Beauv.

134. **Arachis asiatica.** Linn. China, Cochin. cult. Lour. 522.

D. C. II. 474. **Arachis hypogaea.** L.—Osb. 62.

135. **Hedysarum diphyllum.** Linn. Canton. Lour. 548.

D. C. II. 316. **Zornia angustifolia.** Sm. India orient.—Fl. hgk. 80.

136. **Hedysarum triflorum.** Linn. Canton. Sin: *sie thoi tsao.* Lour. 549.

D. C. II. 334. **Desmodium triflorum.** India, China.—Osb. 66.—Fl. hgk. 83.

137. **Hedysarum triquetrum.** Linn. Cochin. Lour. 547.

D. C. II. 326. **Desmodium triquetrum.** Ind. orient.—Osb. 63.—Fl. hgk. 83.

138. **Hedysarum pulchellum.** Linn. Canton. Sin: *a pho sien* (阿婆錢 Parker.) Lour. 548.

Osb. 69.—Fl. hgk. 83. **Desmodium pulchellum.** Benth.

139. **Hedysarum gangeticum.** Linn. Canton. Sin: *tsung loungh thu.* Lour. 547.

D. C. II. 327. **Desmodium gangeticum.** Ind. orient.—Osb. 64.

140. **Hedysarum elegans.** Lour. Canton. Sin: *hap chiong tsao.* 549.

D. C. II. 339. **Dicerma elegans.**—Fl. hgk. 83. **Desmodium elegans.** Benth.

141. *Hedysarum lagopodioides*. Linn. Canton. Sin: *Tsui fum tsao*. Lour. 549.

Os. 70.—D. C. II. 324. *Urania lagopoides*.

142. *Hedysarum reniforme* Linn. Canton. Sin: *lo im tsao*. Lour. 545.

D. C. II. 324. *Lourea reniformis*. De Cand. quotes only Lour. and his spec. in Mus. Paris.—The plant of Linn. is referred to *Desmodium reniforme* (II. 327.)

143. **Vicia Faba**. Linn. China cult. Cochin. rara. Sin: *sam teu* (蠶豆). Lour. 540.

Much cultivated also in N. China.

144. **Pisum sativum**. Linn. China, Cochin. cult. non frequens. Lour. 539.

Largely cultivated in N. China.

145. **Abrus precatorius**. Linn. Cochin. Lour. 520.

Os. 72.—Fl. hgk. 92.

146. *Dolichos Soja*. Linn. China, Cochin. cult. Sin: *hoam teu* (黃豆) Lour. 537.

D. C. II. 396. *Soja hispida*. Moench.—G. Pl. I. 530. *Glycine Soja*.—Os. 73.—Largely cultivated throughout China.

147. *Erythrina corallodendron*. Linn. China aust., Cochin. Sin: *tum ye au* (冬葉樹). Lour. 519.

D. C. II. 412. *Eryth. indica*. Lam.

148. **Phaseolus vulgaris**. Linn. Cochin. raro. Lour. 527. Cultivated in N. China.

149. **Phaseolus radiatus**. Linn. Colit. China, Cochin. Sin: *liu teu* (綠豆). Lour. 529.

Os. 74.—Cultivated throughout China.

150. **Phaseolus Mungo**. Linn. Colit. China, Cochin. Sin: *siao teu* (小豆), *tsiam teu* (豇豆). Lour. 530.

D. C. II. 395. India orient.—The second Chinese name Lour. gives is applied in Peking to *Dolichos sinensis*.

151. *Dolichos trilobus*. Linn. Cult. China, Cochin. Tubera esculenta. Sin: *ken co* (根葛). Lour. 535.

D. C. II. 402. Lour.'s plant (non Linn.) *Pachyrhizus trilobus*.—See above Martini. 26.

152. *Dolichos tetragonolobus*. Linn. China, Cochin. Lour. 532.

D. C. II. 403. *Psophocarpus tetragonolobus*. Ind. orient.

153. **Dolichos sinensis**. Linn. Cult. China, Cochin. Sin: *tau co, teu co* (豆角). Lour. 530.

Os. 75.—Largely cultiv. in China.

154. *Dolichos ensiformis*. Linn. China, Cochin. Colit. Sin: *tao teu* (刀豆). Lour. 531.

- D. C. II. 404. *Canavalia ensiformis*. India orient.—Osb. 76.—Fl. hgk. 88.
155. **Dolichos Catjang**. Linn. China, Cochin. cult. Lour. 538.
 var. 1. *he teu* (黑豆).
 var. 2. *min teu* (麵豆).
 var. 3. *siao hum teu* (小紅豆).
 D. C. II. India orient.—*Hei teu* in Peking is a black variety of *Glycine Soja*.—*Min teu* in Canton (Parker) is *Cajanus indicus*. Spr.
156. *Dolichos unguiculatus*. Thbg. China. In Lusitaniam translatus. Lour. 531.
 D. C. II. 400. *Dolichos umbellatus*. Thbg. Japonia.
157. **Dolichos biflorus**. Linn. Canton. Sin: *san cu*. Lour. 537.
 D. C. II. 398. India orient.
158. *Dolichos purpureus*. Linn. China, Cochin. cult. Sin: *tsu pien teu* (紫扁豆). Lour. 534.
 D. C. II. 401. *Lablab vulgaris*. Savi. var. *purpureus*. India orient. Aegypt.—Cultivated throughout China.
159. *Dolichos albus*. Lour. China, Cochin. cult. Sin: *pe pien teu* (白扁豆). 534.
 D. C. II. 402. *Lablab perennans*. The above Chinese name is applied in Peking to *Lablab vulgaris*. var. *albiflorus*.
160. *Cytisus Cajan*. Linn. China, Cochin. Sin: *wan teu ken* (山荳根). Lour. 565.
 D. C. II. 406. *Cajanus flavus*. India orient.—Fl. hgk. 89.
161. **Rhynchosia volubilis**. Lour. Canton. Sin: *chio tau* 562.
 D. C. II. 385. Specim. Lour. in hb. Mus. Paris.—Fl. hgk. 90.
162. **Pterocarpus flavus**. Lour. In sylvis sinensibus. Sin: *hoam pe mo* (黃皮木). Imperfectly known to Lour. 525.
163. *Derris trifoliata*. Lour. Provincia Canton. Sin: *san liao tao*. 526.
 D. C. II. 415. Specim. in hb. Mus. Paris.—Fl. hgk. 94. *Derris uliginosa*, var. *Loureiri*.
164. *Robinia mitis*. Linn. China, Cochin. Sin: *khru sem* (苦參?). Lour. 555.
 D. C. II. 416. *Pongamia chinensis*. (Lour.'s plant). Non satis nota.—Hook. et Arn. bot. Beech. 181. South-China.—*P. glabra* Vent (Rob. mitis. L.) has been observed in Hongkong. Fl. hgk. 94.
165. *Robinia flava*. Lour. China borealis. Sin: *hoam khin* (黃芪?) 556.
 D. C. II. 263. Species dubia.—There is some reason for supposing that Lour. intended the above Chinese characters, confounding the second,

which is pronounced *ki* with 芹 *kin*.—*Huang ki* in Peking is *Sophora flavescens*. Ait.

166. *Mimosa corniculata*. Lour. Canton. Sin: *hoai hoa*. (槐花). 800.

D. C. II. 430. Spec. dubia.—The above Chin. name is applied in Peking, and in Chin. botan. works to *Sophora japonica*. L. a common tree in China.—Fl. hgk. 95.—Lour.'s description of his *Min. corniculata* agrees with *S. japonica*, with the exception of the bipinnate leaves. But he repeatedly commits this error in taking a small branch for a common leafstalk. See further on 409, *Campsis adrepens*.

167. *Anagyris foetida*. Linn. Canton. Sin: *pa pai*. Lour. 318.

G. Pl. I. 556. Lour.'s plant (not Linn.'s, which is a native of Europe) is referred by Benth. and Hooker to *Ormosia*.

168. **Caesalpinia Sappan**. Linn. Cochin. Sin: *su fam mo* (蘇方木). Lour. 320.

This tree is probably not found in China, but the Chinese know well the Sapan wood.

169. **Gulandina Bonducella**. Linn. Canton. Sin: *nam sie lac*. Lour. 325.

Fl. hgk. 96.

170. *Mimosa fera*. Lour. China, Cochin. Sin: *tsao kie* (皂莢). 801.

D. C. II. 429. is right in supposing, that this is a *Gleditschia*. The above Chinese name is applied to *Gleditschia [sinensis]*. Lam. a common tree in Peking as well as in S. China.—Fl. hgk. 100.

171. **Poinciana pulcherrima**. Linn. China, Cochin. Lour. 319.

D. C. II. 484. India orientalis.—Cultivated in Canton.

172. **Cassia Tora**. Linn. Cochin. Lour. 322.

173. **Cassia obtusifolia**. Linn. China, Cochin. Sin: *tsao kit lam* (草決明). Lour. 323.

Fl. hgk. 98. *C. obtusifolia* is referred to *C. Tora*.

174. *Cassia procumbens*. Linn. China, Cochin. Lour. 324.

Osb. 78.—D. C. II. 504. *Cassia pumila*. Lam. I. 651. China, India.

175. **Cassia Sophera**. Linn. China austr.—Sin: *wy tsi tau, kiee mim tsu*. (決明子). Lour. 324.

Osb. 77.—D. C. II. 492. India, China.—Peking, cultivated.

176. **Tamarindus indica**. Linn. Cult. Cochin. Lour. 488. Osb. 79.

177. *Mimosa arborea*. Linn. Canton. Sin: *yam mu* (絨木?). Lour. 800.

Linn.'s plant is a native of America. Thunberg's *M. arborea* of Japan, quoted by Lour., is *Acacia Nemu*. Willd. Frequent in N. China.

178. *Mimosa farnesiana*. Linn. Cochin. Lour. 801.

Fl. hgk. 101. *Acacia farnesiana*. Willd.

179. ***Prunus domestica***. Linn. In plerisque Sinarum provinciis. Sin: *mwei xu*. (梅樹). Lour. 388.

Largely cultivated in N. China, but more commonly termed 李 *li*.

180. ***Amygdalus persica***. Linn. China, cult. Sin: *tao ho gin* (桃核仁). Lour. 386.

Cultivated throughout China.

181. ***Amygdalus pumila***. Linn. China. Sin: *dao hoa houng* (桃花紅). Lour 387.

Comp. Maximowicz, *Fragm. fl. Asiae orient.* 1879. p. 14.

182. ***Amygdalus communis***. Linn. Habitat et colitur affatim in China. Sin: *him ho gin* (杏核仁) Lour. 386.

As my friend Dr. Hance wrote me some years ago, he has never heard of the Almond tree having been observed in China. The *A. communis* in Bunge's enum. pl. Chin. bor. is *Persica Davidiana*. The Chinese name Lour. gives for the Almond is as far as I know only applied to the Apricot, the kernels of which are used in China like almonds in the West.

183. ***Spiraea cantoniensis***. Lour. Canton. Sin: *tsi choung hoa* (珍珠花). 394.

Flor. hgk. 105.

184. ***Rubus parvifolius***. Linn. China, Cochin. Lour. 398.

D. C. II. 564. Osb. 81.—Fl. hgk. 105.

185. ***Fragaria vesca***. Linn. Habitat et colitur in China. Sin: *fu puen tsu* (覆盆子). Lour 398.

Probably another species.—*Fragaria elatior*. Ehrh. has been observed by my friend Mr. W. Hancock in the mountains west of Peking. (Maxim. l. c. p. 17.)

186. ***Potentilla fruticosa***. Linn. China borealis. Sin: *yam chi cho* (羊躑躅). Lour. 399.

Frequent in N. China. But the Chinese name Lour. applies to the plant is wrong, being that for *Rhododendron*.

187. ***Rosa centifolia***. Linn. China. Sin: *ta mui hoa* (大玫瑰花). Lour. 396.

Not observed in China after Lour.

188. ***Rosa cinnamomea***. Linn. China, Cochin. cult. Sin: *mui hoa* (玫瑰花). Lour. 395.

Peking, cultivated.

189. ***Rosa spinosissima***. Linn. Flos rubescens. Cochin-china. Lour. means, that this may be *Rosa sinica*. Linn. Lour. 395.

190. ***Rosa indica***. Linn. China, Cochin. Sin: *tsiam hoa* (薔花). Lour. 396.

Osb. 82.—Fl. hgk. 106.

191. **Rosa nankinensis**. Lour. Nanking. Sin: *tsiao mui ho*. 397.

According to Dr. Regel, Monogr. Rosar. 357. a variety of *Rosa semperflorens* Act. (a native of China.)

192. **Rosa alba**. Linn. China, Cochin. Sin: *kin ym* (金纓), Lour. 396.

193. **Pyrus Malus**. Linn. China borealis. Sin: *pim po* (蘋婆). Lour. 393.

Cultivated in N. China.

194. **Pyrus communis**. Linn. Canton. cult. Sin: *ly* (梨). Lour. 393.

The Pears cultivated in N. China are for the greater part varieties of *P. chinensis*. Lindley.

195. *Pyrus Cydonia*. Linn. Pomum ovatum. China borealis. Sin: *mu qua* (木瓜). Lour. 394.

Probably *Cydonia sinensis*. Thouin, cultivated in the northern provinces.

196. **Mespilus pyracantha**. Linn. China, agr. et cult. Sin: *tan kieou tsu* (棠抹子), *wan cha* (山楂). Lour. 392.

In Peking the above Chinese names are applied to *Crataegus pinatifida*. Bge., in Japan to *Crataegus cuneata*. Sieb. et Zucc. and *Crataegus sanguinea*. Pall.

197. *Crataegus bibas*. Lour. Macao, Canton. Sin: *pi pa xu* (枇杷樹). 391.

Fl. hgk. 108. *Eriobotrya japonica*. Lindl.

198. *Crataegus rubra*. Lour. Canton, Sin: *u ly mu*. 391.

D. C. II. 630. *Raphiolepis rubra*. Lindl. Fl. hgk. 108. Bentham regards it as identical with *R. indica*.

199. *Opa metrosideros*. Lour. Cochin. 379.

Decaisne, Pomac. 133. identifies it with *Raphiolepis indica*. Lindl. Fl. hgk. 107.—But in the G. Pl. I. 719. it is combined with *Sizygium* resp. *Eugenia*.

200. **Saxifraga chinensis**. Lour. Canton. Sin: *ho ngi tsao* (虎耳草). 345.

D. C. IV. 43. *Saxifraga sarmentosa*. L.—Linn. Chin. pl. 84. Maxim. Dec. XII. means that Lour.'s species is different.

201. *Primula nutabilis*. Lour. Canton, cult. Sin: *sau cau hoa* (繡毬花). 127.

