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THE

BOTANICAL EXCHANGE CLUB AND SOCIETY OF THE BRITISH ISLES.

BALANCE SHEET; SECRETARY'S REPORT FOR 1913.

REPORT FOR 1913

BY THE

SECRETARY,

G. CLARIDGE DRUCE.

(VOL. III. PART V.)

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BY GEORGE CLARIDGE DRUCE

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OVER a quarter of a century has passed since the last Flora of the County was issued, and as that edition has long ago been out of print, and the additions to the knowledge of the constituents of the Flora have become so numerous, it is felt desirable to bring the County Botany up to date.

The book has been entirely re-written for the new edition, and it is intended to make it not only a Catalogue of the County Species, with their localities, but also a history of them, and of the Botanists connected with the University and County. The Botanical authorities from 1500 downwards, and the National as well as the University and Private Herbaria have been investigated. The *Flora* will also contain sketches of the Geology, River drainage, and General Topography, and will include a list of Mosses, Fungi, Lichens, &c. Localities from the contiguous area of Berkshire will also be given.

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PRESS NOTES.

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THE DILLENIAN HERBARIA: an account of the Dillenian Collection in the Herbaria of the University of Oxford, by G. Claridge Druce and S. H. Vines, F.R.S., Sherardian Professor. Clarendon Press. Pp. cxii, 258. 1897. 12*s.* 6*d.*

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THE BOTANICAL EXCHANGE CLUB AND SOCIETY OF THE BRITISH ISLES.

THE REPORT OF THE TREASURER & SECRETARY,

G. CLARIDGE DRUCE, YARDLEY LODGE, OXFORD,

FOR 1913.

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Members having spare copies which they do not want are asked to return them. Early copies of the Thirsk Botanical Exchange Club are specially desired, as also copies of the 1912 Report.

PLANT NOTES FOR 1913, ETC.

81. PAPAVER DUBIUM × LECOQII. Cadney, Lincoln, June 1913. The stigmatic rays are 8 in number, all the *dubium* capsules growing with it had from 5-7, the sap was light yellow, taking a little time to colour. Rev. E. A. Woodruffe-Peacock, in *lit.* and vide spec.

124. RADICULA SYLVESTRIS Druce, var. TENUIFOLIA (Tausch as a var. of *Nasturtium sylvestre*). Framingham Pigot, Norfolk E., July 1911, F. LONG, named by Mr A. Bennett. See *Wats. B.E.C. Rep.* 331 (1911-12) 1913. Mr Bennett gives the reference to Tausch in Opiz "Sesnam rostlin Kvetez Ceske," Prag, 1852, which I have not seen.

151 (1*). ALYSSUM SAXATILE L. Alien, Europe. On walls of Manor House, near Chimney, Oxon, 1912, G. C. DRUCE; old walls, Nunney, Somerset, G. B. MILNE REDHEAD, vide spec. Det. A. THELLUNG.

196 (2). ERYSIMUM SUFFRUTICOSUM Sprengel. Alien, patria ignota. Fields near Finstock, Oxon, 1913, A. H. EVANS, vide spec.

212 *b*. BRASSICA ELONGATA Ehrh., var. PERSICA (Boiss. & Hohen.) as a species. Barrow-in-Furness, Lanc. N., 69 b., W. H. PEARSALL, vide spec. Det. A. THELLUNG as *B. elongata*, sub-species *persica* (Boiss. & Hohen.) Thellung.

227 (2). DIPLOTAXIS VIMINEA DC. Alien, Europe. St. Peter's Port, Guernsey, Rev. W. W. Newbould in Syme *E.B.* i., 142 t. 95. Best treated as a sub-species *D. viminea* (DC) of *D. muralis* DC. Syme made it a sub-species of *Brassica brevipes*. *Viminea* differs from *D. muralis* in its leafless stem, all the leaves being radical, by the pedicels being shorter than the fully expanded flowers, by the shorter petals not twice the length of the sepals, which are insensibly attenuated into the claw. In *muralis* they are abruptly contracted into a narrow claw, and the style is not narrowed towards the base.

247 (10). LEPIDIUM PSEUDO-DIDYMUM Thellung, spec. nov. e grege Americano *Bipinnatifidorum*. (Thell. Gatt. Lepid. [1906] p. 193).

Annuum (?), fœtidum (odore *L. ruderale L. referens*). *Radix* tenuis, sed ramosa et multifibrosa. *Caules* complures, ascendentes, ad 20 cm. longi, cylindrici, pilis satis longis patentibus vel partim subreflexis hirsutuli, foliati, sparse ramosi ramis patentibus, elongatis et racemum terminalem longitudine subaequantibus; racemi in caule et ramis terminales, in eorum directione siti, sed ramis axillaribus longitudine adaequati. *Folia* basilaria ca. 4 cm. longa et 1 cm. lata, longe petiolata petiolo insertione vix dilatato, bipinnatipartita lobis et rhachi angustis, sublinearibus, imprimis ad rhachim pilis longiusculis subsetiformibus pubescenti-hirsutula; caulina media et superiora $1\frac{1}{2}$—2 cm. longa, plerumque simpliciter pinnatipartita lobis remotis linearibus plerumque integerrimis, rarius bipartitis, rhachi lineari ($\pm$ 1 mm. lata) basi aequelata nec auriculata. *Flores*: sepala $\frac{3}{4}$—1 mm. longa, anguste ovato-lanceolata, angustissime albo-marginata, subpersistentia; petala setacea, calycis longitudinis ca. $\frac{2}{3}$ aequantia, alba; stamina 2 mediana, glandulae 4 breves, triangulari-ovatae, calycis longitudinis $\frac{1}{6}$—$\frac{1}{8}$ adaequantes. *Racemi* plurimi in ramis terminales (primus tamen basilaris e radice enatus); fructiferi elongati, satis laxi, flexuosi, axi striato, aeque ac caulis hirsutulo-pubescente, pedicellis arcuato-subdeflexis, tenuibus, subteretibus, siliculae subaequilongis, sparse pubescentibus. *Silicula* late ovato-suborbiculata, $2\frac{1}{4}$—$2\frac{1}{2}$ mm. longa et lata, basi late rotundata, apice anguloso-acutiuscula propter lobulos alares satis acutos, convergentes, utrinque subconvexa, medio secus replum subconstricta et inde leviter didyma, anguste et distincte (ad $\frac{1}{5}$—$\frac{1}{6}$ longitudinis septi) emarginata, emarginaturae marginibus angulum acutissimum formantibus; stylus subnullus, stigma in fundo emarginaturae subsessile; valvulae carinatae, parte tertia superiore distincte alatae, reticulato-nervosae; septum sublineare (apicem versus vix dilatatum), stigmate sessili apiculatum. *Semina* fere semicircularia, compressa, fere laevia, immarginata (marginibus obtusis), flavo-brunnea, fere 1 mm. longa, fere $1\frac{1}{2}$ mm. lata, embryo notorrhizus, radicula apice versus marginem medianum seminis curvata, cotyledonibus leviter introrsum curvato-subplicatis.

Species valde similis speciebus nonnullis gregis *Bipinnatifidorum*, sed valde distincta silicula subdidyma septo fere lineari, valvulis distincte reticulatis et seminibus immarginatis. Habitu, indumento,

LEPIDIUM PSEUDO-DIDYMUM THELLUNG. TWEEDSIDE, SELKIRK, SEPT. 1913. COLL., MISS I. M. HAYWARD.

Presented by Miss Hayward.

forma foliorum, circumferentia siliculae et calyce persistente persimile *L. pubescenti* Desv. (Am. bor. occ. et austr. occ.), a quo tamen praeter characteres indicatos dignoscitur glandulis brevissimis nec calycis $\frac{1}{3}$ longitudine adaequantibus. *L calycinum* Godr. (Am. austr. or.), quodammodo simile et affine glandulis brevibus, distinguitur indumento breviore, foliis caulinis basi dilatatis et (normaliter) ± auriculatis, silicula elliptica vel obovata apice obtusa, superne subconcava. Silicula subdidyma reticulata, septo angustissimo et structura embryonis accedit ad genus "*Coronopus*," praesertim ad *C. didymum* (L.) Sm. (=*Lepidium didymum* L.), differt tamen seminibus maturis sponte e valvulis cadentibus, testa sub aqua mucilaginosa et funiculo distincto. An species formae ancestrali communi generum "*Lepidium*" et "*Coronopus*" proxima?

Patria exacta ignota; species tamen certe ex America australi oriunda, semel in Europam introducta cum lanis exoticis.

Scotia: Tweedside, Galashiels, Selkirk, 1913, leg. Miss Ida M. Hayward. A. Thellung.

247 (11). Lepidium fasciculatum Thellung. Alien, Australia. Galashiels, Selkirk, 1913, Miss Ida M. Hayward. Det. A. Thellung.

247 (12). Lepidium sagittalatum Thellung. Alien, Australia. Galashiels, Selkirk, 1913, Miss Ida M. Hayward. Det. A. Thellung.

247 (13). Lepidium hyssopifolium Desv. em. DC. Alien, Australia. Galashiels, Selkirk, 1913, Miss Ida M. Hayward. Det. A. Thellung.

247 (14). Lepidium Aucheri Boiss. in Ann. Sc. Nat., ser. ii., xvii., 195, 1842. Alien, Oriens. Galashiels, Selkirk, 1913, Miss Ida M. Hayward. Det. A. Thellung.

247 (15). Lepidium africanum Burm. f., var. capense Thunb. Alien, Africa, Australia. Galashiels, Selkirk, 1913, Miss Ida M. Hayward. Det. A. Thellung.

290. Helianthemum canum × Chamaecistus = H. Bickhami, E. S. Marshall in Journ. Bot. 182, 1913, as a hybrid of *H. Chamaecistus* × *marifolium*. Llandudno, Carnarvon. Thellung in *Bull. Herb. Boiss.* 496, 1907, gave reasons for preferring as more correct the name *H. canum* Baumg., rather than that of *marifolium*

Mill., for the small flowered species. See also Janchen in *Abh. d. k. k. Zool.-Bot. Ges. Wien.* (1907) 6, Dunal in DC. *Prod.* i., 277, 1824.

373. CERASTIUM SEMIDECANDRUM L., var. CONGESTUM Gren. Mon. Cerast. 29, 1841. Pedunculis brevissimis, floribusque abbreviatis, congesto-umbellatis, numerosis, densis, calicibus globosis, capsulaque calicem vix excedente. Abundant on the sandhills, St. Aubin's Bay, Jersey, 1910. C. E. SALMON in *Journ. Bot.* 17, 1913.