D. C. IV. 15. *Hydrangea Hortensia*. China, Japan cult.

202. *Dichroa febrifuga*. Lour. China, Cochin. Sin: *cham chan*. 369.

Fl. hgk. 128.

203. *Cedrela rosmarinus*. Lour. North-Cochin. Macao. Sin : *ti plu pi*. 199.
D. C. IV. 6. *Itea*. Spec. dubia.
204. *Cotyledon laciniata*. Linn. Cochin. 352.
D. C. III. 395. *Kalanchoe laciniata*. Java, Molucc. Probably the same as *K. ceratophylla*. Haw. Has been observed in the province of Yünnan. (Hook. fl. ind.)
205. *Crassula pinnata*. Linn. Cochin. China? Lour. 231.
Kalanchoe pinnata. Pers.—*Bryophyllum calycinum* Salisb. Fl. hgk. 127. Add. fl. hgk. 103.
206. **Sedum anacampseros**. Linn. China, Cochin. Sin : *pa touc san* (扒毒散). Lour. 353.
D. C. III. 403. European species.
207. **Sedum stellatum**. Linn. Canton. Sin : *cheu li* Lour. 353.
D. C. III. 404. European species.
208. **Drosera umbellata**. Lour. China. Sin : *ku tsim tsao* (穀精草). 232.
Lour. applies the same Chinese name to *Eriocaulon*. See 624.
209. *Drosera rotundifolia*. Linn. Cochin. Lour. 232.
Hook. et Arn. bot. Beech. 167. *Drosera Loureiri*.—Fl. hgk. 130.
210. **Quisqualis indica**. Linn. Canton, Cochin. Sin : *wi kiun tsu* (使君子). Lour. 336.
Hance Journ. Bot. 1879. 10. Canton province, Hainan. The same as *Q. sinensis*. Lindl.
211. *Psidium pyriferum*. Linn. and Ps. *pomiferum*. Linn. China, Cochin. cult. Lour. 378, 379.
Fl. hgk. *Psidium Guyava*. Linn.—Osb. 86.
212. **Psidium caninum**. Lour. Canton. Sin : *pa hoa*. 379.
213. *Myrtus canescens*. Lour. Cochin. 381.
D. C. III. 240. *Myrtus tomentosa*. Ait. Fl. hgk. 121.
214. **Eugenia malaccensis**. Linn. India, Malacca, Macao. Lour. 374.
215. **Caryophyllus aromaticus**, Linn. In sylvis Cochin. borealis. Sin : *wan tin hiam* (山丁香). Lour. 406.
D. C. III. 262. In Moluccis.—
216. *Opa odorata*. Lour. Cochin. 377.
D. C. III. 261. *Syzygium odoratum*. Staunton. China.—G. Pl. I. 719. *Eugenia odorata*.
217. **Osbeckia chinensis**. Linn. Canton. Sin : *kam yong ly* (金香爐). Lour. 281.

- Osborne 87.—Fl. hgk. 114.
218. **Melastoma dodecandrum**. Lour. Canton, Cochin.
Sin: *pe gie hong* (百日紅). 336.
219. *Blastus cochinchinensis*. Lour. Cochin. 643.
Fl. hgk. 116. Add. fl. hgk. 103. *Anplectrum parviflorum*. Bth. Observed also in Formosa.
220. *Lawsonia spinosa*. Linn. Cochin. cult. Lour. 281.
D. C. III. 91. *Lawsonia alba*. Lam.—Osborne 92.
221. **Lagerstroemia indica**. Linn. China, Cochin. spont. cult. Sin: *sat chu moi hoa* (山紫薇花). Lour. 415.
Linn. Chin. pl. 93.—Fl. hgk. 112.
222. **Punica granatum**. Linn. Habitat et colitur in China et Cochin. Sin: *han xe lieu* (安石榴). Lour. 383.
Osborne 94.
223. *Epilobium tetragonum*. Linn. China, Cochin. Sin: *soy hoang teng*. Lour. 276.
D. C. III. 55. Lour.'s plant (non L.) *Jussiaea tetragona*. Spr.
224. *Cubospermum palustre*. Lour. Cochin. 337.
D. C. III. 54. *Jussiaea repens*. Linn.—Osborne 95. Dr. Hance. Canton. Journ. Bot. 1880. p. 261.
225. **Gaura chinensis**. Lour. Canton. Sin: *san si tsao*. 276.
226. *Trapa chinensis*. Lour. Canton. Sin: *ki xi* (菱實), *leng co* (菱角). 109.
D. C. III. 64. *Trapa bicornis*. Linn. fil.—Osborne 96.—In Peking the above names are applied to *Tr. bispinosa*. Roxb.
227. *Astranthus cochinchinensis*. Lour. Cochin. 274.
Fl. hgk. 122. *Homalium fagifolium*. Benth.
228. **Passiflora coerulea**. Linn. Canton. spont. Sin: *u si hoa*. Lour. 644.
Roem. Peponiferae 184. Lour.'s plant (non Linn.) *P. Loureiri*. Don. Meyen obs. bot. 337. *P. coerulea*, Macao, cult.
229. **Carica Papaya**. Linn. China, Cochin. cult. Sin: *man xe co* (萬壽果). Lour. 772.
American plant cultivated throughout the tropics.
230. **Trichosanthes anguinea**. Linn. China, Cochin. cult. esculenta. Lour. 722.
Linn. Chin. pl. 97.
231. *Cucurbita Lagenaria*. Linn. China, Cochin. cult. Sin: *hu qua* (瓠瓜), *ho lo* (壺盧). Lour. 728.
D. C. III. 299. *Lagenaria vulgaris*. Sav.—Osborne 98.

232. *Cucumis acutangulus*. Linn. China, Cochin. cult. Lour. 727.

D. C. III. 302. *Luffa acutangula*.—Lin. Chin. pl. 99.

233. *Momordica Luffa*. Linn. China, Cochin. cult. Sin: *su qua* (絲瓜). Lour. 724.

D. C. III. 303. *Luffa aegyptiaca*. (i. e. Linn.'s plant). Lour.'s plant according to Naudin (Cucurb. in Ann. sc. nat. XII, 1859, 119.) *Luffa cylindrica*. Roem.

234. *Momordica cylindrica*. Linn. Canton, cult. Sin: *soy qua* (絲瓜). Lour. 725.

According to Naudin, l. c. the same as the preceding.

235. **Momordica Charantia**. Linn. China, Cochin. cult. Sin: *khu qua* (苦瓜). Lour. 725.

Flora hgk. 125.

236. *Muricia cochinchinensis*. Lour. China, Cochin. Sin: *mo pie su* (木籠子). 733.

G. Pl. I. 825. *Momordica cochinchinensis*.

237. *Cucurbita Pepo*. Linn. China, Cochin. cult. Sin: *tum qua* (冬瓜). Lour. 728.

The above Chin. name is applied in Peking to *Benincasa cerifera*. Lav.—Naudin l. c. 87 also identifies Lour.'s plant with *Benincasa*.

238. **Cucumis sativus**. Linn. China, Cochin. cult. Sin: *hoam qua* (黃瓜).

The Cucumber is much cultivated throughout China.

239. **Cucumis Melo**. Linn. China, Cochin. cult. Sin: *can qua* (甘瓜). Lour. 726.

Various varieties of Melons are cultivated in N. China, as well as in the South.

240. *Cucurbita Melopepo*. Linn. China, Cochin. cult. Sin: *nan qua* (南瓜), *fan qua* (翻瓜). Lour. 729.

Naudin l. c. 84. Lour.'s plant (non Linn.) *Cucurbita moschata*. Duch.

241. **Cucurbita Citrullus**. Linn. China, Cochin. cult. Sin: *si qua* (西瓜). Lour. 730.

Osborne 101. The Water Melon is largely cultivated in all parts of China.

242. *Solena heterophylla*. Lour. China, Cochin. Sin: *khu leu* (栝樓), *tien hoa fuen* (天花粉). 629.

D. C. III. *Bryonia heterophylla*.—G. Pl. I. 820. *Coccinia*. Spec. dubia. In Peking the above Chinese names are applied to *Trichosanthes palmata*. Roxb.

243. *Bryonia hastata*. Lour. Canton. Sin: *si toung qua*. 731.

Fl. hgk. 124. *Karivia umbellata*. Arn.—Add. Fl. hgk. 104. *Zehneria umbellata*. Thw.

244. **Melothria indica.** Lour. Cochin. 43.
Hce. Add. Fl. hgk. 104.
245. *Mollugo triphylla.* Lour. Canton. Sin: *ha khim su.* 79.
Os. 103.—Fl. hgk. 23. *Mollugo stricta.* Linn.—Benth. combines also *M. pentaphylla.* Linn. with this plant.
246. *Trisanthus cochinchinensis.* Lour. China, Cochin. 219.
D. C. IV. 63. *Hydrocotyle abbreviata.* Rich.
247. **Sium sisarum.** Linn. China, Cochin. cult. Sin: *xei kin (水勤).* Lour. 223.
This plant has never been observed in China. See above Linn. Chin. pl. 106.—The above Chinese name is applied in Japan to *Oenanthe stolonifera.* D. C.
248. *Sium graecum.* Linn. Cochinchina, China. ? Lour. 223.
Linn.'s plant as well as that of Lour. are dubious. Comp. D. C. IV. 159. *Ligusticum graecum* and 143 *Kundmannia sicula.*
249. *Anethum Foeniculum.* Linn. Abundanter in China, colit. etiam in Cochin. Sin: *hoei hiam (回香).* Lour. 226.
D. C. IV. 142. *Foeniculum vulgare.* Gaertn. Europa.—Much cultivated in Peking.
250. *Athamanta chinensis.* Linn. China, Cochin. cult. spont. Sin: *xe choan (蛇床).* Lour. 222.
Lin. Chin. pl. 108.—D. C. IV. 152. *Selinum (Cnidium) Monnieri.*
251. **Coriandrum sativum.** Linn. Colitur in China, raro in Cochin. Sin: *xe hu yu.* Lour. 225.
D. C. IV. 250 considers Loureiro's Coriander a dubious plant. But *C. sativum* is much cultivated in North-China as well as in the South.—Fl. hgk. 135.
252. **Daucus Carota.** Linn. Canton, indeque in Cochin. translata. Sin: *hu lu pa (胡蘿蔔).* Lour. 222.
Cultivated throughout China.
253. *Caucalis orientalis.* Linn. Canton. Lour. 221.
Hance advers. 15. *Torilis praetermissa.* Canton.
254. **Aralia chinensis.** Linn. Cochinchina. Lour. 234.
Os. 109.—Fl. hgk. 135.
255. **Aralia octophylla.** Lour. Cochin: Canton (varietas). 233.
D. C. IV. 258. Dubia.
256. **Panax fruticosum.** Linn. China, Cochin. cult. Lour. 806.
D. C. IV. 254. Java.
257. *Plectronia chinensis.* Lour. Prov. Canton. 201.
D. C. IV. 252. *Panax Loureirianum.* Perhaps the same as *Panax aculeatum* or *Acanthopanax aculeata.* Os. 111.—Add. Fl. hgk. 104.

258. *Aralia palmata*. Lour. China. Sin: *u kia pi* (五加皮). 233.
 D. C. IV. 264. *Hedera scandens*.
 259. *Stylidium chinense*. Lour. Canton. Sin: *pau tsau*. 273.
 D. C. IV. 267. *Marlea begonifolia*. Rxbg. Nepal. China.
 260. *Sambucus nigra*. Linn. In montanis Sinensibus. Sin: *u chu yu* (吳茱萸). Lour. 226.
 D. C. IV. 323. *Sambucus Loureiriana*. Dubia.
 261. *Phyteuma bipinnata*. Lour. Suburb. Canton. Sin: *tcha leang tsao*. 172.
 D. C. IV. 323. *Sambucus ebuloides* (specim. Lour. in Mus. Par.)
 262. *Lonicera Xylosteum*. Linn. China, Cochin. Sin: *kim ngan hoa* (金銀花). Lour. 186.
 D. C. IV. 334. *Lonicera Loureiri*. Dubia.—In Peking the above Chinese name is applied to *L. chinensis*. Wats.
 263. *Lonicera periclymenum*. Linn. In multis locis imp. Sinensis. Sin: *gin tum* (忍冬). Lour. 185.
 D. C. IV. 333. *Lonicera confusa*.?—Fl. hgk. 144. *Lon. multiflora*. Champ.—Maxim. diagn. plant. nov. asiat. II. 57.
 264. ***Polyozus lanceolata***. Lour. Canton. Sin: *am san cung*. 94.
 Gen. Pl. II. 29. Specim. in Mus. Britann. Genus dubium. D. C. IV. 494. Genus Rubiacearum.
 265. *Cephalanthus montanus*. Lour. China. Sin: *san yong mai*. 84.
 D. C. IV. 622. Planta ignota, certe non *Cephalanthus*.
 266. ***Cephalanthus occidentalis***. Linn.? China. Sin: *soy yong mai*. Lour. 83.
 G. Pl. II. 29. Planta dubia.—D. C. IV. 539. *Ceph.*? *orientalis*. Roem. et Schult. (non Linn.).—Comp. Fl. hgk. 146. *Ceph. occidentalis* (sub *Adina*).
 267. *Oldenlandia repens*. Linn. Canton. Sin: *ha kim tsao*. Lour. 98.
 D. C. IV. 419. *Dentella repens*. Forst.
 268. ***Oldenlandia paniculata***. Linn. Cochin. Lour. 99. Fl. hgk. 152.
 269. ***Hedyotis herbacea***. Linn. Cochin. Lour. 98. Osb. 114.—Fl. hgk. 151, note.
 270. *Mussaenda chinensis*. Lour. Suburb. Canton. 189.
 D. C. IV. 373. Dubia, a genere removenda.
 271. *Oryceros sinensis*. Lour. Canton. Sin: *cai tsoi lac*. 187. Fl. hgk. 155. *Randia sinensis*. Roem. et Sch.

272. **Gardenia florida.** Linn. China, Cochin. Sin: *chy tsu* (梔子). Lour. 183.

Linn. Chin. pl. 117.—Fl. hgk. 153.

273. *Gardenia volubilis.* Lour. Suburb. Canton. Sin: *wang lan than.* 184.

D. C. IV. 383. Dubia, a *Gardeniis* videtur excludenda.

274. *Genipa? flava.* Lour. Canton. Sin: *uat thau cay.* 185.

275. *Ixora coccinea.* Linn. Cochin. Lour. 95.

D. C. IV. 486. *Ixora stricta.* Rxbg.—Osb. 118.—Fl. hgk. 158.

276. *Pavetta arenosa.* Lour. Canton. Sin: *ta sa.* 92.

D. C. IV. 493. A genere forte ab ordine excludenda.

277. *Gentiana scandens.* Lour. China, Cochin. Sin: *ki si than* (雞尿藤). 213.

D. C. IX. 119. *Paederia foetida.* Linn.—Fl. hgk. 162.—

278. *Dysoda fasciculata.* Lour. China, Cochin. Sin: *man tsien yong.* (滿天星). 181.

D. C. IV. 575. *Serissa foetida.* Comm. *Lycium foetidum* Linn. fl. suppl. 150.—Journ. Bot. 1874. 183. Hance in Amoy. spont. Bullock? in the prov. of Hunan. (Journ. Bot. 1880 p. 261.)

279. **Galium tuberosum.** Lour. China, Cochin. cult. Sin: *hoam cim* (黃精). 99.

D. C. IV. 611. Pl. dubia.—In Chinese botan. works the above Chinese name is applied to various species of *Polygonatum*. See Chi wu ming shi t'u k'ao VIII. tab. 18, 19, 20, 21.—In Peking *Pol. sibiricum.* Red. bears this name.

280. **Crucianella angustifolia.** Lour? China. Sin: *uei lin sien* (see above 1, clematis). Lour. 100.

D. C. IV. 586. European spec.

281. **Scabiosa cochinchinensis.** Lour. China, Cochin. Sin: *ti tan tsao* (地膽草). 85.

D. C. IV. 661. Stirps dubia.—The above Chin. name is applied in Canton to *Elephantopus scaber.* Linn. (Parker.)

282. *Spilanthus tinctorius.* Lour. China, Cochin. cult. 590.

D. C. V. III. *Adenostemma tinctorium.* Cass.

283. **Ageratum ciliare.** Linn. Canton. Lour. 591.

D. C. V. 109. India orient. Spec. obscura.

284. **Solidago cantoniensis.** Lour. Canton. Sin: *kam siong hoa.* 612.

Comp. Osb. 123.

285. **Solidago decurrens.** Lour. Canton. Sin: *hoang kam siong.* 612.

D. C. V. 342. Spec. dubia.

286. **Pteronia tomentosa**. Lour. Canton. Sin: *chu hoa mu*. 597.
287. **Matricaria cantoniensis**. Lour. Canton. Sin: *hi su tsu*. 609.
D. C. VI. 44. *Hisutsua cantoniensis*. (Lour. specim. in hb. Mus. Paris.)—Fl. hgk. 174. **Boltonia indica**. Bth.—Osb. 124.
288. **Aster indicus**. Linn. China, spont. cult. Sin: *ma lan hoa* (馬蘭花). Lour. 615.
Osb. 124.—D. C. V. 303. **Asteromoea indica**. Bl.—Hec. add. fl. hgk. 107. Variety of *Boltonia indica*.
289. **Aster chinensis**. Linn.—Lour. 615, mentions this plant (**Callistephus chinensis**. Nees.) but states that he has not seen it.—Osb. 125.
290. **Erigeron hirsutum**. Lour. Canton. Sin: *ha si kouc*. 611.
291. **Baccharis chinensis**. Lour. Canton. Sin: *xan po leng*. 604.
D. C. VII. 283. Hook. et Arn. bot. Beech. 195. South-China.
292. **Conyza chinensis**. Linn. Coch. Lour. 606.
D. C. V. 445. **Blumea chinensis**.—Osb. 226.—Fl. hgk. 177.
293. **Baccharis Salvia**. Lour. (*Conyza balsamifera*. Linn.) 603.
D. C. V. 447. **Blumea balsamifera**.—Hanbury Science pap. 393. Peculiar Camphor from China.
294. **Baccharis Dioscorides**. Linn. China, Coch. cult. spont. Sin: *laong fu su*. Lour. 603.
D. C. V. 450. **Pluchea Dioscorides**.—In Aegypto.
295. **Conyza hirsuta**. Linn. China, Coch. Sin: *ho mi tsao*. Lour. 606.
D. C. V. 453. **Pluchea hirsuta**. Less.—Osb. 127.
296. **Sphaeranthus cochinchinensis**. Lour. China, Coch. 623.
297. **Gnaphalium indicum**. Linn. Coch. Lour. 608.
Flor. hgk. 188.
298. **Bupthalmum oleraceum**. Lour. China, Coch. cult. 618.
299. **Xanthium strumarium**. Linn. China, Coch. Lour. 689.
Linn. Chin. pl. 132.—Fl. hgk. 181.
300. **Siegesbeckia orientalis**. Linn. Cochinchina, China, sed Lour. ibi non obvia. 616.
Osb. 133.—Fl. hgk. 182.
301. 302. **Eclipta erecta**. Linn. et *E. prostrata* Linn. Lour. 617. 618.

Osb. Ct. 134.—Fl. hgk. 181. Benth. combines both of them with *Eclipta alba*. Haenk.

303. *Verbesina calendulacea*. Linn. Canton. Sin: *fan khi kouc* (蓬琪菊 Parker.). Lour. 619.

D. C. V. 539. *Wedelia calendulacea*. Less.—Osb. 135—Fl. hgk. 182.

304. *Helianthus giganteus*. Linn. China, Cochin. cult. Sin: *hoam quei hoa* (黃葵花). Lour. 623.

D. C. V. 591. *Helianthus cochinchinensis*? Pers.

305. *Verbesina spicata*. Lour. China, Cochin. cult. Sin: *thien cai tsai*. 620.

D. C. V. 618. Dubia.

306. *Coreopsis biternata*. Lour. Canton. 605.

307. *Bidens bipinnata*. Linn. China, Cochin. Lour. 596. Fl. hgk. 183.

308. *Bidens pilosa*. Linn. Cochin. Lour. 596.

Fl. hgk. 183.

309. *Coreopsis leucorhiza*. Lour. Canton. Sin: *fam fum* (防風). 622.

D. C. V. 605. *Bidens leucorhiza*?

310. *Tagetes patula*. Linn. China, Cochin. cult. Lour. 616. Cultivated throughout China.

311. *Cotula anthemoides*. Linn. Cochin. Lour. 602.

Fl. hgk. 185.

312. *Chrysanthemum procumbens*. Lour. China, Cochin. Sin: *siao kio hoa*. (小菊花). 610.

Osb. 136.—Fl. hgk. 184.—Maximow. Dec. X. 516. *Pyrethrum* (*Chrysanthemum*) *indicum* Cass. var. & *genuinum*. (the wild growing form.)

313. *Chrysanthemum indicum*. Linn. China, Cochin. cult. Sin: *ta kio hoa*. (大菊花). Lour. 610.

Osb. 137.—Maxim. l. c. 518. *Pyrethrum sinense*. Sab. var. *plenum*.

314. *Centipeda orbicularis*. Lour. Cochin. 602.

Linn. Chin. pl. 138.—Fl. hgk. 186.

315. *Artemisia chinensis*. Linn. Canton. Ex foliis fit *Moxa*. Sin: *khi ngai* (蕪艾). Lour. 600.

Linn. Chin. pl. 139.—Maxim. Dec. XI. *Tanacetum chinense*. A. Gray.

316. *Artemisia vulgaris*. Linn. China, Cochin. spont. cult. Sin: *ngai ye* (艾葉). Lour. 600.

Osb. 140.—Fl. hgk. 187.

317. *Artemisia annua*. Linn. Peking. Sin: *tsao cao* (草蒿). Lour. 599.

Fl. hgk. 187.—Common in North-China. 香蒿 *hiang hao*.

318. **Artemisia Abrotanum.** Linn. China, Cochin. cult. spont. Sin : *yn chin hao* (茵陳蒿). Lour. 598.

D. C. VI. 106. Stirps Lour. certe diversa.

319. **Artemisia aquatica.** Lour. China, Cochin. cult. Sin : *hai tum.* Lour. 598.

D. C. VI. 126. An vera Artemisiae spec? *Eupatorium foeni culaceum* Bess?

320. **Artemisia judaica.** Linn. China, Cochin. Sin : *ngaoc fu yong.* Lour. 597.

D. C. VI. 106. Stirps Lour. videtur diversa.

321. *Tussilago Farfara.* Linn. China borealis. Sin : *kuan tum hoa* (款冬花). Lour. 614.

In Japan the above Chin. name is applied to *Petasites japonicus.* Miq.

322. *Cacalia pinnatifida.* Lour. Canton. Sin : *cien san sat* (田三七) 593.

D. C. VI. 301. *Gynura* ? *pinnatifida.*—Cultivated in Peking.

323. *Senecio divaricatus.* Linn. Canton. Sin : *kam siun lin.* Lour. 613.

D. C. VI. 301. *Gynura divaricata.*—Osb. 142.

324. *Cacalia procumbens.* Lour. China, Cochin. cult. spont. Lour. 592.

D. C. VI. 298. *Gynura sarmentosa* ?

325. *Cacalia bulbosa.* Lour. China, Cochin. cult. spont. Sin : *san sat* (三七). 592.

D. C. VI. 301. *Gynura bulbosa.* Hook. et Arn. bot. Beech. 194. Fl. hgk. 189. identifies the latter plant with *G. pseudochina.* D. C.

326. *Cacalia sonchifolia* Linn. Cochin. Lour. 593.

D. C. VI. 302. *Emilia sonchifolia.*—Linn. Chin. pl. 144. Fl. hgk. 189. *Senecio sonchifolius.* Moench.

327. *Cineraria repanda.* Canton. Sin : *cau li man* (九里明). 613.

D. C. VI. 363. *Senecio chinensis.*

328. *Gorteria setosa.* Linn. Canton. Lour. 620.

D. C. VI. 501. *Gorteria* ? *Loureiri.* Dubia.

329. **Xeranthemum chinense.** Lour. Canton. Sin : *siao louc ngi.* 608.

D. C. VI. 529. Stirps dubia.

330. *Carduus lanceolatus.* Linn. Canton. Sin : *la ti tsao, siao ky* (小薊). Lour. 588.

D. C. VI. 629. *Carduus chinensis.* Stirps dubia.

331. *Carduus tuberosus.* Linn. Canton. Sin : *thu gin sen* (土人參). Lour. 589.

D. C. VI. 645. *Cirsium pratense.* Linn.'s plant is a native of Europe.

332. *Serratula multiflora*. Linn. Canton. Sin: *mu min fo*. Lour. 589.

D. C. VI. 675. Linn.'s plant is probably *Jurinea linearifolia*. Siberia, Caucasus. Tauria.

333. ***Serratula scordium***. Lour. China, Cochin. spont. cult. Sin: *tse lan* (澤蘭). 590.

D. C. VI. 671. Dubia.

334. ***Carthamus tinctorius***. Linn. China, Cochin. cult. Sin: *hum lan hoa* (紅藍花). Lour. 587.

Largely cultivated in China.

335. *Tussilago Anandria*. Linn. China borealis. Sin: *lu chau koan tum hoa* i.e. *koan tum hoa* (款冬花) from *lu chau* (in the prov. of An hui.). Lour. 614.

D. C. VII. 40. Linn.'s plant is *Anandria Bellidiastrum*, var. *autumnale*. (*Gerbera*. G. Pl. II. 498.)

336. ***Cichorium Endivia***. Linn. China boreal. Sin: *chu tsai* (苦菜). Lour. 583.

D. C. VII. 84. Europa, India.

337. *Picris repens*. Lour. Canton. Sin: *hu hoam lien* (胡黃連). 583.

D. C. VII. 159. *Barkhausia repens*. Spr.—Hook. et Arn. bot. Beech. p. 194.—*Crepis repens*. G. Pl. II. 513.

338. *Leontodon sinense*. Lour. China. Sin: *pu cum tsao*. (蒲公英). 584.

D. C. VII. 150. *Taraxacum sinense*. Species non satis nota. In Peking *Leontodon taraxacum*, found also in Hongkong, bears the above Chinese name.

339. ***Lactuca sativa***. Linn. Cochin. Macao. cult.—Sin: *ye tsai, kiu* (莖). Lour. 585.

The common Lettuce is cultivated throughout China.

340. *Sonchus floridanus*. Linn. Canton. Sin: *nieu li soi*. Lour. 586.

D. C. VII. 249. *Mulgedium floridum*. American spec.—G. Pl. II. 525. *Lactuca florida*.—According to Parker *Lactuca brevirostris* in Canton is 牛蒡草 *nin li tsao*.

341. *Sonchus sibiricus*. Linn. Canton. Sin: *xan tu* (山茶). Lour. 586.

D. C. VII. 249. *Mulgedium sibiricum*. Less. (*Lactuca sibirica*. G. Pl.) Sibiria.

342. *Lobelia chinensis*. Lour. Canton. Sin: *puen fuen lien*. 628.

Fl. hgk. 197. *Lobelia trigona*. Roxbg. var. *glabra*. Osb. 145.

343. ***Enkianthus quinqueflora***. Lour. Canton. cult. Sin: *tsiao tsung hoa* (吊鐘花). 339.

Fl. hgk. 200.

344. **Enkianthus biflora**. Lour. Canton. Sin: *san lieo hoa*. Lour. 340.

345. *Thela alba*. Lour. China, Cochin. Sin: *pa hoa tan*. (白花藤). 147.

D. C. XII. 692. *Plumbago ceylanica*. Linn.—Hcc. Add. Fl. hgk. 111.

346. *Thela coccinea*. Lour. China, Cochin. Sin: *che hoa tan*. (赤花藤). 147.

D. C. XII. 693. *Plumbago coccinea*. Boiss. Observed in Macao by Vachell.

347. **Primula sinensis**. Lour. In imper. Sinensi. Sin: *yu tsuan hoa*. 128.

Not to be confounded with *Pr. sinensis*. Lindl. D. C. VIII. 35. P. Sinensis Lindl. has lately been observed by Watters in the province of Hupeh. (Journ. Bot. 1880. p. 262).

348. **Sideroxylon cantoniense**. Lour. In suburb. Canton. Sin: *san cot* (山欖). 151.

349. **Euclea herbacea**. Lour. Canton. Sin: *ae lin tsu*. 773.

D. C. VIII. 219. Species dubia.

350. *Ebenoxylum verum*. Lour. Cochin. Sin: *o mouc* (烏木), *u muen mu* (烏楠木). 752.

Osb. 146. D. C. VIII. 242. *Maba Ebenos*. Spreng.

351. **Diospyros Kaki**. Linn. fil. China, Cochin. cult. Sin: *su xu* (柿樹). Lour. 278.

Cultivated throughout China.

352. *Myrtus chinensis*. Lour. Canton. Sin: *tan quat wiong*. 382.

D. C. III. 242. Specim. Lour. in hb. Mus. Paris. *Symplocos sinica* Ker P China.

353. *Nyctanthes grandiflora*. Linn. China, Cochin. cult. Sin: *ta mo li* (大茉莉). Lour. 26.