374. CERASTIUM TETRANDRUM Curt., var. DUNENSE C. E. Salmon in Journ. Bot. 17, 1913. Planta prostrata, glandulosissima, rami et folia crasso-carnosi, calyx et capsula grandiores et latiores quam in typo, capsula tertia parte usque ad dimidium sepalis longior et perspicue curvata. St. Aubin's, H. Trimen, 1871 in *Hb. Br. Mus.*; Quenvais, Jersey; Vazon Bay Shore, Guernsey. A robust, prostrate, very glandular plant, its leaves large and fleshy, often purple coloured. Exsicc. F. Schultz *Herb. Norm.* Cent. 7, n. 620. Dep. Manche, Gallia. C. E. SALMON, *l.c.*

408. SAGINA PROCUMBENS L., var. PENTAMERA (Rouy & Fouc. Fl. Fr. iii., 286, 1896, as a race). When in Skye in 1908 I noticed about Sligachan specimens of what was apparently pentamerous *Sagina procumbens*, which Syme in *E. B.*, ii., 121, alludes to as occasionally occurring. Recently it struck me that, having no specimens to compare, they might be a form of *scotica* growing at low levels. Mr A. H. Pawson, of Oxfordshire, who was this year at Skibost, kindly collected several specimens of the same form, which clearly proved that they belonged to *procumbens* and had nothing to do with *scotica* which appears to be a distinct species. It seeds abundantly, and in its growth, foliage, and long peduncles, offers strong differentiating characters other than those derived from the inflorescence. Professor Graebner has independently come to the same opinion, which is shared by the Rev. E. S. Marshall who recently has had good opportunities of seeing it in its native habitats. In this pentamerous *Sagina procumbens* the sepals, the very small (sometimes absent) petals and 5-valved capsule are points, which, as Syme says, might cause confusion, therefore it may be well to define it as a var. or sub-var. *pentamera*. Sepalis 5, petalis 5, et capsula quinque valvas habente. Occasionally on the same plant a tetramerous flower occurs. Skibost, 1913, A. H. Pawson; Sligachan, Skye, 1908; Mallaig, Westerness; Strath Carron, W. Ross. G. C. DRUCE.

435 (2). HYPERICUM DESETANGSII Lamotte Bull. Soc. Fr. xxi., 121, 1874. Mr C. E. Salmon (*Journ. Bot.* 317, t. 528, 1913), records the above plant from Lewes, Sussex. He distinguishes it :—

from *H. perforatum* by its 4-angled stem, shape of leaves, less narrow sepals ;

from *H. quadrangulum* by its translucently dotted leaves with veins less anastomosing and narrower sepals ;

from *H. acutum* by its size [larger] flowers, shape of leaves [large oval-elliptic, or elliptic-oblong, rounded at apex, narrowed at base, sessile, dotted, and with transparent secondary veins which are but little branched].

According to Mr Salmon it is the *H. intermedium* Bellynck, *Fl. Namur* 31, 1855, which was described as "Tiges de 3-9 déc., fermes, dressées, rameuses, à 4-angles peu saillants et non ailés. Feuilles ovales-oblongues, toutes parsemées de gros points noirs et de points transparents très nombreux ; à nervures non réticulées. Sépales lancéolés-acuminés. Pétales striés de noir, dépassant longuement le calice. Fleurs assez grandes, d'un jaune doré, en panicules terminales." It was first found near Lewes, Sussex, by the late Mr T. Hilton. Dr A. Thellung in *Allgemeine Botanische Zeitschrift* 5, vii., 1912, has a paper on this plant from which Mr E. D. Marquand has kindly transcribed the following :—

On a misunderstood *Hypericum* of the Flora of South Germany. *(H. Desetangsii* Lamotte.*)*

This form of *Hypericum* stands in close relationship to *H. perforatum* L. *H. maculatum* Crantz (*H. quadrangulum* auct.) and *H. acutum* Moench (*tetrapterum* Fr.) from which species it has not hitherto been separated in South Germany, and between which, as regards morphological characters, it occupies in a certain sense an intermediate position, as the following summary in the shape of a dichotomous key will make clear.

1. Internodes of the stem always with 2 longitudinal ridges. Valves of the fruit with 1—3 (—5) longitudinal resinous ridges, and numerous elongated club-shaped obliquely-placed resinous pustules arranged in rows. Sepals always acute, mostly narrow.—*H. perforatum* L.

1.* Internodes of stem with 4 longitudinal ridges (of which 2 are often feebly developed). Fruit valves with numerous longi-

tudinal resinous ridges, without resinous pustules (query in all forms of *H. Desetangsii*?)

2. Angles of the stem not or scarcely winged. Leaves elliptic, more or less narrowed towards the base, sessile, with comparatively large pellucid glandular dots, or also without any such. Petals golden yellow, considerably longer than the calyx (mostly 2—3 times as long).

3. Sepals broadly or narrowly ovate-lanceolate, acute or tapering. Occasional forms of *Desetangsii* with obtuse sepals are distinguished from *maculatum* by the more feebly developed secondary ridges of the stem, the less sharply pellucid net-nervation of the leaves, the larger flowers, and also by the later time of flowering: thus at the end of August 1911 at Freiburg *maculatum* was completely over whilst *Desetangsii* and *perforatum* were still in flower. Flowers mostly as large as in *H. perforatum*. Petals about 12—15 mm. long.—*H. Desetangsii* Lamotte.

3.* Sepals ovate or elliptic, roundly obtuse, or somewhat toothed, and then almost acute. Flowers smaller: petals (with us) mostly not above 10 mm. long, with black glandular dots. Leaves with strong pellucid thick net-nervation.—*H. maculatum* Cr. (*H. quadrangulum* auct.)

2.* Angles of stem (in normally developed specimens) distinctly winged. Leaves with the broadened base semi-amplexicaul, always dotted, with very numerous delicate pellucid glandular dots. Sepals lanceolate, acute: petals bright yellow, not black-dotted, a little longer than the calyx (scarcely up to twice as long), mostly about 8 mm. long.—*H. acutum* Moench (*H. tetrapterum* Fr.)

On account of its morphologically intermediate position the *Hypericum* we are now dealing with has received from various botanical authors a totally different value and explanation.

Hypericum Desetangsii was consequently regarded (so far as it was not confounded with *H. quadrangulum*, i.e., *maculatum*, as was universally the case with the older authors) sometimes as a true species (Bellynck, Callay, Grenier, Lamotte, Bonnet, Focke, Burnat, Coste, Schinz) standing either between *perforatum* and *maculatum* (Lamotte, Schinz), or between *maculatum* and *acutum* (Bonnet, Focke, Burnat, Coste) sometimes as a variety or sub-species of *perforatum*, of *acutum*, or of *maculatum* (*quadrangulum*)—finally, as a hybrid, *maculatum* × *perforatum*,* or *acutum* × *perforatum*, or else *acutum* × *maculatum*.

[* As a hybrid of *perforatum* and *quadrangulum* the *commutatum* Nolte was held to be. Also Rouy and Foucaud interpret *H. commutatum* as a hybrid, but they neglect to name the parent species. This plant is distinguished from our *Desetangsii* by the blunt calyx tip (*H. mixtum* also by having only two ridges on the stem). From the description and figure of Reichenbach it appears to belong to one of the closely related forms of *maculatum* . . .]

Not much probability supports the opinion of those authors who would bring *Desetangsii* (either as variety, hybrid, or intermediate form) into relation with *acutum*, for of the distinguishing characters of this last species (form and delicate dotting of the leaves, small pale flowers) there is in *Desetangsii* no trace to be discovered. Against its intermediate position between *acutum* and *maculatum* is further opposed the size of the flowers, as well as the circumstance that as a matter of fact a hybrid is known, *acutum* × *maculatum*, which is clearly different from *Desetangsii*, and against one between *acutum* and *perforatum* is the form of the calyx tip, which is broader than in both the named species (in favour of *acutum* × *perforatum* the circumstance may well carry weight that *Desetangsii*, at least in France and in Switzerland, occurs almost without exception together with these species). There is consequently, if one will not from the beginning allow to *Desetangsii* a systematic independent rank, chiefly the consideration of the intermediate position between *maculatum* and *perforatum*, and indeed in the newest monograph of the group A. Frölich regards *Desetangsii* as a direct hybrid of these two species. Now, if no serious impediment stands in the way of this view, the occurrence of *Desetangsii* demands consideration with respect to its hybrid nature. Our plant inhabits by preference in Switzerland and in France the plains and the lower mountain regions, whilst the centre of distribution of *H. maculatum* lies in the subalpine and alpine region, so that *Desetangsii* and *maculatum* in their distribution for the most part exclude each other. [*H. maculatum* prefers moors, open woods, and alpine pastures, and also relatively dry places, whereas *Desetangsii* on the contrary loves marshy meadows.] On the other hand the most recent investigations of A. Frölich, who, in the neighbourhood of Graz, met with *Desetangsii* abundantly in company with *maculatum* and *perforatum*, and was often able to trace a perfectly graduated row of forms from one species to the other, have shown that *Desetangsii* may under the circumstances be a hybrid.

Moreover, the opinion of Tourlet, who makes *Desetangsii* a sub-species of *maculatum*, does not lack a certain value, that our plant is often very difficult to be marked off from the sub-species *obtusiusculum* (Tourlet) of *maculatum*, and also in its vertical distribution is very closely allied to the last-mentioned form. In the face of these contradictory observations, it appears to me, with Bonnet, Coste, Schinz, and others, to be the most advisable proceeding (contrary to Frölich) to give *H. Desetangsii* a binomial rank. Its "hybridogenous" nature will not thereby be in anywise denied. *Desetangsii* stands in this connection like × *Circæa intermedia* Ehrh. or × *Mentha verticillata*, L. and × *M. villosa*, Huds. (*M. nemorosa*, Willd.), which likewise (thanks chiefly to an abundant vegetative increase through the formation of offshoots) occur abundantly without their parent species or with only one of them, and sometimes surpass the area of distribution of one species.

Hypericum Desetangsii Lamotte has been identified in Spain ! France ! Belgium, England !* Germany ! Switzerland ! Austria ! and Italy, and is certainly spread over the greater part of Europe.

* Spontaneously in the garden of the Rev. G. B. Hooper at Camborne, Cornwall, Dr Schinz, and first as British.

There is also a valuable note on this plant by Dr Anton von Frölich of Graz in the *Oester. Bot. Zeit.* 13, 1913.

463. TILIA PLATYPHYLLOS Scop., var. CORALLINA Aiton Hort. Kew. ii., 229, 1789. Differs from the type in its bright red branches. First found in Britain by Bobart in Stokenchurch Woods. Ray's *Syn.* 1690. Not recently observed. Bicheno saw one tree there in 1824.

464. T. EUROPÆA L. ? *T. cordata* × *platyphyllos*. var. PALLIDA Wierzbicki in Reichb. Icon. Fl. Germ. vi., 58, t. 315, 1844, as a species. Leaves not much larger than *cordata*, as broad as or broader than long, yellowish or bluish green beneath. Readily distinguished from *cordata* by its prominent tertiary venation; flowers and fruit as in type, Elwes & Henry *British Trees*.

Elwes and Henry *(British Trees*, 1665, 1913*)* give the following useful clavis to the three Limes :—

463. *T. platyphyllos*. Branchlets and leaves very pubescent with long hairs. Buds with three external scales. Cymes *pendulous*, usually three-flowered. Fruit with prominent ribs; shell woody and hard.

465. *T. cordata (T. ulmifolia).* Branchlets glabrous, or nearly so. Leaves small, glabrous except for axil-tufts, bluish beneath with irregular and not prominent tertiary venation. Buds with two external scales. Cymes *erect*, five to seven-flowered. Fruit faintly ridged; shell thin and fragile.

464. *T. europaea (T. vulgaris).* Branchlets quite glabrous. Leaves larger than those of *T. cordata*; under surface pale green, glabrous except for axil-tufts, and a few hairs on the nerves, with parallel straight and prominent tertiary venation as in *platyphyllos*. Buds with three external scales. Cymes *pendulous*, five to ten-flowered. Fruit faintly ribbed; shell woody and hard.

491. ERODIUM MALACHOIDES Willd., var. RIBIFOLIUM DC. Alien, Europe. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

493 (2). ERODIUM CHIUM Willdenow, Phyt. 10. Alien, Eur. mer. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD. Det. A. THELLUNG.

Gen. 129 (2). NEGUNDO Moench Meth. 334, 1794.

524 (4). N. ACEROIDES Moench, = *Acer Negundo* L. Alien, N. America. A tree 20 feet high occurs in a hedge away from houses near Tenbury, 1913. Mrs I. ADAMS, F.L.S., vide spec.

579 *e*. MEDICAGO HISPIDA Gaertn., var. CONFINIS (Koch) Burnat. Ipswich, Suffolk, July 1913, G. C. DRUCE.

644 (2). LOTUS SILIQUOSUS L. = *Tetragonolobus siliquosus* Roth. Alien. Europe. Forest Farm, 7 miles west of Winchester, 1875, Warner, in *Fl. Hampshire*, 115. Still occurs near Winchester, P. HALL, in *lit.* Well established at Streatley, Berks, for the last two years, V. C. MURRAY, in *lit.*

655 (2). ASTRAGALUS CICER L. Alien, Europe. Culzean, Ayrshire, 1913. A. WEBSTER, vide spec. A handsome species allied to but extremely different from *A. danicus*, having large yellow flowers and pods, clothed with long black hairs.

697. VICIA SATIVA L., sub-species OBOVATA (Seringe) Gaudin in Fl. Helv. iv., 510, 1829, = *notata* (Gilib.) Asch. & Graebn. "Foliolis villosis obovato-cuneatis, obcordatis vel late retusis

cuspidatis."—Gaudin. This is a common straggler from cultivation, as at Piddington, Northants, 1874; Twyford, Berks, 1890; Beckley, Oxon, etc. V. SATIVA L., var. CORDIFOLIA Beck. Tubney, Berks, 1913. Dr Thellung has thus named the specimens. G. C. DRUCE.

878 (3). RUBUS NUTKANUS Moçino ex Ser. in DC. Prod. ii., 566. Alien, N.W. Amer. Abundantly and completely naturalised in Forfarshire, 1913, R. and M. CORSTORPHINE, vide spec. This handsome species, which is figured in the *Bot. Mag.* vol. 62. t. 3453, 1835, is named from the Nutka Sound in lat. 52, where it was gathered by Moçino.

878 (4). RUBUS PHAENICOLASIUS Maxim. in Bull. Acad. Imp. St. Petersb. viii., 393. Alien, Asia-Japan. In a hedge at Little Dunmow, Essex, 1907, Rev. ANDREW CLARK, vide spec. It is figured in *Bot. Mag.* vol. 106, t. 6479, 1880.

888-908. NOTES ON THE GENUS POTENTILLA L.

In the *Bibliotheca Botanica* (Stuttgart) xvi., 1908 appeared an elaborate and very useful *Monograph* of the Genus *Potentilla* by my valued correspondent and friend, Dr Theodor Wolf, in which he has described 305 species. The Genus *Sibbaldia* L. is kept distinct and not merged into *Potentilla* as is done by Bentham and Hooker in the *Genera Plantarum*. The plants which have been reported for Britain as native or as introduced species are arranged in the *Monograph* as follows :—

Grex. 1. Fruticosae.
P. fruticosa L.

Grex. 5. Palustres.
P. palustris Scop.
var. villosa (Lehm.)

Grex. 6. Tridentatae.
*P. tridentata Sol. in Ait.

Grex. 13. Fragariastra.
*P. alba L.
P. sterilis Garke.

Grex. 14. Rupestres.
P. rupestris L.

Grex. 19. Argenteae.
P. argentea L.
var. decumbens (Jord.) Focke.
var. tenuiloba (Jord.) Schwarz.
var. dissecta Wallr.

Grex. 21. Rectae.
*P. recta L.
var. sulphurea Lam. & DC.
var. obscura (Willd.) Koch.
*P. hirta L.
var. pedata (Willd.) Koch.

Grex. 22. Rivales.
*P. supina L.
*P. norvegica L.
*P. intermedia L.
var. canescens Ruprecht.
Grex. 25. Chrysantheae.
*P. thuringiaca Bernh.,
var. Nestleriana Schinz & Keller.
Grex. 28. Aureae.
P. alpestris Hall. f.
(P. Crantzii Beck.)
P. verna L.
Grex. 30. Tormentillae.
P. Tormentilla Neck.
(P. erecta Hampe)
var. strictissima Focke.
var. sciaphila T. Wolf.
P. procumbens Sibth.
P. procumbens × Tormentilla
= P. suberecta Zimm.
P. reptans L.
var. microphylla Tratt.
var. mollis Borbas Fl. Buda Pest, 162, 1879
P. reptans × Tormentilla
= P. italica Lehm.
P. procumbens × reptans
= P. mixta Nolte.

Grex. 31. Anserinae.
P. Anserina L.
var. sericea Hayne.
var. nuda Gaud.

It will be observed that with the exception of *P. alpestris* and *P. Tormentilla* the nomenclature agrees with that in my *List*. With regard to the former Dr Wolf queries the identity of *Fragaria Crantzii* Inst. ii., 178, on which Beck based his combination of *Potentilla Crantzii*; it is true in *Index Kewensis* it is referred to *P. verna*, but the description "petalis maculatis" can scarcely refer to any other *Potentilla* than this species.

With regard to the name *P. Tormentilla* used by Dr Wolf the Vienna Actes require the use of the earliest trivial, and that is secured in the combination *P. erecta* Hampe, which is based on *Tormentilla erecta* L. Dr Wolf, it will be observed, gives the authority for *P. Anserina* var. *nuda* as Gaudin Fl. Helv. of 1828, but S. F. Gray in the *Natural Arrangement* ii., 580, 1821, has the same name for a variety briefly diagnosed as "leaves not silky." Gray too is the earlier authority for *P. palustre* (sic) var. *villosa* (*l.c.*, p. 581), which is based on Plukenet's Irish plant (see Ray's *Syn.* 256, 1724).

In the foregoing enumeration of species I have added an asterisk to those species which are alien to our flora These species given in my *List* may now be safely deleted, i.e.,—(1) *P. heptaphylla* Mill. which so far as the British plant is concerned is identified as *P.*

thuringiaca by Dr Wolf. (2) *P. aurea* L., for the occurrence of which (see Gray *Nat. Arr.* ii., 582) there seems no satisfactory evidence. (3) *P. collina* Wibel (see Dunn *Alien Flora* 71), which is almost certainly wrongly identified; indeed it is not a species but rather a group of plants which is only quoted in synonymy by Wolf. *P. inclinata* Vill. (Dunn. *l.c.*, p. 72) appears to be identical with the var. *canescens* Ruprecht (not of Besser), and Dr Wolf has so identified my Berkshire plant. *P. alba* L., and *P. tridentata* Aiton, the latter one of Don's plants, can scarcely be included as numbered species until confirmatory evidence of their occurrence in Britain has been obtained.

POTENTILLA ARGENTEA L. After nearly a century I found this species in Sibthorp's locality on Henley Park Hill, Oxfordshire. It has recently re-appeared in considerable quantity near Besilsleigh, Berks, where for a long time unsuccessful search had been made.

var. DECUMBENS (Jord.). Near Croydon, Surrey, 1863, *A. Bennett.*

var. TENUILOBA (Jord.). Woolwich Arsenal, Kent, 1894, *E. S. Marshall.*

forma ANGUSTISECTA Wolf. Newhaven, Sussex, 1909, *Druce.*

P. RECTA L., var. SULPHUREA Lam. & DC. Labelled *pyrenaica.* Site of old garden, Tunbridge Wells, 1906, *Dr Gilbert,* "is probably this." Waste ground, Oxford, 1890, *Druce.*

var. OBSCURA (Willd.) Koch. Edenbridge, Kent, as *P. hirta, Rev. D. Smith*; Pyrford, Surrey, 1911, *Lady Davy*; waste ground, Iffley Road, Oxford, 1890, *Druce.*

P. HIRTA L., var. PEDATA Koch. Llanfairfechan, *Druce.*

P. NORVEGICA L. Woolwich Arsenal, Kent, 1892, *Wolley Dod*; Aldershot, N. Hants, 1911, *F. Gibson*; Carshalton, *C. E. Palmer*; Pyrford, *Druce*; Thorp Lee, 1897, *F. Shepherd*; Richmond, Surrey, *Loydell*; Hanwell, Middlesex, *Loydell*; Blackwater, Berks, 1892, *Druce*; Woodwalton, Hunts, *Druce*; Arnley, Leeds, 1877, *W. West.*

P. INTERMEDIA L. Waste ground, Finchley, sent by Dr Drabble as *norvegica* to the *Bot. Exch. Club* in 1909, and there correctly named by Mr J. W. White and Dr Bucknall, *P. intermedia.* As *P. norvegica,* Newhaven Station, Sussex, 1906, *T. Hilton,* where I also gathered it in 1909; Forfar, 1910, *R. and M. Corstorphine*; and the *P. opaca* of George Don localised "Rocks, West of Clova," Lady Aylesford's collection. The specimens of Don's have "petalis paulo

majoribus quam in typo." As *P. recta* from Ealing, Middlesex, 1905, *A. Loydell*; Iffley Road, Oxford, 1906 and 1907, *Druce*.

var. CANESCENS Ruprecht. Sent to the *Bot. Exch. Club* as *P. norvegica* by Major Wolley Dod in 1893 from the Woolwich Arsenal. Mr Beeby thought it to be *inclinata*. Railway, Didcot, Berks, 1896, *Druce*; Roadside near Twyford, Berks, *Druce*; Chasey Wood, Oxfordshire, 1885, *W. Holland*, as *argentea*.

P. THURINGIACA Bern., var. NESTLERIANA (Tratt.) Schinz & Keller. Railway Bank near Forfar, 1910, *R. and M. Corstorphine*. To this also probably belongs Mr Cosmo Melvill's specimen of *P. opaca* which was sent to the *Exchange Club* in 1903 from Kersal & Prestwich, Lancashire, but the specimens are scarcely complete enough for precise determination.

P. CRANTZII Beck (*P. alpestris* Hall f.). Grassington, Yorks, 1906; and as "forma foliis brevidentatis an forsan *P. Crantzii* × *verna*." Teesdale, Durham, 1896; Ben Lawers, Lochan Larige, Stuich an Lochan, Mid Perth; Little Craigindal, S. Aberdeen, 1890; all collected by myself.

P. VERNA L. Bromsgrove, Worcester, *George Don ex Countess of Aylesford*, "typical"; Gogmagog, Cambridge, 1895, *W. West*, 1910, *C. E. Moss*; St. Vincent's Rocks, 1880, *B. King*; Durdham Downs, Gloster, 1879, *Druce*; Mewsland Bay, Glamorgan, *H. J. Riddelsdell*; Eastnor Park, 1850, *T. Westcombe*; Mordiford, Hereford, 1841, *R. M. Lingwood*; Beresford Dale, Derby, 1885, *Purchas*; Orme's Head, Carnarvon, 1880, *B. King*; Ledsham, York, 1896, *W. Falconer*; Grassington, Yorks, *J. Cryer*; Edinburgh, 1877, *A. Craig Christie*.