D. C. VIII. 302. *Jasminum Sambac*, var. *trifoliatum* or 303. *Jasm. arborescens*. Roxbg. (Lour.'s plant, non Linn.). But according to Parker *Jasminum grandiflorum* is also cultivated in Canton.

354. *Nyctanthes Sambac*. Linn. In hortis Chinae et Cochin. Sin: *mo li hoa* (茉莉花). Lour. 25.

D. C. VIII. 301. *Jasminum Sambac*. Ait.—Much cultivated in China.

355. **Jasminum officinale**. Linn. Canton. Sin: *su han hoa* (索馨花). Lour. 24.

Cultivated in South-China.—Hook. et Arn. bot. Beech. 197.

356. *Osmanthus fragrans*. Lour. In hortis Chinae, Cochin. Sin: *mo si hoa* (木犀花), *quei hoa* (桂花). Lour. 35.

Olea fragrans. Thbg. Japan.—Osb. 149.—Cultivated throughout China, and also wild.

357. **Ligustrum sinense**. Lour. Canton. 23.
Fl. hgk. 215.—Decaisne Monogr. Ligustr. 36.—Introduced into Europe by Fortune. Gardener's Chron. 1878. 364.
358. **Vinca rosea**. Linn. China, Cochin. agrest. cult. Lour. 146.
Fl. hgk. 220.
359. **Plumeria obtusa**. Linn. China, Cochin. cult. Lour. 144.
D. C. VIII. 392. Lour.'s plant (non Linn.) *Plumeria acutifolia*. Poir. Southern Asia.
360. **Nerium Oleander**. Linn. China, Cochin. Lour. 141.
Hook. et Arn. bot. Beech. 199. Lour.'s plant is *Nerium odorum*. Linn.—Comp. Linn. Chin. pl. 150.
361. **Pergularia divaricata**. Lour. China. Sin: *hu muon*. 210.
D. C. VIII. 418. *Strophanthus divergens*. Grah.—Fl. hgk. 220.
362. **Apocynum alterniflorum**. Lour. Prope Cantonem. Sin: *fu muon than*. 209.
D. C. VIII. 440. Stirps dubia.
363. **Asclepias Curassavia**. Linn. Canton. Sin: *yong co lai* (羊角麗 Williams). Lour. 211.
D. C. VIII. 572. Lour.'s plant is *Toxocarpus Wightianus*. Hook. et Arn. bot. Beech. 200. But *Ascl. curassavia* has also been observed in South-China. Fl. hgk. 225. 224.
364. **Cynanchum inodorum**. Lour. Sin: *ti yong than*. 207.
D. C. VIII. 551. *Gymnema inodorum*.
365. **Cynanchum odoratissimum**. Lour. Canton. Cochin. cult. 206.
D. C. VIII. 618. *Pergularia odoratissima*. L.—Cultivated throughout China.
366. **Pergularia sinensis**. Lour. China. Sin: *fi si than*. 211.
Spreng. Syst. I. 836. *Periploca sinensis*.
367. **Stapelia chinensis**. Lour. Canton. Sin: *yong saw khau* (王綉球). 205.
D. C. VIII. 636. *Hoya carnosia*. R. Br.—Fl. hgk. 228.—Bridgm. Chrest. 454, 46.—Comp. also Maxim. Diagn. pl. nov. asiat. I. 822. **H. chinensis**. Traill.
368. **Buddleia asiatica**. Lour. Cochin. 90.
Fl. hgk. 231.
369. **Gentiana aquatica**. Linn. Canton. Sin: *wi kam wiong*. Lour. 214.
D. C. IX. 108. Lour.'s plant is a new sp. *Gentiana Loureiri*. Giesel.
370. **Hydrolea inermis**. Lour. Canton. Sin: *wiong fung*. 214.

371. *Varronia sinensis*. Lour. In var. *locis imp. Sinensis*. Sin: *san chu yu* (山菜蕒). 171.

D. C. IX. 500. *Cordia Loureiri*. Roem. et Sch. Non satis nota.

372. *Heliotropium indicum*. Linn. Cochin. cult. Lour. 126.

Fl. hgk. 235.

373. *Anchusa officinalis*. Linn. In var. *locis imp. Sinens*. Sin: *tsu tsao* (紫草). Lour. 127.

D. C. X. 42. Europa:—The above Chinese name is applied in Japan to *Lithospermum officinale*. L. var. *erythrorizon*. Maxim. Dec. XI. 541. The Chinese plant of the same name (the roots of it are sold in Peking) is probably the same.

374. *Echium vulgare*. Linn. Lour. 125.

D. C. X. 18. Europa.—

375. *Argyrea arborea*. Lour. China, Cochin. spont. cult. Sin: *truong xuen hoa*. 167.

376. *Argyrea acuta*. Lour. In. Sinis. Sin: *pa ho than*. 167.

D. C. IX. 333. Specim. Lour. in hb. Mus. Britan.—Fl. hgk. 137.

377. *Ipomoea Quamoclit*. Linn. China, Cochin. cult. Sin: *kam peng sung*. (錦屏松). Lour. 137.

D. C. IX. 336. India orient. America.—Osb. 154.—Much cultivated in China. Bridgm. Chrest. 454. 52.

378. *Convolvulus Pes caprae*. Linn. China, Cochin. 134.

Osb. 155.—D. C. IX. 349. *Ipomoea pes caprae*. Sw.—Fl. hgk. 238.

379. *Convolvulus medium*. Linn. Cochin. Lour. 130.

D. C. IX. 353. Lour.'s plant is *Ipomoea filicaulis*. Bl.—Fl. hgk. 238.

380. *Convolvulus reptans*. Linn. China, Cochin. *locis aquosis*. Lour. 133.

D. C. IX. 349. *Ipomoea reptans*. Poir.—Oso. 153.—Cultivated throughout China.

381. *Convolvulus Batatas*. Linn. *Tubera esculenta*. India, China, Cochin. Sin: *hoan wy* (紅薯). Lour. 131.

D. C. IX. 338. *Batatas edulis*. Chois.—G. Pl. II. 872. *Ipomoea Batatas*.—Osb. 152.—Cultivated throughout China.

382. *Convolvulus obscurus*. Linn.? China, Cochin. Sin: *ca phan wy*. Lour. 131.

D. C. IX. 370. *Ipomoea obscura*. Ker.—Add. fl. hgk. 113.

383. *Convolvulus tomentosus*. Linn. China, Cochin. Sin: *khien nieu* (牽牛). Lour. 133.

D. C. IX. 428. Linn.'s plant (non Lour.) *Pharbitis tomentosa*. Chois.—G. Pl. II. 871. *Ipomoea tomentosa*.—In Peking the above Chinese name is applied to *Pharbitis triloba*. Chois.—Osb. 157?

384. **Solanum Melongena.** Linn. China, Cochin. Sin :
kie tsu (茄子). Lour. 161.
 Osb. 160.—Largely cultivated in China.
385. **Solanum aethiopicum.** Linn. China, Cochin. cult.
 Lour. 160.
 D. C. XIII. 1. 351. Lour.'s plant is *S. aethiopicum*, var. *violaceum*.—
 Linn. Chin. 161.
386. **Solanum lycopersicum.** Linn. Cochin. Lour. 161.
 Cultivated in Peking.
387. **Solanum nigrum.** Linn. Cochin. Lour. 160.
 Fl. hgk. 242.—Frequent in North-China.
388. **Solanum biflorum.** Lour. China, Cochin. Sin :
thien phao (天泡). 159.
 Osb. 163.—Fl. hgk. 242.—Add. Fl. hgk. 242.
389. **Solanum indicum.** Linn. Cochin. Lour. 162.
 Osb. 162.—Fl. hgk. 242.
390. **Solanum dichotomum.** Lour. Canton: *kam ngi*
van. 160.
391. **Physalis Alkekengi.** Linn. China, Cochin. Sin :
scan tsiam (酸漿). Lour. 164.
 D. C. XIII. i. 438. Europa, China.—Common in North-China.
392. **Physalis angulata.** Linn. Cochin. Lour. 164.
 Fl. hgk. 244.
393. **Capsicum annuum.** Linn. Cult. China, Cochin.
 Lour. 157.
 Much cultivated in China.
394. **Capsicum baccatum.** Linn. Cult. China, Coch.
 Lour. 157.
 D. C. XIII. i. 420. India, America.
395. **Capsicum frutescens.** Linn. China, Cochin. cult.
 Sin : *lat tsiao* (辣椒). Lour. 158.
 Osb. 164.
396. **Lycium barbarum.** Linn. Canton. Sin : *keu ki* (枸杞).
 Lour. 165.
 D. C. XIII. 1. 510. Lour.'s plant is *Lycium chinense*. Mill.—Osb. 165.—
 Fl. hgk. 245.
397. **Datura Metel.** Linn. China, Cochin. Sin : *nao hien*
hoa (鬧陽花). Lour. 135.
 The above Chin. name is applied in Canton to *Datura alba*. Nees.
 (Parker.)
398. **Nicotiana fruticosa.** Linn. China, Cochin. Sin :
yen ye (煙葉). Lour. 136.
 Osb. 163.

399. *Antirrhinum Linaria* Linn. Canton. Sin: *soy kue hoa*. Lour. 465.
 D. C. X. 273. *Linaria vulgaris*. Mill. Europa, Asia bor.—Also in North-China.
400. *Antirrhinum spurium*. Linn. Canton. Lour. 465.
 D. C. X. 268. *Linaria spuria*. Mill. Europa, Asia occid.
401. **Mazus rugosus**. Lour. Cochin. 468.
 Fl. hongk. 247.—Also in North-China.
402. *Digitalis sinensis*. Lour. 459.
 D. C. X. 380. *Pterostigma grandiflorum*. Benth. ?—G. Pl. II. 449
Adenosma grandiflorum.—Osb. 170.—Fl. hgk. 247.
403. *Septas repens*. Lour. Canton. Sin: *pa tsi hien* (巴戟天). 477.
 D. C. X. 400. *Herpestis Monnieria*. Humb. B. —Fl. hgk. 249.
404. **Gratiola hyssopioides**? Linn. Canton. Sin: *pi pa tsao*. Lour. 27.
 D. C. X. 415. India.
405. *Picria Fel terrae*. Lour. China, Cochin. cult. Lour. 478.
 G. Pl. II. 954. Specim. Lour. in hb. Mus. Brit. *Curangae* Species?
406. *Ruellia antipoda*. Linn. Cochin. Lour. 462.
 Osb. 174.—D. C. XI. 155. *Bonnaya veronicaefolia*. Spreng. Fl. hgk. 252.
407. **Scoparia dulcis**. Linn. Cochin. Lour. 89.
 Fl. hgk. 252.
408. *Striga lutea*. Lour. Canton. Sin: *thoc chio kam* (獨脚金. Parker.). 27.
 Fl. hgk. 254. *Striga hirsuta*. Bth.—D. C. X. 502.
409. *Campsis adrepens*. Lour. In sylvis prov. Canton. Sin: *lien sieu* (陵霄). 458.
 D. C. IX. 223. *Tecoma grandiflora*. Delaun.—Loureiro in stating that this plant has bipinnate leaves, commits the same error as with respect to *Sophora japonica*. (166 above.)
410. **Sesamum orientale**. Linn. China, Cochin. Sin: *ma chi* (麻脂). Lour. 464.
 Largely cultivated in China.
411. *Acanthus ilicifolius*. Linn. China, Cochin. Sin: *lao chu lac* (老鼠芳). Lour. 455.
 D. C. XI. 269. Lour.'s plant *Dilivaria ebracteata*. Juss. ? India orient.
412. **Barleria procumbens**. Lour. Canton. Sin: *kam kua tsu* 458.
 D. C. XI. 243. *Incertae sedis*.
413. *Justicia chinensis*. Linn. Cochin. Lour. 30.
 Linn. Chin. pl. 183.—Fl. hgk. 266. *Dicliptera chinensis*. Nees.

414. *Justicia purpurea*. Linn. Canton. Sin: *chi chap hoa*.
Lour. 31.
Osb. 181.—D. C. XI. 493. *Peristrophe tinctoria*. Nees.—Journ. bot. 1879.
13. Hainan (Hance). Observed also near Kiukiang.
415. ***Dissolena verticillata***. Lour. Provincia Canton.
Sin: *mat sa*. 171.
D. C. VIII. 318. *Verbenacea*.
416. *Phyla chinensis*. Lour. Sin: *lien fuen*. 83.
D. C. XVII. 296. *Verbena nodiflora*. Linn. *Lippia nodiflora*. Rich.
Osb. 184.
417. ***Verbena officinalis***. Linn. China, Cochin. Sin: *ma
pien tsao* (馬鞭草 Parker.). Lour. 33.
Fl. hgk. 268.
418. *Porphyra dichotoma*. Lour. Canton. Sin: *tsu hoa uon* 87.
D. C. XI. 645 *Callicarpa purpurea*. Juss. China, Japan.
419. ***Vitex Negundo***. Linn. China, Cochin. Sin: *muen
kim* (蔓荆). Lour. 474.
Osb. 185.—Fl. hgk. 273.
420. ***Vitex trifolia***. Linn. China, Cochin. Lour. 474.
Fl. hgk. 273.—D. C. XI. 683. Collected near Canton by Millet and
Vachell.
421. ***Vitex spicata***. Lour. China, Cochin. Sin: *u chu
kim*. 475.
D. C. XI. 696. Dubia.
422. ***Cornutia quinata***. Lour. Canton. Sin: *u si kam* (五指
金). 470.
Fl. hgk. 273. *Vitex Loureiri*. Hook. et Arn. bot. Beech. 206.—The above
Chin. name is applied in Canton also to *V. Negundo*. (Parker.)
423. ***Clerodendron infortunatum***. Linn. Canton. Sin:
fung mi chu. Lour. 471.
D. C. XI. 667. India orientalis.
424. *Volkameria Petasites*. Lour. Cochin. 473.
D. C. XI. 657. *Clerodendron infortunatum*. Linn.
425. *Volkameria inermis*. Linn. Canton. Sin: *san fu mun*.
Lour. 471.
D. C. XI. 660. *Clerodendron inerme*. R. Br.—Osb. 187.—Fl. hgk. 271.
426. *Volkameria pumila*. Lour. Canton. Sin: *san tang lung*
(山燈籠). 472.
D. C. XI. 674. *Clerodendron pumilum*. Spreng.
427. *Barbula sinensis*. Lour. Canton. Sin: *sat song kim* 445.
Fl. hgk. 269. *Caryopteris mastacanthus*. Schau.—D. C. XI. 625.
428. ***Ocimum Basilicum***. Linn. Cochin. cult. Lour. 449.
Much cultivated in China.

429. *Dentitia nankinensis*. Lour. Nanking. Canton. Sin : *kiam nan tsu su* (江南紫蘇). 448.