P. ERECTA Hampe = *P. Tormentilla* Sibth. A plant sent as *P. silvestris* Neck., var. *sciaphila*. Wheal, Clifford Downs, W. Cornwall, 1905, *F. H. Davey* and *C. C. Vigurs*, is said "ad var. *sciaphilam* (Zimm.) vergens." See *Bot. Exch. Club Rep.* 167, 1905. The *P. erecta* × *procumbens* = *P. suberecta* Zimm. [Ref. No. 3188] from between E. Anstey and Brushford, S. Somerset, 1907, *E. S. Marshall*, Dr Wolf says is "var typica. Forma inflorentia et parvitate florum ad var. *dacicam* Borb. accedens. Nihil indicat influxum *Pot. procumbentibus*." Another specimen from Stonebridge Park, Middlesex, *Druce*, and Addington, Surrey, *A. Bennett*, is also said "ad var. *dacicam* accedens."

var. SCIAPHILA (Zimmeter) as *P. reptans*. Rabley Heath, Herts, 1810, *Blake*, in *Hb. Druce*; Addington, Surrey, 1880, *A. Bennett*; Southwick, Kirkcudbright, *F. R. Coles*.

P. ERECTA × PROCUMBENS = P. SUBERECTA Zimm. Edgington Moor, N. Somerset, 1912, *J. White*, "floribus parvis ad *P. Tormentillam* vergens." Hordle, Hants, 1912, *J. Cosmo Melvill*, "*superprocumbens* × *Tormentilla*." Bournemouth, S. Hants, 1906, *Miss Palmer*. Dunsfold, Surrey [Ref. No. 1385], *E. S. Marshall*, "floribus parvis ad *Tormentillam* accedens." Cranbrook, Kent, *E. S. Marshall*. Brailsford, S. Derby, 1890, *W. R. Linton*, "ad *P. Tormentillam* accedens." Bethan, Cardigan, *E. S. Marshall*. Edge Green, Cheshire, 1894, *A. H. Wolley Dod*. Llanwrtyd Wells, Brecon, 1900, *W. H. Painter*, as *P. procumbens* is *P. procumbens* × *super-Tormentilla*. This was a mixed gathering. The Verwood *Potentilla reptans* × *Tormentilla* (See *Bot. Exch. Club Rep.* 1893), sent by R. P. Murray from Dorsetshire, Dr. Wolf considers to be a form of *procumbens* or possibly *procumbens* × *Tormentilla*. Isle of Walney, *F. A. Lees*. Kilbride, Ayr, 1896, *A. Somerville* in *Hb. Bennett*. Lough Mask, Co. Mayo, *E. S. Marshall* in *Hb. Bennett*. Clonbar, Galway, *E. S. Marshall*, *super-Tormentilla* × *procumbens*.

var. STRICTISSIMA (Zimm. Eur. Art. Pot. 5, 1884, as a species). Folia blanda vel firma et crassiuscula (nec tamen coriacea) sicut caules et petioli parce vel modice pilosa, supra saepe glabrescentia, subtus ad nervos quandoque densius pilosa. Specimen from Llanyrtyd Wells, Brecon, *G. C. Druce*, may probably be referred to this.

P. PROCUMBENS Sibth. Greenwith, Perranarworthal, Cornwall, 1912, *F. H. Davey*, sent as "*erecta* × *reptans* or *procumbens*." Dr Wolf remarks "Forma foliolis crebrius incisis, quae etiam in Germania haud raro occurrit." It is a very elegant form. Mollond, N. Devon, 1896, *Druce*; Cobham, Kent, 1899, *Druce*; Weston in Gordano, N. Somerset, 1905, *Druce*; New Forest, 1882, *Druce*; Hurstmonceux, Sussex, 1899, *Druce*; Ruislip, Middlesex, 1908, *A. Loydell*; Wytham, 1835, *Miss Swan*; Blackwater, Berks, 1893, *Druce*; Burnham, 1897, Fulmer, 1899, Whaddon, Bucks, *Druce*; Bruern, 1884, and Waterperry, Oxon, 1890, *Druce*; Plain Woods, Northants, 1877, *Druce*; Llanyre, 1899, Radnor, Llanwrtyd Wells, Brecon, 1900, *W. H. Painter*. See *Bot. Exch. Club Report* 634, 1900, where Mr Marshall states that he thought the Brecon specimen was a hybrid. Barmouth, Merioneth, *W. Pamplin*; Nant Ffrancon, Carnarvon, 1899, *Druce*;

Cross o' the Hand and Brailsford, 1890, as *suberecta* Zimm. = *Tormentilla* × *procumbens*, 1894, *W. R. Linton*. Bradley, Derby, *W. R. Linton*, as *P. mixta*. See also *Fl. Derbyshire* 131. These three specimens are all named *P. procumbens* only by Dr Wolf, but the Brailsford was a mixed gathering, see under *P. erecta*. Biddulph, Stafford, 1887, *W. H. Painter*; Silverdale, Lancs., 1911, *Druce*; Inskip, W. Lancs., 1895 [Ref. No. 1498], *E. S. Marshall* as *reptans* × *sylvestris*; Hawksworth, near Bradford, York, 1877, *W. West*; Newton Stewart, Wigton, 1889, *Druce*; Derrynane, 1906, Killarney, Kerry, 1891, *Druce*; Roundstone, Galway, 1906, *Druce*; Clogher, Tyrone, 1907, *C. L. Peck*; St Aubin's, Jersey, 1906, *Druce*.

P. PROCUMBENS × REPTANS = P. MIXTA Nolte. A frequent and widely distributed hybrid in Britain. Perranarworthal, Checkwater, 1912, *F. H. Davey*, "Forma valde robusta." Truro, Cornwall, gathered by Mr Davey and the writer in 1911, and Dr Wolf remarks "specimen simillimum est specimenibus authenticis a Cl. Nolte in Holsatia lectis." Greenwith Common, Cornwall, 1912, *C. C. Vigurs*; Ivybridge, S. Devon [Ref. No. 1326], *E. S. Marshall*; Torrington and Westward Ho, N. Devon, 1907, *Druce*. I have cultivated this hybrid, which has become a large, handsome, but sterile plant in my garden. Ashcot Road, N. Somerset, 1912, *J. W. White*; Lytchett Matravers, Dorset, *R. P. Murray* as "? *reptans* × *Tormentilla*." See *Bot. Exch. Club Report* 1893; Cranbrook, Kent, Witley [Ref. No. 839], *E. S. Marshall*; Tilgate, Surrey, 1908, *Druce*; Early, 1893, Blackwater, 1892, Berks, *Druce*; Whaddon Chase, Denham, Bucks, 1907, ad "*P. reptantem* recedens," *Druce*; Monmouth, *A. Ley*, teste Bennett; Sellack, Hereford, *A. Ley*; Tidenham, W. Gloster, 1911, *H. J. Riddlesdell*, "ad hanc formam pertinet *P. mixta* Nolte ab ipsae ad Emfeld in Holsatia lecta"; Holyhead, Anglesey, 1890, *Druce*, also *super-procumbens* × *reptans*; Llanderfel, Merioneth, *Pamplin*, and Tongland, Kirkcudbright, 1886, *F. R. Coles* in *Hb. Bennett*. "This is *super-procumbens* × *reptans*." Glengariff, Co. Cork, 1906, *Druce*; Tipperary, *G. Nicholson* in *Hb. Bennett*.

P. REPTANS L. Small forms of this species approaching *microphylla* Tratt. are not uncommon. Such have been found at Odiham, N. Hants, 1893, *C. E. Palmer*; Newlyn Halt and Trethellan Steps, Cornwall, 1912, *C. C. Vigurs*; The Quenvais, Jersey, 1906, *Druce*. The latter is almost a glabrous plant. There is a considerable range of pubescence, an extreme form being :—

var. MOLLIS Borbas, Fl. Budapest 162, 1879. Planta pilis mollibus adpressis vel accumbentibus sericeo-pilosa et micans, flores plerumque magni et longissime pedunculati. Penzance 1892, Truro, &c., 1911, *Druce*. Not uncommon in Cornwall; Scarborough, *C. E. Palmer*; Sand dunes, Tiree, *S. M. Macvicar* 1896, in *Hb. Bennett*. It is the var. *sericea* Bab. Man. 94, 1847, from Usan, Forfarshire, *Mr Lindsay Carnegie*. Mr Corstorphine has recently gathered it in the same locality. Babington omitted it from the fourth edition of 1856, but it would seem that Babington's name has priority over that of Borbas.

var. MICROPHYLLA (Tratt.). Odiham Common, N. Hants, 1893, *C. E. Palmer*; Sandhurst, 1894; Colemans' Moor, Berks, *Druce*; Hulse, Peakirk; Cosgrove, Northants, *Druce*; Headington Wick, Oxon, 1885, *Druce*; Chippenham Moor, 1884, on hillocks, *A. Bennett*; Cambridge; Mildenhall, Suffolk, 1884, *Rev. W. Hind*; Upton, Warwick, 1888, *Druce*; Deganway, Carnarvon, 1899, *Druce*.

[var. ACUTIFOLIA Bab. Man. 91, 1843. Leaflets lanceolate acute, deeply covered with silky hairs on both sides, calyx segments elongated acute, silky. Milton, Northamptonshire, *Rev. M. J. Berkeley*. Babington omitted it from the third edition of 1851.]

P. REPTANS × ERECTA. Penzance, Cornwall, 1898, *Druce*; Ivybridge, Devon S.; Cranbrook, Kent; Chiddingford, Surrey, *E. S. Marshall* in *Hb. Bennett*: the Cranbrook plant is teste Wolf *P. adscendens* Gremli = *P. Gremlii* Zimm. Binfield, Berks, 1895, *Druce*. A plant gathered at Truro, Cornwall, in 1911 [Ref. No. 7917] on the Int. Phyt. Geog. Exc. by the writer is said to be "*super-reptans* × *Tormentilla* hinc spectat *P. italica* Lehm. Hoc specimen est distinctum, minus pilosum, infra ramificatum." On Shotover, Oxon, "*reptans* × *super-Tormentilla*" has been gathered.

909. ALCHEMILLA ACUTIDENS Lindb. Mr C. E. Salmon exhibited specimens of Alchemilla (*Proc. Linn. Soc.* 15, 1913) at the Linnean Society Meeting, April 3, 1913, and stated that Dr Lindberg named the original specimens [of Dr Ostenfeld's gathering] an autumnal state of *alpestris*. Dr Ostenfeld, however, is investigating the matter, and an early announcement is expected from him. At the time he named them without qualification *acutidens*, as well as some others of my specimens. The latter had been previously named *alpestris* by Dr Lindberg.