Fl. hgk. 276. *Perilla ocymoides*. L. var. *crispa*.

430. *Mentha pulegium*. Linn. China, Cochin. Sin : *po ho* (薄荷). Lour. 437.

Lour.'s plant is probably *Mentha arvensis*. L. (*M. javanica* Bl). Fl. hgk. 276. The above Chin. name is applied in Peking to *M. arvensis*, var. *sativa*.

431. *Mentha hirsuta*. Linn. China, Cochin. Sin : *hiam tsao* (香草). Lour. 437.

D. C. XII. 170. European spec.

432. *Mentha crispa*. Linn. China, Cochin. Lour. 437.

D. C. XII. 170. Europa.

433. *Origanum creticum*. Linn. Canton. Sin : *Quam tum kim kiai*. Lour. 453.

D. C. XII. 193. *Origanum vulgare*. L. var. *prismaticum*. Europa.

434. *Origanum heracleoticum*. Linn. China, Cochin. Lour. 453.

D. C. XII. 194. Linn.'s plant is dubious. *O. hirtum*. Link? Europa.

435. *Origanum Majorana*. Linn. China. Cochin. raro. Lour. 454.

D. C. XII. 195. 196. Ind. orient.

436. *Origanum Dictamnus*. Linn. Canton. Sin : *quam tum fam fum* (廣東防風). Lour. 452.

D. C. XII. 191. Europa.

437. *Melissa cretica*. Linn. China, Cochin. cult. Sin : *tsu su* (紫蘇). Lour. 446.

D. C. XII. 227. *Calamintha cretica*. Benth. Creta.—In Peking the above Chin. name is applied to *Perilla ocymoides*. L.

438. *Rosmarinus officinalis*. Linn. China, Cochin. cult. Sin : *yong tsao*. Lour. 34.

D. C. XII. 360. Europa. Oriens.

439. *Betonica officinalis*. Linn? China, Cochin. cult. Sin : *ho hiam* (藿香) Lour. 441.

D. C. XII. 460. Europa. Asia bor.—In Peking the above Chinese name is applied to *Lophanthus rugosus*. Fisch.

440. *Stachys Artemisia*. Lour. China, Cochin. Sin : *ke hoei, sung uy*. Lour. 443.

D. C. XII. 501. *Leonurus sibiricus*. Linn.—Linn. Chin. pl. 194. Fl. hgk. 278.

441. *Lamium garganicum*. Linn. China, Cochin. Sin : *hi kiem tsao*. Lour. 442.

D. C. XII. 504. Europa.

442. **Teucrium Polium.** Linn. Canton. Sin : *ti tam tsao*.
Lour. 439.

D. C. XII. 591. Europa, Africa, Asia occid.

443. **Ajuga reptans.** Linn. Canton. Lour. 441.

D. C. XII. 595. Europa. Asia occid.

444. **Plantago major.** Linn. Ad vias. China, Cochin. Sin :
che tsien ts'ao (車前草). Lour. 90.

Fl. hgk. 280.—Linn. Chin. 195—Roem. et Sch. syst. III. 112. consider
Lour.'s plant a new spec : *P. Loureiri*.

445. **Campylus sinensis.** Lour. Canton, in collibus nemo-
rosis. Sin : *weng con than*. Lour. 140.

D. C. XVII. 291. Corolliflora incertae sedis.

446. **Callicarpa triloba.** Lour. China, Cochin. Sin : *ca fu*
thay 89.

D. C. XI. 647. Dubia.

447. **Mirabilis Jalappa.** Linn. China, Cochin. Sin : *jen*
chi hoa (胭脂花). Lour. 123.

Osb. 196.

448. **Boerhavia diffusa.** Linn. Canton. Sin : *houng si sin*
Lour. 20.

Fl. hgk. 281. Canton.

449. **Celosia argentea.** Linn. China, Cochin. cult. agr.
Sin : *tsim siam tsu* (青箱子). Lour. 203.

Osb. 198.—Fl. hgk. 284.

450. **Celosia margaritacea.** Linn. Cochin. in China cult.
Sin : *hia khu tsao*. (夏枯草). Lour. 203.

D. C. XIII. 2. 243. *C. argentea*, var. *margar.*

451. **Celosia castrensis** Linn. China, Cochin. cult. Sin : *ki*
koan hoa (鷄冠花). Lour. 202.

Osb. 199.—Fl. hgk. 284.—D. C. XIII. 2. 242. *Celosia cristata*. var
castrensis.

452. **Amaranthus tristis.** Linn. China, Cochin. escu-
lenta. Lour. 686.

Osb. 201.

453. **Amaranthus spinosus.** Linn. Cochin. spont. cult.
Lour. 687.

Fl. hgk. 285.

454. **Amaranthus cruentus.** Linn. China, Cochin. cult.
Lour. 687.

Osb. 200.

455. **Amaranthus tricolor.** Linn. China, Cochin. cult.
Sin : *hum hien* (紅莧). Lour. 685.

Frequently cultivated in China.

456. *Amaranthus polygamus*. Linn. China, Cochin. cult. spont. Sin: *pe hien* (白莧). Lour. 685.

D. C. XIII. 2. 272. *Euxolus polygamus*. Moeq. Aegyptus, Amboina.

457. *Cyathula geniculata*. Lour. Cochinchina, China? Sin: *nieu si* (牛膝). Lour. 124.

D. C. XIII. 2. 326. *Cyathula prostrata*. Bl. Macao (Callery). Fl. hgk. 285.

458. *Illecebrum sessile*. Linn. Canton. Sin: *fan ti kouc* (鬻琪菊 Parker.). Lour. 202.

D. C. XIII. 2. 357. *Alternanthera sessilis*. R. Br. China. (Staunton). Fl. hgk. 285.

459. *Gomphrena globosa*. Linn. China, Cochin. cult. Lour. 218.

Os. 205.—D. C. XIII. 2. 409. China (Leclanch).—Cultivated in Peking.

460. *Beta vulgaris*. Linn. Canton cult. Sin: *pa hung*. Lour. 217.

Much cultivated in Peking and other parts of China.

461. *Spinacia oleracea*. Linn. Canton, cult. Lour. 757.

Os. 206.—Cultivated throughout China.

462. *Basella nigra*. Lour. China, Coch. agrest. cult. Sin: *lo quei* (落葵). 229.

Willdenow thinks, that this is *Basella rubra*. Linn. But D. C. XIII. 2. 223. retains Lour.'s spec. as distinct.

463. *Lagunea cochinchinensis*. Lour. China, Cochin. Sin: *pa viu*. Lour. 272.

D. C. XIV. 123. *Polygonum orientale*. Linn.—Os. 211.—Fl. hgk. 288.

464. *Polygonum chinense*. Linn. Canton. Sin: *fo than mu*. (火炭毛 Parker). Lour. 297.

Os. 212.—Fl. hgk. 289.

465. *Polygonum barbatum*. Linn. China, Canton. Sin: *leao xi* (蓼?), *hung hoang xeng*. Lour. 296.

Os. 210—Fl. hgk. 288.

466. *Polygonum tinctorium*. Lour. Canton. Sin: *ho lam* (小藍). 297.

Act. hort. Kew. 2d ed. II. 418. Introduced into England from China, in 1776.—Cultivated in North-China

467. *Polygonum hydropiper*. Linn. China, Cochin. Sin: *xuei leao* (水蓼). Lour. 295.

D. C. XIV. 107. *Polygonum flaccidum*? (Lour.'s plant.). But *P. hydropiper* is found in Hongkong. Fl. hgk. 288.

468. *Polygonum ciliatum*. Lour. Canton. Sin: *ho wan kio*. 299.

D. C. XIV. 102. Species obscura.

469. **Polygonum perfoliatum**. Linn. Cochin. Lour. 298. Fl. hgk. 289.
470. *Polygonum aviculare*. Linn. China, Cochin. Sin: *vien suc* (篇蓄). Lour. 297.
D. C. XIV. 93. *Pol. Roxburghii*. var.—Fl. hgk. 287. *Pol. plebejum*. Br.
471. **Polygonum tataricum**. Linn. Canton. Sin: *tam co mac* (? 蕎麥). Lour. 298.
D. C. XIV. 144. Tataria, Sibiria, Nepal.—Found also in North-China.
472. **Rheum palmatum**. Linn. China borealis. Sin: *ta hoam* (大黃). Lour. 313.
Lin. Chin. pl. 213.
473. *Rheum Rhabarbarum*. Linn. In multis locis imp. Sin. colitur. Sin: *ta hoam*. Lour. 314.
Rheum undulatum. Linn. Chin. pl. 214.
474. *Rumex crispus*. Linn. Cochin. Lour. 269.
D. C. XIV. 60. Lour.'s plant is *Rumex chinensis*. Campd. Gathered in China by Staunton, Beechey, Millet.—Add. Fl. hgk. 117.
475. *Asarum virginianum*. Linn. In variis Sinarum provinciis. Sin: *Si sin* (細辛). Lour. 357.
Lour. quotes Thbg. Japan. Thbg.'s *Asar. virg.* is *Asarum Thunbergii*. Al. Braun. D. C. XV. 1. 427.
476. *Spathium chinense*. Lour. Canton. Sin: *thong pin ngau*. Lour. 270.
Hook. et Arn. bot. Beech. 216 identify it with *Saururus cernuus*. L. S. China,—Decaisne (D. C. XVI. 1. 239.) makes a new spec. *Saururus Loureiri*.
477. *Polypara cochinchinensis*. Lour. Cochin. cult. Lour. 78.
D. C. XVI. 1. 238. *Houttuynia cordata*. Thbg.—Fl. hgk. 334.
478. **Piper nigrum**. Linn. Cochin. Sin: *hu tsiao* (胡椒). Lour. 37.
479. **Piper Betle**. Linn. Sin: *lau yep* (萹葉). Lour. 39. Osb. 216.
480. **Piper longum**. Linn. Sin: *pi po* (萹撥). Lour. 40.
481. *Creodus odorifer*. Lour. Cochin. cult. 112.
D. C. XVI. 1. 474. *Chloranthus inconspicuus*. Sw. ?—Fl. hgk. 334.
482. *Laurus Camphora*. Linn. China. Japan. Sin: *lum nao hiam* (龍腦香). Lour. 306.
Osb. 217.—D. C. XV. 1. 24. *Cinnamomum Camphora*. Nees. China (Staunton).
483. *Laurus Cinnamomum*. Linn. Cochin. Sin: *kuei xu* (桂樹). Lour. 305.
D. C. XV. 1. 16. Lour.'s plant is *Cinnamomum Loureiri*. Nees. Found also in Japan.

484. *Sebifera glutinosa*. Lour. China, Cochin. Sin: *cien kam wu*. Lour. 783.
 D. C. XV. 1. 178. *Tetranthera laurifolia*. Jacq. *Litsaea chinensis* Lam.—Fl. hgk. 293. *Tetranthera citrifolia*.—Add. Fl. hgk. 119.
485. *Glabraria Tersa*. Linn. Cochin. Lour. 576.
 D. C. XV. 1. 179. *Tetranthera laurifolia*, var. *citrifolia*.—Fl. hgk. 293.—Add. Fl. hgk. 119.
486. *Laurus Cubeba*. Lour. China, Cochin. cult. 310.
 D. C. XV. 1. 199. *Tetranthera? Cubeba*.—*Daphnidium Cubeba*. Nees.
487. *Laurus Sassafras*. Linn. Prope Tunkin. Sin: *hoam cham* (黃樟). Lour. 312.
 D. C. XV. 1. 246. *Lindera? Loureiri*. Bl. Species dubia.
488. *Laurus Myrrha*. Lour. Cochin. Sin: *u yo* (烏藥). 308.
 D. C. XVI. 1. 230. *Daphnidium Myrrha*. Nees.—G. Pl. III. 163. *Lindera Myrrha*.
489. *Calodium cochinchinense*. Lour. Cochin. China? 303.
 Willdenow thinks, that it may be *Cassyta filiformis*. L.—Osb. 218.—Fl. hgk. 294.
490. ***Helicia cochinchinensis***. Lour. Cochin. 105.
 Fl. hgk. 295.
491. *Daphne odora*. Linn. Canton. cult. Sin: *nhuc moi, nun muei*. Lour. 292.
 D. C. XIV. 537. Lour.'s plant: *Daphne sinensis*. Lam. Has been cultivated in Paris.
492. ***Daphne triflora***. Lour. Canton. Sin: *u si seng*. 291.
 D. C. XIV. 541. 537. (*D. japonica*).
493. *Daphne cannabina*. Lour. Cochin. 291.
 D. C. XIV. 546. *Wickstroemia viridiflora*. Meissn. Specim. Lour. in hb. Mus. Paris.—Fl. hgk. 297.
494. *Daphne indica*. Linn. Nanking, Canton. Sin: *lu ha sin*. Lour. 292.
 D. C. XIV. 543. *Wickstroemia indica*. C. A. Mey. China (Vachell).—Osb. 219.
495. *Ophispermum sinense*. Lour. Sin: *pa mou yong*. 344.
 G. Pl. III. 200. *Aquilariae* spec.
496. *Elaeagnus latifolia*. Linn. Canton. Sin: *pa poi tsu*. Lour. 113.
 D. C. XIV. 613. *Elaeagnus Loureiri*. Champ.—Fl. hgk. 298.
497. ***Santalum album***. Linn. South-Cochinchina. Sin: *tan yam*. (檀香). Lour. 109.
 D. C. XIV. 683. India, Indian Archipelago.
498. ***Euphorbia nereifolia***. Linn. Cochin. Lour. 366.
 Osb. 222.—D. C. XV. 2. 79. Ceylon.
499. ***Euphorbia Tirucalli***. Linn. Cochin. Lour. 366.
 Fl. hgk. 301.

500. **Buxus sempervirens**. Linn. China, Cochin. Sin : *huam tuon*. Lour. 678.

Fl. hgk. 315. *B. sempervirens*. But Hance Add. Fl. hgk. 123 considers this a new spec: *Buzus Harlandi*.

501. *Clusia monoica*. Lour. Canton. Sin : *xun ti fum*. 784.

D. C. XV. 2. 508. *Cleistanthus monoicus*.—Hook. et Arn. bot. Beech. 211.—Species incomplete nota.

502. **Phyllanthus Emblica**. Linn. China. Cochin. Sin : *hac min san* (黑面辰). Lour. 677.

D. C. XV. 2. 352. India orient., China (Staunton), Japan.—Fl. hgk. 312.—The above Chin. name = *Melanthesa chinensis* in Canton. (Parker). Also *Phyllanthus obscurus*.

503. *Nymphanthus chinensis*. Lour. Canton. Sin : *siong chu tsao* (珍珠草). 664.

D. C. XV. 2. 433. *Phyllanthus villosus*. Poir. China (Sonnerat.) In Canton the above Chin. name = *Phyll. urinaria* (Parker.).