910. ALCHEMILLA ARGENTEA G. Don = A. CONJUNCTA Bab. (See *Journ. Bot.*, 306, 1913). The reasons for retaining this in the *British Plant List* are first Babington's definite statements that he had seen it from two stations—Clova, Forfar, and Glen Sannox, Isle of Arran—and the very precise localisation of it from the finder in the Clova locality; secondly, the statement made by the Rev. R. Wood, who told me he had it in his garden from a wild Cumberland locality. Root from Ben Lawers, cult. near Birmingham, Mr J. Morley, 1871, in *Hb. Druce.* M. Buser could of course only give his opinion, as he does not appear to have visited Britain. That acute bryologist, Mr H. Boswell, told me that *A. alpina* which he brought to his garden changed to *conjuncta*, but we may dismiss this statement as being untrustworthy, and not supported as yet by any confirmatory evidence. The hybrid theory has yet to be disproved, but I do not support it. G. C. DRUCE.

934. ROSA AFZELIANA Fr. = R. GLAUCA × R. CORIIFOLIA. The following forms in W. Barclay's Herbarium have been identified by C. Traaen with Almquist's plants. See *Journ. Bot.*, 129, 1913. R. glauca KATTEGATENSIS Almq., PALMERI A. & M., PROLONGATA A. & M., LINDSTROEMII Almq., LAEVIGATA Winsl., R. GLAUCIFORMIS Almq., ARIETARIA Mts., etc. R. VIRENS Wahl. sub-sp. SCOTICA A. and T., and ELATA Mts., R. GLAUCIFORMIS sub-sp. PROLONGATULA A. & Traaen, sub-sp. GLAUCIFORMIS A. & M., DEFIRMATA Mts., INSERTA Mts., DECURTATULA Almq., INSERTIFORMIS Almq., R VIRENTIFORMIS Almq., sub-sp. BARCLAYI A. and Traaen.

Almquist divides *R. Afzeliana* Fr. into four sub-groups :—

R. GLAUCA Vill.	=	glaucous forms of *R. glauca* Vill.
R. GLAUCIFORMIS Almq.	=	„ „ *R. coriifolia* Fr.
R. VIRENS Wahl.	=	green forms of *R. glauca* Vill.
R. VIRENTIFORMIS Almq.	=	„ „ *R. coriifolia* Fries.

1004 (3). RIBES SANGUINEUM Pursh Fl. Amer., i., 164. Alien, West America. Quite naturalised in Armagh, Antrim, Forfar, etc. Figured in *Bot. Mag.* vol. 61, t. 3335, 1834.

1015. SEDUM ACRE L. Near Bridge of Allan, Stirling. Dr C. H. Ostenfeld in *lit.*, 1913, says he thinks he has seen the true continental plant in the above locality. Perhaps members will bear this in mind. I saw it this year in the Auvergne at Le Puy, and was surprised to find how much it differed from our common form. The

plants are quite upright, without the pendulous or prostrate barren branches so characteristic of our common plant; the leaves too are relatively larger and much fatter, approaching in that respect those of *dasyphyllum*.

1094 (2). Bupleurum semicompositum L. Amoen. Acad., iii., 405. Alien, Eur. mer. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

1097 (2). Apium Ammi Urban in Mart. Fl. Brasil. xi., 1341. Alien, Brazil. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

1099 (2). Apium Moorei. *Root perennial* of long white fibres. *Stem often roots freely* from its lower joints, sometimes from nearly all. *Plant* light green, glabrous, *6—30 in.* Stem weak, *much branched* from near base. *Leaves pinnate and very varied. Upper leaves* of 7—9 leaflets, leaflets broadly ovate, or obovate to narrowly lanceolate or oblanceolate, or narrowly elliptic, variously cut, sometimes with a few broad blunt teeth or even lobes; narrower leaflets cut into narrower, acuter teeth or even lobes, sometimes consisting of three subequal lobes. *Lowest leaves* if fine cut, usually larger in general area than upper leaves; pinnate—11 leaflets, leaflets usually cut into long acute linear segments. *Middle leaves* show gradual progress from upper to lowest. *Petiole* long. Sometimes leaves similar all through the plant. Lowest leaves very rarely cut into capillary segments. *Flowering umbels few* in comparison to the foliage, opposite leaves, *long-stalked*, peduncle nearly always > rays. *Involucral bracts* rare, minute. *Umbel rays 2—3*, rarely 1 or 4. *Umbellules* many flowered (—12). *Petals* broadly ovate, very small white. *Bracts* of umbellule many (—6), very unequal. *Styles of flowers and undeveloped fruit* rather variable, always *intermediate in length* between *nodiflorum* and *inundatum*, varying about as much as style of *inundatum* does. *Ripe fruit* not seen on any plant of 150—200 seen, and only one fruit on one plant that even promised to develop. That looked like *inundatum*. Plant not a late flowerer; one Irish specimen, June; many in full flower, July; many in August. After fall of petals the fruit gradually wrinkles, withers, drops, and shows no signs of ripening. Plant *propagates itself vegetatively*. Probably a hybrid between *nodiflorum* and *inundatum*, because (1) very variable habit and facies, e.g. cf. plants from Boyne, Downpatrick, Tuam, Peakirk, with those

from Haxey, Renishaw, Portumna, and Brigg; (2) very variable foliage: cf. Portumna and Brigg plants, where foliage is small and subsimilar; (3) sterility; (4) great vegetative development; (5) intermediate between parents; (6) always close to parents. Hab. Shannon drainage area, Co. Dublin, Derry, Down, Armagh, Antrim, Fermanagh, Cavan, Derby, Lincoln N. & S., Northants, ? York. H. J. RIDDELSDELL. Specimens of this interesting plant are distributed this year from the banks of the Welland in both Northants and S. Lincs., where I found it in August 1913, with Lady and Miss Codrington. It was found in the River Boyne by D. Moore, and is meagrely described, but not named in Syme *Eng. Bot.* iv., p. 102, under *Helosciadium inundatum*. Its synonymy stands as *Helosciadium inundatum* var. *Moorei* Syme in *Bot. Exch. Club Rep.* 20, 1876. *Apium inundatum* var. *Moorei* Syme in *Lond. Cat.* 16, 1886. *A. Moorei* Druce in *Bot. Exch. Club Rep.* 20, 1911. × *A. Moorei* Druce in *Journ. Northants Nat. Hist. Soc.* 129, 1913. G. C. DRUCE.

1186. LONICERA PERICLYMENUM L., var. QUERCIFOLIA Aiton. This form with the lower leaves sinuate in outline has attracted the attention of botanists from early times, Merrett mentioning it in the *Pinax*, 1666, as having been found near Oxford by Mr Jenner. It was very characteristic in Wakerley Wood, Northants, June 1913. G. C. DRUCE.

1200 (2). GALIUM MURALE All. Alien, Eur. mer. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

Gen. 279 (2). BRACHYCOME Cass. in Dict. Sc. Nat., xxxvii., 491, 1825.

1245 (10). BRACHYCOME COLLINA Benth. Fl. Austr., iii., 521. Alien, Australia. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

1255. ASTER NOVI-BELGII Willd., var. FLORIBUNDUS (Willd.). *A. Novi-belgii* var. *minor* Nees. Alien, N. America. Ware, Herts; Iffley Road, Oxford, 1908. G. C. DRUCE.

1258. ASTER TRIPOLIUM L., var. LONGICAULIS Rouy, Fouc. & Camus Fl. Fr. viii., 148. "Feuilles inférieures linéaires-lancéolées, aigues, les supérieures acuminées et plus étroites que dans le type,

obtusiuscules, ordt. ± rougeâtres." Yarmouth, Norfolk E.; Suffolk E. G. C. Druce.

Gen. 283 (2). Felicia Cass. in Bull. Soc. Philom., 165, 1818.

1259 (10). Felicia tenella (L.) Nees Gen. et Sp. Aster., 208 (*F. fragilis* Cass.). Alien, Australia. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

1262 (4). Erigeron crispus Pourret. Alien, Australia. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

1278 (2*). Gnaphalium purpureum L. Alien, Reg. Trop. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

1278 (3*). Gnaphalium japonicum Thunberg. Alien, Cosmop. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

Gen. 289 (3). Helichrysum [Vaillant] Miller Gard. Dict. Abr., 1754 (as *Elichrysum*), Gaertn. Fr. ii,, 404, 1791.

1278 (10). Helichrysum apiculatum D. Don in Mem. Wern. Soc., v., 550, 1824. Alien, Australia. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

Gen. 322 (3). Centipeda Lour. Fl. Cochin, 492, 1790 (*Myriogyne* Less. in Linnaea, vi., 219, 1831).

1365 (10). Centipeda orbicularis Lour. (*M. minuta* Less.). Alien, Australia. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

Gen. 322 (4). Soliva Ruiz & Pavon Prod., 113, t. 24, 1794.

1365 (12). Soliva sessilis Ruiz & Pavon. Alien, Amer. mer. Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

1390 (2). Senecio Fuchsii Gmel. Fl. Bad. iii., 444. Alien, Europe. Colonsay, N. Ebudes, W. F. Miller, 1886; Leggydown, Saintfield, Co. Down, 1905, C. H. Waddell. See E. S. Marshall in *Journ. Bot.*, 306, 1913. Differs from *sarracenicus* by its creeping root, its narrower leaves, the apices of the serrations straight (not curved), by the setaceous bracts, by the rays being subquinqueflorous (not as in *sarracenicus* 7—8 florous).

1408 (6). Senecio juniperinus L. Alien, Africa, Australia (*Fl. Cap.*, iii., 286). Galashiels, Selkirk, 1913, Miss Ida M. Hayward.

1422 (2). CARDUUS HAMULOSUS Ehrh. Alien, Eur. or. Par, Cornwall, 1913, H. W. DALTRY, vide spec. Det. A. THELLUNG.

1560 (2). HIERACIUM ISABELLAE E. S. Marshall in Journ. Bot., 119, 1913. Exsicc. E. S. M., 3589 and 3610-17. Near Dalwhinnie, E. Inverness, and W. of Dalnaspidal, Perth M., 1860-2500 ft. alt. E. S. MARSHALL.

1563 (2). H. SHOOLBREDII E. S. Marshall in Journ. Bot., 121, 1913. Exsicc. E. S. M., 3284-5, 3062-9. Sgairneach Mor, W. of Sow of Atholl, 88, Mid Perth. Between Dalwhinnie and Dalnaspidal, 96, E. Inverness. Near Traligill river, Sutherland W., 800-2000 feet. E. S. MARSHALL.

1645 (3). TARAXACUM HAMATUM Raunk. Dansk Excursions Flora Ed. 2, 1906. Near Uxbridge, Bucks; Acton, Middlesex. New to the British Flora.

1665 (3). LOBELIA DEBILIS L. fil. Suppl., 395. Alien, Africa, Australia. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

1675 *f.* CAMPANULA ROTUNDIFOLIA L., var. CONFERTIFOLIA, Reuter Cat. Genev. Ed. 2, 139, 1861. See Rouy *Fl. Fr.* x., 79, 1908. Plante ± glabrescente, tige basse, feuilles radicales, rares, très petites, arrondies et presque entières, les caulines rapprochées vers le bas de la tige, très nombreuses, courtes, sublinéaires, les supérieures, éparses ; fleurs assez grandes, en grappe courte sublaterale. Stonehaven, Wigtonshire, July 1912, not previously reported for Britain G. C. DRUCE.