504. *Nymphanthus Niruri*. Lour. Cochin. 665.

D. C. I. c. 406. *Phyllanthus Niruri*. Müll. (Specim. Lour. in hb. Mus. Lond.).—Fl. hgk. 311.

505. **Phyllanthus urinaria**. Linn. Canton, Cochin. Sin : *fi yong tsao* (飛陽草). Lour. 677.

D. C. I. c. 364. Müller refers, evidently by a mistake, Lour.'s Ph. Niruri both to Ph. Niruri and to Ph. urinaria, which however he describes as distinct species.—Fl. hgk. 310.—The above Chin. name in Canton *Euphorbia pilulifera* L. (Parker.).

506. *Cathetus fasciculata*. Lour. Cochin. 746.

D. C. I. c. 350. *Phyllanthus fasciculatus*. Müll. (Lour. specim. in hb. Mus. Lond.). Fl. hg. 311.

507. **Antidesma scandens**. Lour. Canton. Sin : *u chao lum* (五瓜龍). 757.

D. C. I. c. 268. Dubia.

508. *Vernicia montana*. Lour. Cochin. China. Sin : *tong xu* (桐樹). 721.

D. C. I. c. 724. *Aleurites cordata*. Müll. China (Gaudich.), Japan (Kaempfer). *Elaeococca vernicia*. ADR. Juss.

509. *Juglans Camirium*. Lour. Cochin. cult. spont. 702.

D. C. I. c. 723. *Aleurites triloba*. Forst, China (in hb. Lambert.), Philippin., Ind. orient.

510. **Croton Tiglium**. Linn. China, Cochin. Sin : *pa teu* (巴豆). Lour. 714.

D. C. I. c. 600. India, Ceylon, Philipp.

511. **Croton aromaticum**. Linn. Canton. Sin : *pa teu yong* (巴豆香)

D. C. I. c. 588. India orient.

512. **Croton congestum**. Lour. Canton. Sin: *pa teu* (巴豆). 714.
513. *Tridesmis tomentosa*. Lour. Canton. Sin: *ca xi ma* 707.
D. C. l. c. 588. *Croton tomentosus*. Müll. **Croton crassifolium**. Geisel. *Croton chinense*. Bth. Fl. hgk. 309, (specim. in hb. Mus. Paris.) Osb. 226.
514. *Tridesmis hispida*. Lour. Canton. Sin: *ki quat yong*. 706.
D. C. l. c. 1256. Species **Crotonis**.
515. *Phyllaurea Codiaeum*. Lour. China, Cochin. cult. 705.
D. C. l. c. 1120. *Codiaeum variegatum*. Linn. Ins. Molucc.
516. *Jatropha Janipha*. Linn. China. Sin: *pe fu tsu* (白附子). Lour. 718.
D. C. l. c. 1073. Lour.'s plant is *Manihot Loureiri*. Pohl.
517. *Urtica gemina*. Lour. Cochin. 682.
D. C. l. c. 866. *Acalypha gemina*. Spreng. *A chinensis* Roxb.—Hook. et Arn. bot. Beech. 213.—Also in N. China.
518. *Ricinus apelta*. Lour. Canton. Sin: *xan pe xu*. 718.
D. C. l. c. 963. *Mallotus apelta*. Müll.—*Rottlera chinensis*. Adr. Juss. (specim. Lour. in hb. Mus. Paris.). Fl. hgk. 306.
519. **Ricinus communis**. Linn. China, Cochin. cult. incult. Sin: *pi ma* (蓖麻). Lour. 716.
Fl. hgk. 307.—Cultivated throughout China.
520. *Triadica sinensis*. Lour. Canton. Sin: *u khar mo* (烏桕木). 749.
D. C. l. c. 1210. *Excoecaria sebifera*. Müll. *Stillingia sebifera*. Mich.—Osb. 227.—Fl. hgk. 302.
521. **Excoecaria cochinchinensis**. Lour. cult. China, Cochin. 750.
D. C. l. c. 1215. Ceylon, India orient., China. Specim. Lour. in hb. Mus. Lond.
522. *Commia cochinchinensis*. Lour. Cochin. 743.
D. C. l. c. 1220. *Excoecaria Agallocha*. Müll. Ind. orient., Philipp., Nov. Holland. (Specim. Lour. in hb. Mus. Lond.)
523. **Cannabis sativa**. Linn. China. Sin: *ma fuen* (麻蕒). Lour. 756.
Frequent in North-China and also in other parts of the Empire.
524. *Streblus cordatus*. Lour. Canton. Sin: *tsong xu*. 755.
D. C. XVII. 219. *Broussonetia papyrifera*. Vent.
525. **Morus alba**. Linn. China, raro in Cochin. Sin: *xin pe xu* Lour. 678.
Linn. Chin. pl. 231.—Cleyer med. Sin. 290. *Cortex Morisam pe pi* (桑白皮). This resembles somewhat the Chinese name quoted by Lour.

526. *Morus rubra*. Linn. Cochin. apud Mojos populos. Lour. 679.

D. C. XVII. Lour.'s plant is *Morus alba* var. *atropurpurea*. Bur. *Morus atropurpurea*. Roxb. Introduced into India from China.

527. *Morus indica*. Linn. Cochin. cult. Lour. 679.

D. C. l. c. 243. *Morus alba*, var. *indica*. Bur. Observed near Canton by Hedde. Also in Formosa. Cultivated in India.

528. **Dorstenia chinensis**. Lour. Prov. (boreal.) imp. Sinens. Sin: *pe chi* (白芷). 114.

D. C. XVII. 277. Dubia.

529. **Ficus carica**. Linn. Culta China, raro Cochin. Sin: *mao hoa qua* (無花果). Lour. 816.

Cultivated throughout China.

530. **Ficus Benjamina**. Linn. Cochin. Lour. 818.

Osb. 229?

531. **Ficus pumila**. Linn. Cochin. Lour. 820.

Linn. Chin. pl. 230.

532. *Polyphema Jaca*. Lour. Cochin. freq. cult. China raro. Sin: *ya xu, po lo mat* (波羅密). 667.

Artocarpus integrifolia. Linn. Comp. above Boym, Flora sin. 13. Swinhoe saw the tree cultivated in Hainan.

533. *Vanieria chinensis*. Lour. Provincia Canton. Sin: *hung hoang xiong*. 691.

G. Pl. III. 351. *Cudrania*? vel *Plecosperrum*?

534. *Urtica interrupta*. Linn. China, Cochin. Sin: *tam ma* Lour. 682.

D. C. XVI. 1. 74. *Fleurya interrupta*. Gaudich. India.

535. *Polychroa repens*. Lour. China, Cochin. cult. incult. 684.

G. Pl. III. 386. *Pellionia brevifolia*. Bth. Fl. hgk. 330?

536. *Urtica nivea*. Linn. China, Cochin. cult. Sin: *pa ma*. Lour. 683.

D. C. XVI. 1. 206. 207. *Boehmeria nivea*. Hook. et Arn. Osb. 252. Fl. hgk. 331.—Sin: (苧麻) *ch'u ma*.

537. *Parietaria cochinchinensis*. Lour. China, Cochin. Sin: *mao soi cot* (霧水葛). 804.

D. C. l. c. 220. *Pouzolzia indica*. Gaudich. var. *alienata*, Wedell.

538. **Juglans regia**. Linn. China borealis. Sin: *ho tao* (核桃). Lour. 702.

Much cultivated in North-China.

539. *Morella rubra*. Lour. China, cult. Cochin. agrest. Sin: *yam mwei* (楊梅). 670.

G. Pl. III. 401. *Myrica sapida*. Wall species in India orient. Chinaque *frequens sylvestris* vel *culta*.—Fl. hgk. 322. *Myrica rubra*. Sieb. et Zucc. Very near to *M. sapida*.

540. **Quercus cornea.** Lour. China, Cochin. Sin: *chu* (茅). 700.

Flor. hgk. 322.

541. **Fagus Castanea.** Linn. Cochin. *sylvestris*, China colit. Sin: *lie tsu* (栗子). Lour. 699.

D. C. XVI. 2. 116. *Castanea chinensis*. Spreng.—*Castanopsis chinensis*. Hance. Journ. Linn. Soc. X. 199. He gathered this species in the Canton province.—According to D. C. XVI. 2. 116. Loureiro's *Fagus cochinchinensis* belongs to the same species.

542. **Salix babylonica.** Linn. Frequens China, colit. Cochin. Sin: *lieu xu*. (柳樹). Lour. 747.

A common tree in North-China.

543. **Juniperus barbadensis.** Linn. China. Lour. 781 and **J. chinensis.** Linn. *ibid*.

D. C. XVI. 2. 488. Both of these Loureirian plants are referred to *J. chinensis*. L.—D. C. quotes Hance ins. Hongkong (not found in Add. fl. hgk.).

544. **Thuja orientalis.** Linn. China, Cochin. raro colit. Lour. 712.

Osb. 233.—Cultivated throughout China. *Biota orientalis*. Endl.

545. **Cupressus sempervirens.** Linn. China spont. Cochin. cult. Sin: *pe xu* (栢樹). Lour. 711.

D. C. I. c. 468. Not quoted for China. In Peking the above Chin. name is applied to *Biota orientalis*.

546. **Cupressus thuyoides.** Linn. China, Cochin. Lour. 711.

D. C. I. c. 464. **Chamaecyparis sphaeroidea.** Spach. American plant.

547. **Pinus Abies.** Linn. China australis. Sin: *wan mo* (杉木). Lour. 710.

D. C. I. c. 432. **Cunninghamia sinensis.** R. Br.—Osb 235.—Fl. hgk. 337.

548. **Pinus sylvestris.** Linn. China, Cochin. Sin: *sum* (松). Lour. 709.

D. C. I. c. 389. **Pinus Massoniana.** Lamb. **P. sinensis.** Lamb. Fl. hgk. 337.—Add fl. hgk. 125. A common tree in all parts of China.

549 **Cycas inermis.** Lour. China, Cochin. spont. cult. 776.

D. C. I. c. 526. Culta in hort. Amstelod.

MONOCOTYLEDONS.

550. **Musa seminifera.** Lour. Cochin. cult. spont. Lour. 791.

Musa odorata. Lour. Cochin. cult. Lour. 791.

Musa nana. Lour. Cochin. 791.

Musa corniculata. Lour. Cochin. 791.

Desvaux in Journ. d. Bot. 1814 considers all these species only varieties of **Musa sapientium.** L.—Fl. hgk. 348.—Osb. 237.

551. *Musa uranoscopos*. Lour. Cochin. 792.
Bot. Mag. tab. 1559. (1813). *Musa. coccinea*. Andr. introduced into Europe, from China, in 1792.
552. ***Canna indica***. Linn. China, Cochin. Sin : *san kiam* (山薑). Lour. 13.
Osb. 239.—Fl. hgk. 349.
553. *Phyllodes placentaria*. Lour. China, Cochin. Sin : *toung yep* (冬葉). 17.
Roem. et Schult. Syst. I 18. *Phrynium capitatum*. Willd. (Malabar, China).
554. *Amomum Galanga*. Lour. China, Cochin. cult. et agrest. Sin : *cao leam kiam* (高良薑). Lour. 7.
Maranta Galanga. Linn. *Galanga major*. Rumph.—Linn. Chin pl. 240.—Fl. hgk. 348. *Alpinia Galanga*. Sw.
555. ***Amomum medium***. Lour. Provincia Yunnan imp. Sinensis. Sin : *tsao quo* (草葉). 5.
Hanbury Science pap. 105. *Chinese ovoid Cardamom*. Known only from its fruits it seems.
556. ***Amomum globosum***. Lour. In montibus Chinae et Cochin. Sin : *tsao keu* (草豆蔻). 6.
Hanbury, Science pap. 95. *Large round Chin. Cardamom*. The plant is unknown to modern botanists.
557. ***Kaempferia Galanga***. Linn. In hortis Chinae et Cochin. Sin : *san lay* (三辣). Lour. 15.
Roem. et Sch. Syst. I. 27. India orient.
558. *Curcuma rotunda*. Linn. China, Cochin. frequens. Sin : *pum ngo meu* (蓬莪茂). Lour. 11.
Spreng. Syst. I. 10. *Kaempferia pandurata*. Roxbg. Sumatra.
559. ***Curcuma longa***. Linn. Cochin. culta, inculta. Sin : *kiam hoam* (薑黃). Lour. 11.
Flückiger and Hanbury, Pharmacographia. 577; One sort of the Turmeric of commerce is China Turmeric.
560. ***Curcuma pallida***. Lour. Cochin. Canton. Sin : *san kiam hoam* (山薑黃). 12.
561. *Amomum Zingiber*. Linn. China, Cochin. cult. Sin : *sem kiam* (生薑). Lour. 2.
Spreng. Syst. I. 12. *Zingiber officinale*. Rosc. India.—Without any doubt a native of China.
562. *Aristotelea spiralis*. Lour. Canton. Sin : *hoan lum*. 638.
Spreng. Syst. III. 708. *Spiranthes amoena*. M. B., which according to Ledebour Fl. ross. IV. 184. is *Spiranthes australis*. Lindl.—Fl. hgk. 360.
563. *Orchis Susannae*. Linn. Canton. Sin : *ma chac lun*. Lour. 638.
Habenaria Susannae. R. Br.—Fl. hgk. 363.

564. **Aërides odorata**. Lour. China, Cochin. Sin: *fum lan* (風蘭). 642.
According to Loudon introduced into Europe in 1800.
565. **Epidendron ensifolium**. Linn. China, Cochin. cult. Sin: *lan hoa* (蘭花). Lour. 640.
Osb. 242.—Fl. hgk. 357. **Cymbidium ensifolium**. Sw.
566. **Phajus grandifolius**. Lour. China, Cochin. cult. 647.
Fl. hgk. 357.—*Bletia Tankervilleae* Br.
567. **Epidendron tuberosum**. Linn. China, Cochin. cult. Lour. 639.
Lamarck Enc. Bot. I. 186. West-Indies.
568. **Ceraja simplicissima**. Lour. China, Cochin. 633.
Endl. Gen. Pl. 1369. **Dendrobium**. Sw.
569. **Gladiolus undulatus**. Linn. Canton, in hortis. Lour. 45.
Spreng. Syst. I. 152. **Gl. cuspidatus**. Linn. C. B. Sp.
570. **Ixia chinensis**. Linn. China, Cochin. cult. Sin: *we can* (射干). Lour. 46.
Lin. Chin. pl. 243.—Fl. hgk. 365. **Pardanthus chinensis**. Ker.
571. **Crinum zeylanicum**. Linn. China, Cochin. Sin: *san toat*. Lour. 245.
Kth. enum. V. 581. **Crinum Loureiri**. Roem. et Sch.—Loureiro's *Crinum asiaticum*. Linn. (Lour. 244) is according to Roem. et Sch. a new spec: **Crinum cochinchinense**. But *Cr. asiaticum* Linn. has been observed also in South-China. Flor. hgk. 366.
572. **Amaryllis sarniensis**. Linn. Culta in Sinis. Sin: *hiuen tsao* (萱草). Lour. 247.
Kth. enum. V. 618 **Nerine?** **cochinchinensis**. Roem. The above Chin. name is generally applied to *Hemerocallis*.
573. **Tacca pinnatifida**. Linn. China, Cochin. cult. Lour. 368.
Kth. enum. V. 459. India orient., Philipp.
574. **Dioscorea oppositifolia**. Linn. China, Cochin. spont. edulis. Sin: *wan yo* (山藥). Lour. 766.
Fl. hgk. 367.
575. **Dioscorea alata**. Linn. China, Cochin. cult. Sin: *yu thau* (芋頭). Lour. 765.
Osb. 245.—Kth. enum. V. 387. India orient, Philipp. The above Chin. name is rather applied to *Arum* or *Colocasia*.
576. **Bromelia Ananas**. Linn. Colitur in Cochin. Lour. 237.
577. **Stemona tuberosa**. Lour. China, Cochin. Sin: *pe pu tsao* (百部草). 490.