1687. OXYCOCCUS QUADRIPETALUS Gilib., var. MICROCARPUS (Turc. ex Ruprecht Hist. Stirp. Pl. Petrop. 56, 1845, as a species). See Moss in *New Phyt.* 406, 1912, where he says, "as surmised by Prof. Lindman, there are two forms of the Cranberry in England, a small fruited form and a larger-fruited one . . . and I have recently collected it [the first] in Cheshire and Sutherlandshire . . . the large-fruited form is rarer and more local in the north, and it may be a lowland and southern form : I have gathered it in lowland moors in Somerset and Cheshire. The small-fruited form has glabrous pedicels, those of the large-fruited form being slightly hairy. In the small-fruited form the flowers are 4-partite or commonly

so, those of the large-fruited form being not infrequently 5-partite. The small-fruited form has rather smaller and more triangular leaves, and rather shorter petals." See also Druce in *New Phyt.* 315, 1911, where Lindman thought the Crowden Clough plant might prove to be this. Ruprecht (*Flora Ingrica* iii., 1860), distinguishes *microcarpus* "pedunculos constanter glaberrimos, marginem calycis non ciliato barbatum, folia acutiora, racemum subuniflorum florescentia praecociorem." The bacca is 2—2½ lines, the seeds ½ line in diameter, but I have found that even in my small-fruited specimens from the Hunder Beck, N. Yorks, the pedicels have a few hairs, and that even in the glabrous pedicelled form from Strome, West Ross, the calyx segments are ciliate. In *E.B.*, t. 319, the flowering plant appears to be the smaller form, but the fruiting branch added in Syme *E.B.*, t. 876, is the type. Flowering specimens from Glen Shee, E. Perth, Druce, 1885, teste Dr Lindman, probably belong here. Determinations based on the leaves only are untrustworthy. G. C. Druce.

1693 *c.* Calluna vulgaris Hull, var. arborescens Huter in Sched. ex Dalla Torre & Sarnth. Fl. Tyrol iii., 20, 1912. Frutices erecti, ad 95—126 cm. altid. adscententes, which I should be content to call forma *arborescens.* Summer Isles, W. Ross; Killarney, Kerry. G. C. Druce.

1693 *d.* Calluna vulgaris Hull, sub-var. speciosa. Differt a typo quod flores grandiores et calycis segmenta longiora (a 3—4 mm.) habet. Differing from the type in its larger flowers, the longer segments of the calyx, which are deeply cut, so that when in full flower the inflorescence is much more conspicuous. As in the type, after flowering, the calyx segments enrol at the tip so as to give a more globular appearance. This attracted the attention of Mr R. H. Corstorphine and myself, as it grew in the vicinity of Wellington College, Berks. The same form grew with the type on Sutton Park, Warwickshire, where I directed the attention of the members of Section K. of the British Association to it. G. C. Druce.

1694 *b.* Erica cinerea L., var splendens, with long densely flowered racemes, and often with large and pale flowers. Carnon Croft, *F. H. Davey*; Kea Down, *G. C. Druce*; St. Newlyn, East Down, *C. C. Vigurs* in *Journ. Bot.* 197, 1913. I referred to this plant in

New Phyt. 315, 1911. My Kea Down plant may be defined as having branches ending in sub-terminal racemes of showy flowers, much larger than in type, and with the leaves about 8 mm. long, loosely arranged on the branches. Corolla grandi (7 × 4—5 mm.), inflatâ, roseo-purpureâ; racemis densis, plerumque sub-capitalis, interdum longis.

var. ANANDRA, as type, but without corolla or stamens (neque corollam neque stamina habet). Longleat, Wilts, Marchioness of Bath in *Herb. Sowerby.* See *Garry Notes on E.B. Drawings for Eng. Bot.* and *Journ. Bot.* 47, 1872. Although keeping constant in cultivation this appears to be a monstrosity rather than a true variety. G. C. DRUCE.

1695. ERICA TETRALIX L., var.: given in the *List* as ? × Craufordii, proves to be the forma flore pleno, the inflorescence consisting of two or three corollas, one inside the other.

sub-var. PARVIFLORA. Flowers small, 5—2.5 mm. in dense heads: leaves about 5 mm. long, sparingly ciliate. Floribus parvis, 5 mm. longis, 2.5 mm. latis, dense capitatis; foliis plus quam 5 mm. longis, parce ciliatis. Lizard Downs, with the type.

var. (or lusus) FISSA mihi. Corollis profunde quadripartitis. Found by Mr Seton Gordon on Ben MacDhui, 3000 feet, Aberdeenshire, 1913, vide spec. G. C. DRUCE.

1763. GENTIANA AMARELLA L. (*G. axillaris* Murbeck) nov. var. CALYCINA. Planta 15—25 cm. alta est, foliis 10 mm. latis, 25 mm. longis, pallido-viridibus; corolla alba, violaceo-purpureo colore tincta; calyx subaequalia segmenta, paulo latiora habet, quae, cum primum flores dehiscunt, plane aut fere corollae adaequant. At Tongue, Sutherland, and Reay, Caithness, a form of *Amarella* occurs from 15—25 cm. in height with the leaves broad (10 mm.) by 25 mm. long, of a paler green than the type; the corolla white, tinged with lilac-purple; and the calyx, with sub-equal broadish segments, is, in the early flowering stage, as long or nearly as long as the corolla, the tube of which elongates after fertilization, but even in the later flowering stage the calyx is relatively much longer than in the midland plant. To this is to be referred the No. 2440 gathering of the Rev. E. S. Marshall from Tongue, Sutherland, and I have seen it also near Bettyhill, and at Reay in Caithness. G. C. DRUCE.

sub-var. *tetramera* (Rouy Fl. Fr. x., 269, 1908, as a race). Plant small, flowers all tetramerous. Examples of *G. Amarella* are not unfrequently found with 4—5 segments of the corolla on the same plant, but in this dwarf plant they are fairly consistent in number. G. C. DRUCE.

1809. PULMONARIA ANGUSTIFOLIA × OFFICINALIS. Underdown, Ledbury, Hereford. A garden hybrid occurring spontaneously. S. H. BICKHAM, see *Report* 270, 1912.

1833. CONVOLVULUS ARVENSIS L., var. STONESTREETII. Corolla in 5 vel 6 lobas profunde incisa. Aldeburgh, Suffolk, July 1913. Noticed by Rev. W. Stonestreet near Henley. "Cum flore albo parvo in 5 vel 6 lacinias profunde dissecto." Spec. in *Herb. Dubois* at Oxford. Aldeburgh, Suffolk, July 1913, but not so deeply cut. An analagous form to the *Erica cinerea* var. *schizopetala* Boulger. G. C. DRUCE.

1853 (2). LYCIUM HALIMIFOLIUM Miller Gard. Dict. N. 6, 1768, "Foliis lanceolatis acutis." The plant allied to *chinense*, than which he says it is an earlier flowerer (June-July), is slightly spinous, and is a shorter and less straggling plant. Cothill, Berks, teste Dr Thellung. *L. barbarum* L. has according to Miller "foliis lanceolatis crassiusculis" small white flowers (July-Aug.), and strong spines. *L. chinense* Mill. "foliis ovato lanceolatis, ramis diffusis, floribus solitariis patentibus alaribus, stylo longiori." G. C. DRUCE.

1912. VERONICA ANAGALLIS-AQUATICA L.

(1). *V. Anagallis* L. subspec. *genuina* var. *typica*, *procerifolia*, *angustifolia*, *longicarpa*, and *grandiflora*.

sub-spec. *divaricata*, var. *typica*, var. *contigua* (*V. anagalloides* Guss.)

sub-spec. *ambigua*, var. *decipiens*, and *parvicapsulata*.

(2). *V. aquatica* Bernh. var. *typica*, var. *laticarpa*.

See ERNST KRÖSCHE *Allg. Bot. Zeitschr.* xviii., Nr. 4-6 (31, vii. 1912), 59-65, Nr. 7-9 (5, x.), 88-88, Nr. 10 (30, x.) 129-132 (1913).

1960. MELAMPYRUM PRATENSE. "Nous donnions avec raison comme constantes spécifiques respectives des *M. silvaticum* et *M. pratense* les caractères inédits tirés de la corolle et d'autre part de la forme des papilles chez les macules labiales : il convient de compléter

ces indications par l'énumeration de caractères différentiels plus importants encore :

MELAMPYRUM PRATENSE.	MELAMPYRUM SILVATICUM.
Calice très irregulier, à dents inégales recourbées.	*Calice* regulier, à 4 lobes égaux, étalés.
Corolle à tube muni vers la base d'un anneau de poils protégeant le nectaire.	*Corolle* sans anneau de poils à la base.
Gynécée pourvu d'un nectaire conprimé replie.	*Gynécée* à nectaire bimamillaire ou nul.
Fruit à déhiscence loculicide incomplète (exclusivement postérieure).	*Fruit* à déhiscence loculicide postico-antérieure.

The sub-species *pratense*, *vulgatum*, and *hians* are defined by M. Beauverd as follows, *Bull.*, 432, 1912 :—

PRATENSE corolles blanches, roses ou jaunes, *passant au pourpre après l'anthèse.*

VULGATUM corolles jaunâtres ou bicolores, *jamais pourpres après l'anthèse.*

HIANS entièrement d'un beau jaune d'or, *jamais pourpres.* M. Beauverd adds "nous nous proposons d'en publier sous peu la description détaillée, nous bornant pour aujourd'hui à constater qu'il est bien difficile d'établir, en dehors des rapports biologiques, de véritable critères subspécifiques pris ailleurs que dans la nuance des corolles." M. BEAUVERD in *Bull. Bot. Soc. Genève*, 309, 1911.

1990 *e.* MENTHA LONGIFOLIA Huds. Kirkinner, Wigton, July 1912 [Ref. No. 4944]. See *Report* 1912, p. 274. M. Briquet has identified this beautiful Mint as var. e. ALPIGENA (Kerner Schedae ad Fl. Exsicc. Austr. Hung. ii., 121, 1882) Briquet. Caulis erectus, strictus, firmus, ramosus, incano-viridis, villosiusculus. Folia subsessilia, firmula, supra opaca, obscure viridia, tenuissime adpresse tomentosa, lineari-lanceolota, ter et semissi quattuor longiora quam latiora, irregulariter dentata, dentibus repandis, extrorsum versis. Florum fasciculi verticillati, in spicam densissimam, primum pyramidalem, dein cylindro-conicam, brevissime pedunculatum congesti. Pedunculi spicorum foliis fulcrantibus multo breviores, quae spicae foliis supremis quasi immersae evadunt. Bracteae lineares, verticillos superiores excedentes et verticem spicae comantes.

Flores breviter pedicellati, pedicillis calice brevioribus, villosiusculis. Calix villosiusculus, cano-viridis, tubuloso-campanulatus, dentibus triangularibus, subulato-acuminatis, tubo sub-brevioribus. Corolla saturate violacea extus pilosa. Ovaria rotundata, nitida in vertice setulosa. Nuculi calvali, fusci, nitidi, minutissime punctulati.

1990. MENTHA VILLOSA Huds., var. SAPIDA (Tausch) Briquet. [Ref. No. 5229] Forma valde lanigera. M. Briquet so names the Mint from Glen Ogilvie, Forfar, I sent last year to the Club. See *Report* p. 273. *M. villosa* is said to be a hybrid of *longifolia* × *rotundifolia.*

1997. var. h. MENTHA GENTILIS L., var. FRIESII Briquet. Near Garlieston, Wigtonshire, Aug. 1912, G. C. DRUCE, named by M. Briquet.