Kth. enum. V. 287. *Roxburghia gloriosoides*. Jones. (fide Wallich) India orient.

578. **Smilax China**. Linn. China, Cochin. Sin: *thu fu lin* (土茯苓). Lour. 763.

Os. 247. But Maxim. Dec. X. 410 doubts whether Lour.'s plant is really Sm. China.

579. **Smilax perfoliata**. Lour. Cochin. 763.

Kth. enum. V. 250. Also in Java (Blume).—Journ. Bot. 1879. 15. Hainan (Swinhoe).

580. *Dracaena ferrea*. Linn. China, Cochin. cult. agrest. Sin: *tiet tsao* (鐵草). Lour. 242.

Os. 249.—Kth. enum. V. 24. *Cordylina Jacquini*. China. Introducta in Bengaliam.

581. **Hemerocallis fulva**. Linn. China, Cochin. Sin: *kim cham hoa* (金針花). Lour. 254.

Linn. Chin. pl. 251.

582. **Allium Ceba**. Linn. China, Cochin. cult. Sin: *tsum ai* (葱). Lour. 249.

Under the above Chin. name in N. China *Allium fistulosum* is cultivated.

583. **Allium sativum**. Linn. Cult. China, Cochin. Sin: *suon* (蒜). Lour. 249.

Cultivated throughout China.

584. *Allium odorum*. Linn. China, Cochin. Sin: *kieu* (韭), *khio*. Lour. 251.

Kth. enum. IV. 454. Lour.'s plant (non Linn.) is *Allium Thunbergii*. Don. Regel Monogr. Allior. 235 combines also *A. chinense*. Don. with this.—In Peking *A. odorum*. Linn. is known under the above Chin. name.

585. *Allium triquetrum*. Linn. China, Cochin. cult. Sin: *kiai*, *kiao theu*. Lour. 250.

Regel l. c. combines it with *Allium Thunbergii*.

586. *Allium angulosum*. Linn. China, Cochin. cult. Sin: *kieu tsai* (韭菜). Lour. 251.

Kth. enum. IV. 422. Lour.'s plant is *Allium uliginosum*. Don. Baker refers this to *A. tuberosum* Roxb. Japan, China, India.

587. *Ornithogalum sinense*. Lour. Canton. Sin: *tien suon* (天蒜). Lour. 255.

Kth. enum. IV. 337. *Bernardia scilloides*. Lindl.—Fl. hgk. 373.—Frequent in North-China.

588. *Aloe perfoliata* Linn. Regnum Champava. Sin: *lu hoei* (盧會). Lour. 252.

This Chin. name is applied in Canton to *Aloe vulgaris*. Lam. (Parker) which is the same as the plant Lour. describes (non Linn.). India, Cambodia.

589. **Fritillaria cantoniensis**. Lour. Canton. Lour. 255.
Kth. enum. IV. 255. Valde dubia.
590. **Lilium candidum**. Linn. China, Cochin. cult. Sin :
pe ho (百合). Lour. 256.
Kth. IV. 267. Dubia. The above Chinese name is applied to several
Lilies with edible bulbs. In Peking *Lilium tigrinum*. Ker.
591. *Lilium pomponium*. Linn. Canton. Sin : *cuon tan hoa*
(卷丹花). Lour. 257.
Kth. enum. IV. 259. Lour.'s plant is *Lilium tigrinum*. Ker.—Much
cultivated in North-China.
592. **Lilium camtchatkense**. Linn. China, Cochin. Sin :
chu tan hoa. Lour. 257.
593. *Melanthium cochinchinense*. Lour. China, Cochin. Sin :
tien muen tum (天門冬). Lour. 268.
Fl. hgk. 371. *Asparagus lucidus*. Lindl.—In Peking this plant is
cultivated under the above Chin. name.
594. *Liriope spicata*. Lour. China, Cochin. cult. Sin : *mac*
lan. 248.
Fl. hgk. 371. *Ophiopogon spicatus*. Ker.
595. *Garciana cochinchinensis*. Lour. Cochin. Canton. Sin :
tien lum. 20.
Kth. enum. III. 380. *Philydrum lanuginosum*. Banks. Also in New
Holland.—Fl. hgk. 380.—Sin : 田葱 *tien ts'ung*. (Parker).
596. **Commelina communis**. Linn. Cochin. Lour. 48.
Os. 252.—Fl. hgk. 376.
597. **Commelina benghalensis**. Linn. Cochin. Lour. 49.
Fl. hgk. 376.
598. *Tradescantia vaga*. Lour. Canton. Sin : *wit koat*
houng. 239.
Kth. enum. IV. 104. *Commelina vaga*.
599. *Lechea chinensis*. Lour. Canton. Sin : *chat yu tsao*. 76.
Kth. enum. IV. 60. *Commelina*? Loureiri.
600. *Commelina tuberosa*. Linn. Cochin. *Tubera edulia*.
Lour. 50.
Journ. Bot. VI. 250. Lour.'s plant is *Aneilema Loureiri*. Hance. Canton.
601. *Commelina medica*. Lour. China, Cochin. Sin : *me muen*
tum (麥門冬). Lour. 50.
Kth. enum. IV. 67. *Aneilema medica*. R. Br.—The above Chinese name
in China as well as in Japan is applied to *Ophiopogon japonicus*. Ker.
602. **Floscopia scandens**. Lour. Cochin. 238.
Fl. hgk. 377. Probably identical with *Floscopia paniculata*. Hassk.
Indian Archip. Hongkong.

603. *Scirpus capsularis*. Lour. China, Cochin. Sin: *tem sin tsao* (燈心草). 55.

Journ. Bot. 1875. 106. Dr. Hance has proved, that this is *Juncus effusus*. Linn. common in China, Manchuria.

604. *Cocos nucifera*. Linn. Cochin. Hainan. Sin: *yai xu* (椰樹). Lour. 692.

605. *Areca Catechu*. Linn. Cochin. China austr. rarior. Sin: *pin lam* (檳榔). Lour. 695.

606. *Phoenix pusilla*. Lour. Cochin. 753.

Add. Fl. hgk. 129. Most likely identical with *Phoenix farinifera*. Roxb. *Ph. acaulis*. Bth. Fl. hgk. 340.

607. *Pandanus odoratissimus*. Linn. China, Cochin. spont. cult. Lour. 739.

Add. Fl. hgk. 129.

608. *Acorus Calamus*. Linn. Chin. Cochin. in locis petrosis. Sin: *xe cham pu* (石菖蒲). Lour. 259.

Kth. enum. III. 87. Lour.'s plant is *Acorus terrestris*. Rumph. India orient. But the true *A. Calamus* is also found in South-China. Fl. hgk. 345.

609. *Orontium cochinchinense*. Lour. China, Cochin. Sin: *xui cham pu* (水菖蒲). Lour. 258.

Kth. enum. III. 87. *Acorus cochinchinensis*. Schott.

610. *Pothos scandens*. Linn. Cochin. Lour. 650.

Fl. hgk. 344.

611. *Arum esculentum*. Linn. China, Cochin. frequentissime. Cibus est communissimus. Sin: *hai yu* (海芋). Lour. 654.

Osborn. 254.—Kth. enum. III. 37. *Colocasia esculenta*. Schott. *Calladium esculentum* Vent.

612. *Arum Colocasia*. Linn. Cochin. cult. Lour. 653.

Kth. enum. III. 37. *Colocasia antiquorum*. Schott.—According to Parker 芋頭 *yü t'ou* in Canton.

613. *Arum indicum*. Lour. Cochin. cult. 655.

Fl. hgk. 343.—Kth. enum. III. 39. *Colocasia indica* = *A. indicum*. Lour. (fide Roxb.).

614. *Arum macrorrhizum*. Linn. China, Cochin. Sin: *dea vu*. Lour. 654.

Kth. III. 38. Linn.'s plant (India) is *Colocasia macrorrhiza*. Schott.

615. *Arum cucullatum*. Lour. Canton. Sin: *chim mi vu*. 656.

Kth. III. 38. *Colocasia cucullata*. Schott.—Roxb. Fl. ind. III. 501. China australis, Bengalia.

616. *Arum sagittifolium*. Linn. China, Cochin. culta, spont. Sin: *tai lei thau*. Lour. 653.

Kth. III. 44. Linn.'s plant *Xanthosoma sagittaeifolium*. Schott. America.

617. *Arum pentaphyllum*. Linn. China. Sin: *tien nan sin*. (天南星). Lour. 652.

Kth. enum. III. 20. Linn.'s plant *Arisaema pentaphyllum*. Schott. India orient. Lour.'s plant dubious.

618. *Arum triphyllum*. Linn. China, Cochin. Sin: *puon hia* (半夏). Lour. 652.

Kth. enum. III. 20. *Arisaema Loureiri*. Blume. Stirps dubia.

619. *Arum Dracontium*. Linn. China, Cochin. Sin: *puon hia* (半夏). Lour. 651.

Kth. III. 19. Lour.'s plant *Arisaema cochinchinense*. Blume.

620. *Zala asiatica*. Lour. China, Cochin. Sin: *feu peng* (浮萍). 492.

Endl. Gen. Pl. 1669. *Pistia*. In Peking the above Chin. name refers to *Lemna minor*. L.

621. *Typha latifolia*. Linn. China, Cochin. Sin: *pu hoan* (蒲黃). Lour. 675.

Kth. enum. III. 90. Europa, Asia bor., America bor.—Frequent in North-China.

622. *Lemna minor*. Linn. Cochin. Lour. 671.

Osb. 255.—Add. Fl. hgk. 129. Frequent in S. China.—Common also in N. China.

623. *Sagittaria sagittifolia*. Linn. Cochin. Lour. 698.

Osb. 256.—Kth. enum. III. 157. Lour.'s plant is *Sagittaria chinensis*. Sims.

624. *Eriocaulon quadrangulare*. Lour. China, Cochin. Sin: *houc san tsao* (穀精草). 76.

According to Parker the above Chinese name in Canton is applied to *Eriocaulon Wallichianum*. Mart.

625. *Cyperus rotundus*. Linn. China, Cochin. Sin: *hiam phu cu* (香附子). Lour. 53.

Osb. 262.—Fl. hgk. 387.

626. *Cyperus elatus*. Linn. Cochin. Lour. 54.

Kth. enum. II. 93. Linn.'s plant is *Cyperus distans*. Linn. India orient., Nova Holland. Maurit. C. B. Sp.—Fl. hgk. 387.

627. *Cyperus compressus*. Linn. Cochin. Lour. 54.

Fl. hgk. 385. Common in S. China.

628. *Scirpus supinus*. Linn. China, Cochin. Lour. 55.

Fl. hgk. 394. *Isolepis supina*. R. Br.

629. *Scirpus miliaceus*. Linn. Cochin. Lour. 55.

Fl. hgk. 393. *Fimbristylis miliacea*. Vahl.

630. *Holcus Sorghum*. Linn. China, Cochin. cult. Lour. 793.

Sorghum vulgare. Pers. Cultivated throughout China.

631. *Holcus saccharatus*. Linn. China, Cochin. Lour. 792.

Sorghum saccharatum. Pers. Cultivated throughout China.

632. *Andropogon Schoenanthus*. Linn. China, Cochin. cult. Sin: *mao hiam* (茅香). Lour. 793.

Osb. 268.—Kth. enum. I. 493. India orient.

633. *Rhaphis trivialis*. Lour. China, Cochin. 676.
Kth. enum. I. 505. *Chrysopogon aciculatus*. Trin.—Fl. hgk. 424.
634. *Saccharum spicatum* Linn. Cochin. Sin: *mao ken* (茅根). Lour. 67.
Kth. enum. I. 470. *Perotis latifolia*. Ait.—Fl. hgk. 418.
635. **Saccharum officinarum**. Linn. China, Cochin. cult. Sin: *can che* (甘蔗). Lour. 66.
Osb. 265.—The Sugar cane is much cultivated in S. China.
636. **Triticum**. *Variae species nascuntur in China*. Sin: *me* (麥 *Triticum sativum*.). Lour. 75.
Wheat is cultivated throughout China, more commonly in the northern provinces.
637. **Hordeum**. Sin: *meu* (牟). Lour. 75.
Meu is rather the classical Chinese name for Barley, which is cultivated in all provinces of the Empire, but more commonly in the north.
638. *Arundo Bambus*. Linn. China, Cochin. Sin: *ye cho* (葉竹). Lour. 70.
Osb. 292.—Munro *Bambusaceae*. Trans. Linn. Soc. XXVI. *Bambusa arundinacea*. Retz. India, China. Hongkong cult. Hance. (dubia.).
639. *Arundo agrestis* Lour. China, Cochin. 72.
Kth. enum. I. 432. *Bambusa agrestis*. Poir.
640. *Poa chinensis*. Linn. Cochin. Lour. 69.
Osb. 287.—Fl. hgk. *Leptochloa chinensis*. Nees.—Kth. enum. I. 270. *E. tenerrima*.
641. *Cynosurus aegyptius*. Linn. Lour. 75.
Osb. 291.—*Dactyloctenium aegyptiacum*. Willd. Fl. hgk. 429.—*Eleusine cruciata*. Lam.
642. *Cynosurus indicus*. Linn. Lour. 75.
Fl. hgk. 429. *Eleusine indica*. Gaert.
643. *Nardus indica*. Linn. In montibus occident. imper. Sinensis. Sin: *cam sum hiam* (甘松香). Lour. 56.
Kth. enum. I. 258. *Microchloa setacea*. R. Br.—Fl. hgk. 428.
644. **Agrostis plicata**. Lour. Canton. Sin: *sam sou* *tsao*. 64.
645. *Agrostis indica*. Linn. ? Cochin. Lour. 63.
Osb. 283.—Kth. enum. I. 211. *Sporobolus indicus*. R. Br. Fl. hgk. 426.
646. **Spinifex squarrosus**. Linn. China, Cochin. Lour. 794.
Fl. hgk. 415.
647. *Panicum Crus Corvi*. Linn. Cochin. Lour. 59.
Kth. enum. I. 143. *Panicum Crus Galli*. L. Osb. 275. Fl. hgk. 411.—Common in N. China.
648. **Panicum miliaceum**. Linn. Pekini et aliis locis Sinarum. Colitur. Lour. 59.
Largely cultivated throughout China.