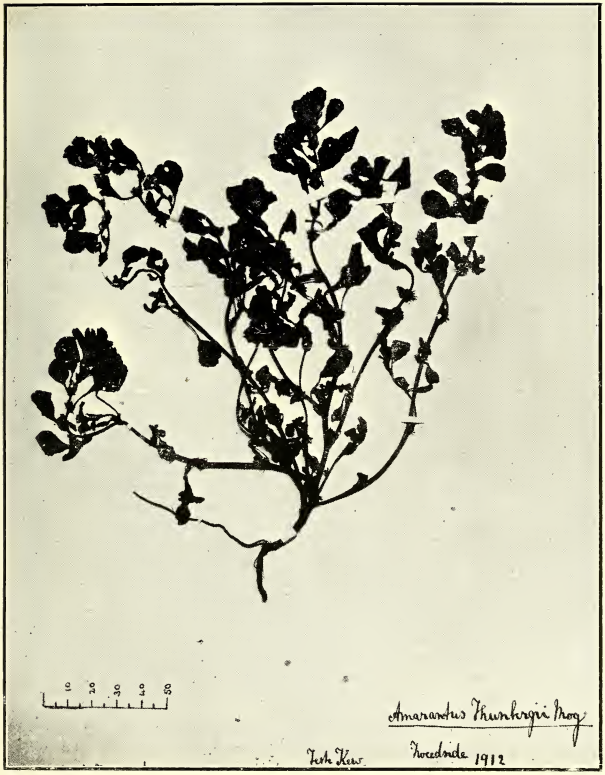
2023 (2). SALVIA VIRGATA Aiton. Alien, Europe. Newton Abbot Railway, S. Devon. W. M. SCOTT in *Rep. Wats. Exch. Club* (1911-12), 1913. I have not seen specimens.

2035 (2). NEPETA MUSSINI Sprengel ex Henck. Adumbr. Pl. Hort. Hal. 15. Alien. A garden escape, Dalton in Furness, 1913, D. LUMB, vide spec.

2116 (5). AMARANTHUS THUNBERGII Moq., in DC. Prod. xiii., 2, 262. Alien, Cape of Good Hope. Miss IDA M. HAYWARD, 1912. Named by Dr Thellung.

2117. CHENOPODIUM RUBRUM L., var. HUMILE Gurke in Richt.-Gurke Pl. Europ. ii., 136, 1897, = var. *nanum* Jacobsen Bot. Tiddskr. ser. 3, iii., 1879, 88, = var. *pusillum* Hausskn. Mitth. Geogr. Ges. Thür. vi., 9, 1887, = *Blitum polymorphum* var. *humile* Moquin in DC. Prod. xii., 2, 284, 1849, = *C. rubrum* sub-sp. *botryodes* Sonder, Sm. Murr in *lit.* Looe Pool, Cornwall, Rev. W. M. Rogers, 1857 in *Herb. Druce* as *C. rubrum* f. Walney Isle, 1913, W. H. PEARSALL, vide spec. Near Gort, Galway, 1913, Miss Trower, vide spec.

2121 *g.* CHENOPODIUM ALBUM L., var. OBTUSATUM Gaudin Fl. Helv. Foliis longe petiolatis, late ovatis, dorso glaucescentibus, plerisque obtusissimis, summis acutis. Peakirk, Northants, Aug



Amaranthus Thunbergii Moquin. Tweedside 1912.
Coll., Miss I. M. Hayward.

Presented by Miss Hayward.

1912. G. C. DRUCE. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2121 *h.* C. ALBUM var. ALBO-FARINACEUM Sonder. ? Alien. Galashiels, Selkirk, Miss IDA M. HAYWARD.

2124 *e.* C. ALBUM L., var. PSEUDOPOLYSPERMUM (Murr), as a var. of sub-sp. *viride.* Linslade, Bucks, July 1913. G. C. DRUCE. Galashiels, Selkirk, Sep. 1913, Miss IDA M. HAYWARD.

2124 *j.* C. ALBUM L., var. PSEUDOBORBASII (Murr as a subspecies). "Fol. purpureo marginatis irreg. obtuse dentatolarii," teste Dr Murr. Dalton-in-Furness, Aug. 1913, D. LUMB. Also this and a form approaching this from Galashiels, Selkirk, Miss IDA M. HAYWARD. Type, Par, Cornwall, 1913, W. H. DALTRY.

2124 *k.* C. ALBUM L., var. RHOMBEUM (Peterm.), (*C. viride-album* = *C. rhombeum* Peterm.) teste Dr Murr. Lerée, Grand Havre, Guernsey, 1913; Peakirk, Northants, 1913; Boston, Lincoln, 1913. The last two are scarcely typical. C. RHOMBEUM var. PAUCIDENS Murr. Peakirk, Northants, 1913, G. C. DRUCE.

2124 *l.* C. ALBUM L., var. PEDUNCULARE (Bertol.), (*C. viride-album* = *C. pedunculare*, Bertol.) teste Dr Murr. Osney, Oxford, 1910, G. C. DRUCE. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2124 *m.* ? C. ALBUM L., var. BORBASIFORME Murr ined. Lerée, Guernsey; St. Neot's, Hunts, 1913, G. C. DRUCE. Dr Murr remarks of these "ad var. *borbasiforme* vergens." Galashiels, Selkirk, Sept. 1913, Miss IDA M. HAYWARD.

2124 *n.* C. ALBUM L., var. PRAEACUTUM (Murr as sub-sp.) with forma FARINOSA. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2124. C. ALBUM × STRIATUM = × C. INTERJECTUM Murr. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2124 (3). CHENOPODIUM PSEUDOSTRIATUM Zubacke as the hybrid C. STRIATUM × ALBUM-PRAEACUTUM and × ALBUM-LANCEOLATIFORME. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2130. CHENOPODIUM AMBROSIOIDES L., var. SUFFRUTICOSUM (Willd.) Thell. *C. anthelminticum* auct. Gall. non L. Alien. Galafoot, Selkirk, 1908, Miss IDA M. HAYWARD. Named by Dr Thellung.

2131 (2). CHENOPODIUM STRIATUM Kras. var. EROSUM × C. ALBUM. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2131 (2). C. STRIATUM Kras. × C. HIRCINUM = × C. HAYWARDII Murr in *lit.* Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD. A new hybrid—"Planta pulcherrima."

2131 (3). CHENOPODIUM HIRCINUM Schrad., var. SUBTRILOBUM Issler. Alien. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD, with 2131 (×) C. HIRCINUM × ALBUM.

2131 (4). CHENOPODIUM BERLANDIERII × C. ALBUM L. = × C. SUBCUNEATUM Murr. Alien. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2131 (8). CHENOPODIUM GRAVEOLENS Willd. Enum Pl. Hort. Berol. i., 290. Alien, Mexico. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2131 (9). CHENOPODIUM ANTHELMINTICUM L. Alien, Reg. temp. and trop. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2131 (10). CHENOPODIUM CHILENSE Schrad. Ind. Sem. Hort. Gott., 2, 1832. Alien, Chili. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2158. SALICORNIA DOLICHOSTACHYA Moss, New Phyt. 131, 1913. Colore viridi vel flavo-viridi, decumbens, flaccida vel subflaccida, saepius ramosissima; 5—30 cm. alta, segmentis brevibus vel longis: spicis longissimis (etiam 8—16 cm. longis) nonnunquam curvatis, brevibus saepe ramis precipue ad basim, segmenta 15—30 exhibentibus. Differt ab omni alia specie annua quippe qua flores laterales inter se florem terminalem inclusum tenent perennium specierum ad instar. "While an annual species, its lateral flowers are usually separated by the terminal one." It has usually a "very floppy and decumbent habit, much branched, the branches tumbling over each other in a very disorderly way: by its being the first species to come into flower (mid August), and fruit (mid September), and by its excessively long spikes which are often curved, and often branched especially near the base." "Habitat, Hayling Isle, Hants; Blakeney, Norfolk, *Moss*; Devon, *E. S. Marshall*; Essex, *Groves*." Dr Osten-

feld, Dr Lindman, and myself took with us a clavis of *Salicornias* drawn up by Dr Moss when we examined a salt marsh near North Bull, Dublin, in 1911, and we found this form which did not come under any there given. We afterwards found it on the shore of Galway Bay.

Dr Moss (*l.c.*, p. 132) describes a hybrid of *S. dolichostachya* with *herbacea* from Hayling Island.

2210 (5). RUMEX HALOPHILUS F. Muell. Fragm. iv., 48. Alien, Australia. Galashiels, Selkirk, 1911, Miss IDA M. HAYWARD. A wool alien.

2210 (6). RUMEX SALICIFOLIUS Weinm. in Flora iv., 28, 1821. Alien, N.W. America. Field by Walton Gaol, Lancs., WHELDON & TRAVIS, vide spec.

2210 (7). RUMEX CUNEIFOLIUS Campd. Mon. Rum. 66. Alien, Amer. aust. Wallasey, Cheshire, 1913, Dr J. W. Ellis, ex W. G. TRAVIS, in *lit.*

2246 (3). ULMUS HOLLANDICA Miller, var. DAVEYI (Henry *Brit. Trees*, vii., 1884, 1913, as a var. of *U. major*) differs from the type by the epicormic branches never producing corky ridges. Leaves smaller, $2\frac{1}{2}$ in. long, 2 in. broad; with very pendulous branches. Cornwall, Norfolk, Cambridge, rare.

SALIX. The Rev. E. F. Linton in his account of the British Willows substitutes, for reasons which do not appear to be free from criticism, the name *Salix nigricans* Sm. for that of *S. Andersoniana* Sm., which results in a large number of changes of name in the assumed hybrids he describes. He gives one additional form of the hybrid *S. triandra* × *viminalis* i.e. S. TREVIRANI Spreng. Under No. 2271 he has the tertiary hybrid *purpurea* × *aurita* × *cinerea*, which also grows near Tyndrum, E. Perth. Under *S. rubra* he includes var. FORBYANA (Sm.). Under *S. caprea* he has a new hybrid with *S. lanata* = S. BALFOURII (p. 50) from Forfar. Under *S. aurita* is a tertiary hybrid *aurita* × *cinerea* × *phylicifolia* from Dumfries, and another *aurita* × *Andersoniana* × *phylicifolia* (*S. saxetana* F. B. White, p.p.) from 3 counties, also *S. Andersoniana* × *arbuscula* × *phylicifolia* from near Killin, P. Ewing. S. BOYDII replaces *S. sibyllina*

F. B. White, as a hybrid of *reticulata* and *lapponum*. There are many minor alterations and corrections of previous identifications.