649. *Panicum italicum*. Linn. China, Cochin. cult. Sin: *siao me* (小米) *so* (粟). Lour. 58.
Setaria italica. Kth. Largely cultivated in China.
650. *Alopecurus hordeiformis*. Linn. Cochin. Lour. 60.
 Osb. 280.—*Gymnotherix hordeiformis*. Nees. Observed also in N. China.
651. **Coix Lachryma**. Linn. Cult. China, Cochin. Sin: *y y gin* (薏苡仁) Lour. 673.
 Kth. enum I. 20. India orient.—Cultivated throughout China.
652. **Coix agrestis**. Lour. 674.
653. **Zea Mays**. Linn. China, Cochin. cult. Sin: *pao tuc* (pao cut 包穀). Lour. 672.
 Cultivated throughout China.
654. **Oryza sativa**. Linn. Sin: *mi* (米), *ho* (禾).
 Lour. 266.
 Osb. 281.
655. **Oryza glutinosa**. Rumph. Sin: *no* (糯). Lour. 267.

CRYPTOGAMS.

656. **Equisetum arvense**. Linn. China. Sin: *ma hoam* (麻黃). Lour. 823.
 Has been observed in North-China.
657. **Equisetum hiemale**. Linn. China. Sin: *mo ce* (木賊). Lour. 824.
658. **Lycopodium cernuum**. Linn. Cochin. Lour. 838.
 Osb. 296.—Fl. hgk. 436.
659. **Ophioglossum lusitanicum**. Linn. China, Cochin.
 Sin: *we ui* (石韋). Lour. 825.
 The above Chin. name is rather applied to *Niphobolus Lingua*. Spr.
660. *Ophioglossum scandens*. Linn. China, Cochin. Sin: *xi ui tan* (石韋藤). Lour. 825.
 Osb. 299.—Fl. hgk. 441. *Lygodium scandens*. Sw.
661. **Adiantum flabellatum**. Linn. Canton. Sin: *tiet quat tso* (鐵線草). Lour. 836.
 Osb. 307.—Fl. hgk. 447.
662. **Adiantum caudatum**. Linn. Cochin. Lour. 835.
 Fl. hgk. 447.
663. **Pteris vittata**. Linn. China, Cochin. Lour. 834.
 Osb. 304.
664. **Polypodium repandum**. Lour. China. Sin: *ku tsui pu* (骨碎補), 826.
665. **Polypodium simile**. Linn. China. Sin: *ku tsui pu* (See the preceding). Lour. 828.

666. *Polypodium varium*. Linn. China, Cochin. Esculentum. Lour. 829.

Osb. 300.—Add. Fl. hgk. 140. *Aspidium varium*. Sw.

667. *Polypodium Barometz*. Linn. China, Cochin. Sin: *keutsie* (狗脊). Lour. 829.

Osb. 301.—Fl. hgk. 460. Add. Fl. hgk. 143. *Cibotium glaucum*. Benth. *Cibotium Barometz* J. Sm.

668. **Bryum undulatum**. Linn. China, Cochin. Sin: *sien* Lour. 840.

669. **Agaricus integer**. Linn. China, Cochin. Sin: *kiun* (菌). Lour. 848.

670. **Agaricus deliciosus**. Linn. China, Cochin. Sin: *hiam xuen* (香蕈). Lour. 849.

Dried Mushrooms of the above Chinese name are sold in Peking.

671. **Peziza auricula**. Linn. China, Cochin. Sin: *mo lh* (木耳). Lour. 855.

Sold in Peking.

672. **Clavaria muscoides**. Linn. China, Cochin. prope mare. Sin: *lu kio tsai* (鹿角菜). Lour. 856.

673. **Clavaria pistillaris**. Linn. China, Cochin. Sin: *mo eu tsai* (蘑菇菜). Lour. 855.

See above Cibot. 34.

674. *Pe fu lin* (白茯苓). Tubera ad radices Pinorum in provincia Su chuyen. Radix sinensis alba. Lour. 710.

Pachyma Cocos. Fries. See above Martini. 41.

675. **Mucor Mucedo**. Linn. China, Cochin. Sin: *mui*. Lour. 857.

676. **Lichen tartareus**. Linn. China, Cochin. Sin: *tan* (苔). Lour. 842.

677. **Lichen pulmonarius**. Linn. China, Cochin. Sin: *tien hoa* (天花). Lour. 842.

678. **Fucus Tendo**. Linn. In Oceano sinensi. Lour. 678.

679. **Fucus saccharinus**. Linn. Ad littora maris sinici. Lour. 847.

680. **Conferva corallina**. Linn. China, Cochin. Sin: *æ hoa* (石花). Lour. 848.

VII. GROSIER. BUC'HOZ.

In 1785 Abbé **GROSIER** published the first edition of his valuable **DESCRIPTION GENERALE DE LA CHINE** in one volume forming the 13th volume of Du Mailla's *Histoire Générale de la Chine*, edited also by the

learned Father Grosier, who was Bibliothécaire de Son Altesse Royale Monsieur, but had himself never visited China. A considerable part of his description of that Empire is devoted to Natural history, namely 108 pages to Botany. A new and much enlarged edition of the work he published from 1818 to 1820 in 7 volumes, nearly three of them treating of Natural history. Vol. II and III, 658 pages, deal with Botany. It supplies a mass of most valuable information with respect to Chinese plants, the vast material accumulated by the author having been principally derived from the accounts of the Jesuit missionaries found in the *Lettres édifiantes*, *Du Halde*, the *Mémoires conc. les Chinois* etc. But Grosier draws also from many unpublished sources. He endeavours to give a list of the Chinese plants which since then had been described by professed botanists. But besides Loureiro's plants from Southern China, of which he generally gives a full account, his enumeration of Chinese specimens known to botanists is far from being complete.

Although Grosier in reproducing all the observations of the missionaries concerning Chinese botany, seldom ventures to identify the plants described, his compilation is very useful and interesting, and I hope, that with the aid of the identifications and commentaries I have supplied in the preceding pages, almost all the statements of the Jesuits relating to Chinese plants will be understood by botanists.

We learn from Grosier that the Jesuit missionaries have introduced many Chinese plants into the *Mauritius* (Isle de France) and *Bourbon*, where they had also missions. Some of these plants were subsequently introduced from these islands into France. Thus *Eriobotrya japonica*. Lindl. had been brought from Canton to the Mauritius and from this place found its way to France, where in 1784 one specimen of the introduced shrubs blossomed. (Grosier II. 504.)—*Livistonia chinensis*. Mart. a Chinese palm was for a long time known in Europe under the name of *Latania burbonica*. Lam.—*Nephelium Litchi* was introduced at the end of the last cent. from China into the Mauritius and subsequently into Guyana. (Grosier II 478.)—In Lamarek's Enc. Bot. many Chinese plants are noticed as cultivated in the Mauritius. I may quote *Euphorbia longana* (*Nephelium longan*) Lam. III. 574, *Cookia punctata*. l. c. VIII. 327, *Driandra cordata* (*Elaeococca vernicia*). l. c. II. 329. *Anona uncinata*. (*Artabotrys odoratissimus*) l. c. II. 127, *Litsaea chinensis* (*Tetranthera laurifolia*). l. c. III. 574.

Dianthus chinensis. L. cultivated in Europe since the begin-

ning of the last century has probably also been introduced by the missionaries. Tournefort, who first described this plant in the Memoirs of the Acad. of Paris, 1705, p. 264, under the name of *Caryophyllus chinensis*, states that Abbé Bignon had received (seeds of) it from China about 3 years earlier.

It is merely for the sake of completeness in illustrating the botanical literature with respect to China, that I mention here two volumes of colored drawings of Chinese plants published by Buc'hoz, physician in ordinary to King Stanislas.

1. *Collection précieuse et enluminée des Fleurs qui se cultivent dans les jardins de la Chine*. Paris 1776, in folio, 100 plates.

2. *Herbier ou Collection des Plantes médicinales de la Chine*, d'après un manuscrit peint et unique qui se trouve dans la bibliothèque de l'Empereur de la Chine. 100 plates.

These drawings with the Chinese names of the respective plants added (not in Chinese characters.) have been copied from some Chinese collection of pictures sent by the missionaries and have no claim to any botanical value. The medicinal plants especially are very badly represented. The other volume with ornamental plants shows more correct drawings.

Buc'hoz was a very prolific botanical author. But his publications are not entitled to serious attention. Pritzel in his *The-saurus botanicus*, after having enumerated B.'s works states:

Catalogus noster partem solummodo parvam innumerabilium operum miserrimi compilatoris continet, in cujus ignominiam l'Héritier *Buchoziam foetidam* condidit et qui per semiseculum (1758—1807.) ultra 500 volumina consarcinavit.

The plant Pritzel alludes to is *Serissa foetida*. Comm. *Buchozia coprosmoides*. l'Hér. See above Loureiro's plants 278.

We have thus in the preceding pages endeavoured to give a general review of the early knowledge acquired by European naturalists into the flora of China, and have also successively enumerated all Chinese plants which have come under the notice of European botanists up to about the end of the last century. Although the materials for pursuing this line of investigation and for bringing the historical account up to the present day have been accumulated by the author, he must now take leave of the reader, not being in the position at present to work up a treatise which would probably occupy twice as many pages as the present essay.

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ERRATA AND ADDENDA.

- Page. 29 Line 13 *For* W. Hooker *read* W. J. Hooker.
- ” 34 ” 15-17 *For* as my friend etc., *read* as I learn from the Report of the Kew Gardens 1879, p. 37, *Persea Nan mu* Oliv.—sin: 楠木 *nan mu*.
- ” 35 ” 2 from below. *For* Ou long chu *read* Ou tong chu.
- ” 36 ” 10 *For* tsz' *read* ts'z'.
- ” ” ” 19 *For* call *read* called.
- ” 37 ” 4 & 3 from below. *For* both written in 1701 *read* written in 1700 and 1701.
- ” 38 ” 10 *For* 1701 (but perhaps in 1700) *read* 1700.
- ” 46 ” 2 from below. *For* Linneus *read* Linnaeus.
- ” 50 ” 16 *For* 柳楊 *read* 楊柳.
- ” ” ” 19 *For* Abictis *read* Abietis.
- ” 51 ” 11 from below. *For* Linneus *read* Linnaeus.
- ” 62 ” 12 *For* Lammarck *read* Lamarck.
- ” 64 ” 9 *For* Crodil. *read* Crocodil.
- ” ” ” 13 from below. *For* H. Asiae *read* Fl. Asiae.
- ” 66 ” 23 *For* fractu *read* fructu.
- ” ” ” 24 *For* A Kilcola *read* An Kilcola.
- ” 67 ” 12 *For* semine *read* semina.
- ” 68 ” 20 *For* includente *read* includens.
- ” 69 ” 21 *For* 48 *read* 42.
- ” ” ” 18 from below. *For* 440 *read* 450.
- ” 70 ” 9 ” ” *For* Sigesbeckia *read* Sigesbeckia, and add after L.: Gieseke.
- ” 73 ” 22 *For* fosciculos *read* fasciculos.
- ” 76 ” 11 from below. *For* Inall. *read* Inali.
- ” 78 ” 25 *Dele*: But it seems . . . to Chinensis. L.
- ” ” ” 18 from below. *For* cochillatum *read*: cochleatum.
- ” 81 ” 8 *Dele*: It seems . . . to wrong.
- ” 87 ” 2 *After* iabrusca *add*: (V. ficifolia Bge.).
- ” 92 ” 6 *For* hardly *read* certainly not.
- ” 97 ” 7 *For* 352 *read* 353.
- ” 98 ” 13 *For* This name *read* The name.
- ” 113 ” 12 from below. *For* 蘆筴 *read* Perhaps 蘆筴.
- ” 116 ” 5 *For* 543 *read* 453.
- ” 121 ” 8 *For* Shantung *read* Chili.
- ” 122 ” 9 from below. *Read* 16. It is generally etc.

- „ 125 „ 9 *After tinder add: V. 517.*
 „ „ „ 18 *from below. For Pergulatoria read Pergularia.*
 „ „ „ 19 „ „ *For hiang read hiang.*
 „ 144 „ 2 *After Lam. add: var. spinosa Bg.*
 „ 146 „ 8 & 9 *from below. For See above Martini. 26. read according to Dr. Hance=L. angulatus. Rich.*
 „ 150 *last Line. After Fl. hgk. 123.—add: Probably 常山 chang shan a famous Chin. febrifuge.*
 „ 151 *Line 14 from below. After Fl. hgk. add: 120.*
 „ 153 „ 20 *For Lav. read Sav.*
 „ „ „ 6 *from below. For Coccinea. Spec. dubia, read Spec. dubia Coccinea?*
 „ 156 „ 18 *For Bullock? read a Bullock.*
 „ 158 „ 1 *Dele: Ct. after Osb.*
 „ „ „ 16 *from below. For Dec. X. read Dec. XI.*
 „ 159 „ 19 „ „ *For 194 read 194 a.*
 „ 162 „ 3 „ „ *For Giesel. read Griseb.*
 „ 163 „ 14 „ „ *For Oso. read Osb.*
 „ 165 „ 9 „ „ *After: China add: chi ma.*
 „ 166 „ 18 *For 85 read 185.*
 „ 167 „ 16 *After Europa add: O. vulg. Bullock, Hupeh. Journ. Bot. 1880, p. 300.*
 „ 168 „ 21 *After Canton add: Amoy. Hance, Journ. Bot. 1880, p. 301.*
 „ 171 „ 14 & 18 *from below. For Wickstroemia read Wikstroemia.*
 „ 173 „ 3 *from below. For Morisam, read Mori, sam.*
 „ 177 „ 8 *For 357 read 355.*
 „ 178 „ 7 *from below. For Bernardia read Barnardia.*
 „ 179 „ 3 „ „ *For Floscopia read Floscopa.*
 „ 180 „ 26 *For Calladium read Caladium.*
 „ 182 „ 23 *After Fl. hgk. add: 430.*
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