2317 (2). Helleborine viridiflora Wheldon & Travis in Journ. Bot. 343, 1913. Among *Salix repens*, from Hall Road, Lancs. S., to South Shore, Lancs. W. The description given of it by the authors is "Plant less robust than *H. latifolia* or *H. violacea* [*purpurata*] with a more slender and wiry stem. *Rhizome*, slender, far-creeping. *Stems*, solitary, 2—5 dcm. high, almost glabrous below, with short pubescence above: base deeply tinged with violet purple. Lower *sheaths*, several, amplexicaul, often rather loose, the uppermost slightly funnel-shaped. *Leaves*, of a fresh yellowish-green almost all completely embracing the stem, arcuate, and with a tendency to fold conduplicately: lower and intermediate ones elliptic-lanceolate, the upper linear-lanceolate, acuminate, usually few and distant. *Flowers*, yellowish green in colour, without any trace of purple or rose, in a lax few-flowered raceme, shortly pedicellate, the lower ones exceeded by the bracts: less inclined and opening earlier than in *H. latifolia*. *Label*, whitish-green, triangular-cordate, acuminate, entire or slightly irregular at margin, straight, or but slightly recurved at apex: with two low slightly wrinkled basal bosses or hunches, separated by a median space. *Hypochile*, very ventricose, with white, strongly reflexed anterior margins. *Germen*, large in proportion to the size of the flower, glabrous, or with a few scattered, soon deciduous hairs. Flowering period, from mid-June to end of July."

Rouy (*Fl. Fr.* xiii., 204) treats it as a race of *E. latifolia*, and says it is synonymous with *E. Helleborine*, var. *varians* Reichb. Ic. Fl. Germ. t. 487, f. 1 et t. 488, f. 8, not of Crantz. He gives the following description, which shows certain points of difference from our English plant, and says it is often confused with green-flowered forms of *E. atropurpurea* (under which he puts *E. media*), but he gives no dunal locality. "Gaines inf. de l' *E. latifolia*: plante plus grêle (2—5 déc.), à tige moins robuste: feuilles relativement étroites, les inf. et les med. elliptiques-lancéolées, acuminées, moins larges que dans le type, à bords souvent ondulés, les sup. linéaires-lancéolées: fleurs d'un vert-jaunâtre, moins nombreuses, non inclinées, en épi plus lâche: épichile blanc à la marge, à apophyses peu distinctes ou nulles."

As to the grade in which this plant should be put, opinions will vary, but botanists will probably admit that few plants respond more

to soil conditions and exposures than *Helleborine latifolia*, the variations of which are most numerous and perplexing. Many botanists consider that even *H. purpurata*, *H. atrorubens*, and *H. media* are but sub-species, notwithstanding that the former has but a slight range of variation; *H. atrorubens* is much more variable, and *H. media* still more so. The latter is a much misunderstood plant. Fries when he described his *media* had two plants under his eye. He separated *media* from *latifolia* by the hunch character being plicately rugose; in *latifolia* the hunches are smooth. As his quoted synonymy shows, his *media* also included the very different *atrorubens*. It may be argued that the hunch character is a very poor one, and being scarcely discernible in dried specimens is of little use for herbarium work. Babington, therefore, in describing *E. media* dwelt more upon the shape of the label, *i.e.*, "roundish-cordate" in *latifolia* and "triangular-cordate" in *media*, stress being also laid upon the leaf-shape, the lower "broadly ovate" in the former and "ovate-oblong in the lower and lanceolate-acute in the upper" ones of *media*. Experience, however, shows that the label has considerable variation; also plants with smooth hunches may have narrow leaves, and plants with plicate-rugose hunches may have very broad leaves, as in my var. *platyphylla* from Grassington. *H. atrorubens* also varies considerably according as to whether its station is on an exposed limestone cliff or in the shade of a limestone wood, the two extreme forms being very distinct. It may be urged that the characters which distinguish British *viridiflora* may be due to the place of growth, but Rouy says in France *viridiflora* has a wide area of distribution, and is by no means confined to dunal situations. If some botanists are correct in saying it is identical with the plant called *E. Helleborine* var. *varians* Crantz (*Stirp. Austr.* 468, 1769), then the plant was woodland, *i.e.*, "Locis umbrosis sylvae, Dornbach." Although in that plant the leaves are described as "ovatis lanceolata omnia et margine ciliato et retrorsum hispida," which differ from the British plant, yet the flower is said "exactissime prioris viridantis. Ergo petala tria externa magis viridia," which seems to fit our plant. Rouy, however, holds it is not the *varians* of Crantz, although it is the *varians* of Reichenbach's *Icones*. If, however, our plant is refused specific rank, and there is an almost complete consensus of continental opinion against that grade, under which species shall it be placed? Nyman (*Conspectus Fl. Europ.* 688) puts

it under *E. atrorubens*; Koch (*Syn. Fl. Germ.* 695, 1837) refers to it under *E. latifolia* var. *rubiginosa*, but as it is not given as a German plant by him he may have been unacquainted with it. Petermann (*Fl. Bien.* 31, 1841) gives it as a var. of *E. macropodia*, while it appears to have been first described as a sub-species by Hoffmann (*Deutsch Fl.* 182, 1800). Dalla Torre & Sarnthein are among the few authors who give it specific rank as *E. varians* (Crantz), see *Fl. Tirol* vi. (1), 542, while in Reichenbach *Fl. Excurs.* 134, 1833, it is called *E. viridiflora*. As a variety of *Epipactis latifolia* it is given by Irmisch in (*Linnaea* 16, 451, 1842), Ascherson & Graebner (*Fl. Nordost.* 217, et *Fl. Mittel-Europ.*), Willdeman & Durand (*Fl. Belg.* iii., 189), Corbière (*Fl. Normand.* 551), and Coste (*Fl. Fr.* iii., 414). It may be added that assuming its distinction from Crantz's *varians*, it appears first as a variety in Pers. *Syn.* ii., as *Serapias latifolia* var. *sylvestris*, that it is the *E. viridans* var. *varians* of Beck (*Fl. Nied-Oester.* 214), and of Hallier & Brand Koch *Syn.* iii., 2444, 1907, and the *Helleborine latifolia* var. *viridiflora* Briquet (*Fl. Cors.* i., 386). I should be inclined to treat it as sub-sp. *H. viridiflora*.

A NOTE ON A SECTION OF THE GENUS ORCHIS by R. B. ULLMAN and P. M. HALL in *Report Winchester College Natural History Society*, p. 8-12, 1912-13. This contains some valuable notes and the suggestion that there are two forms passing under *Orchis incarnata*. The following Orchis hybrids have been found in the Winchester district by members of the College most of which I have seen, and in the main agree with.

O. latifolia L.

i. × *maculata* L. = *O. Braunii* Halacsy. R. B. Ullman.
ii. × *maculata* var. *ericetorum* (Lint.). R. B. Ullman.

O. incarnata L. (form i.) of Mr Druce.

iii. × *maculata* L. = *O. ambigua* Kerner in part. F. Escombe.

O. incarnata L. (form ii.) of Mr Druce.

iv. × *maculata* = *O. ambigua* Kerner in part. R. B. Ullman.
v. × *maculata* var. *ericetorum* (Lint.). R. B. Ullman.
vi. × *latifolia*? = *O. Aschersoniana* Hausskn. in part. R. B. Ullman.

Habenaria conopsea Benth.

viii. ? × *O. pyramidalis* × *H. Anacamptis* (Wilms.), Druce. Rev. R. Quirk.

ix. ? × *O. maculata* = *O. Heinzliana* Reichardt. C. T. Soames.

x. × *O. incarnata* (form ii.) var. *nana* (*O. latifolia* in 1910-11 *Rep. Bot. Exch. Club Rep.* 33, 1911), Rev. R. Quirk.

Habenaria viridis Br.

xi. × *O. maculata* × *O. incarnata.* See *Bot. Exch. Club Rep.* 342, 1913. P. M. Hall.

xii. × *H. conopsea* Benth. *H. Jacksonii* (Quirk) Druce, *Bot. Exch. Club Rep.* 33, 1911. H. A. Jackson.

I have omitted one hybrid, namely, No. vii. *O. incarnata* (form ii.) var. *nana* × *O. maculata*, and have added one or two references and made slight corrections. There is an interesting *List of Plants* found during 1912 and 1913 by the same authors on pp. 53-54. It would be quite useful now to publish the numerous additions made to the Winchester list since the publication of the last *Flora of Hampshire.*

NOTES ON THE MARSH ORCHIDS.

2325. O. LATIFOLIA L. Root palmate, not divaricate. Stem robust, very hollow, 6-24 inches. Leaves lanceolate, or broadly lanc., broadest in the middle, narrowing from that to the usually obtuse tip, which is usually broad and flat; green, greyish, or bluish green, much spotted, the chocolate coloured spots often circles with the centres of the normal colour. Bracts, as long as, sometimes shorter and sometimes longer, than the flowers. Fl. in rather dense cylindric or conical spikes of usually dark purple, rose purple, or purplish lilac flowers, broader than long, more or less three lobed, usually marked with symmetric lines, the median lobe usually equalling in length the lateral. Upper sepals at first spreading, afterwards more or less erect. Spur cylindric or sub-conical, feebly curved, a little shorter than ovary.

2326. O. INCARNATA L. Stem hollow, 6-18 inches. Leaves normally linear-lanc., narrowed from a broad base to the hooded apex, rarely very slightly broader in the middle; yellowish-green; un-

spotted; more or less appressed to the stem, erect or ascending. Bracts as long, longer, or sometimes shorter than fls., often coloured. Flowers flesh-coloured, pale dull lilac, rarely white or yellowish, usually in a dense, elliptical or cylindric, obtuse spike. Lip spotted and streaked with darker markings measuring about 3-4 mm., but when flattened under pressure 6-7 mm., faintly three-lobed, entire, or sub-entire, the middle lobe when present often a little longer than the lateral one. The flower viewed from the front, owing to the erect upper petals and sepals and the reflexed lateral margins of the lip, looks long and narrow, and is actually smaller than *praetermissa*. Spur conical, blunt, incurved, shorter than ovary.

The foregoing description (drawn up from Berkshire plants) I believe refers to the restricted Linnean plant which differs as Linnaeus says from *latifolia* by "foliis pallide viridibus immaculatis; nec saturate viridibus maculatis. Caule dimidio breviore. Bracteis vix flore aut germine longioribus. Corollis pallide incarnatis, nec rubris. Petalis 2 dorsalibus totaliter reflexis; nec tantum patulis nec maculatis. Nectarii labium structura convenit." As Mr C. B. Clarke (*Journ. Linn. Soc.* xix., 206, 1881) says, it agrees with Afzelius' specimen collected at the identical spot where Linnaeus first collected his *incarnata*, and is marked by the illustrious Fries *O. incarnata* certiss. I find however the lip is not always marked with yellow, but there is a great constancy in the flesh-coloured narrow flowers, and in the strict inflorescence, while its time of flowering usually, if not always, precedes that of its ally.

O. PRAETERMISSA Druce. *O. incarnata* auct. et Ashmolean Nat. Hist. Soc., Oxfordshire Report t. 1., 1904. Root two palmate tubers, with long stout rootlets. Stem hollow, 6-18 inches. Leaves normally linear-lanc., narrowing from a broad base to the hooded apex, usually gradually, sometimes unequally, and sometimes somewhat broader in the middle; yellowish green, green or greyish or darker green, unspotted, erect or ascending. Bracts often coloured, as long as, or longer than flowers. Flowers conspicuous, of various shades of rose-purple, reddish, or dark crimson purple, in a more or less lax cylindric or conical spike. Lip broad, (as broad as long) flat, more or less distinctly three lobed, the central lobe smaller, and slightly longer, as long or slightly shorter than the lateral lobe, the sides not reflexed, marked with spots, lines, or blotches of a darker colour,

or more rarely in a geometric pattern with defined margins. Viewed from the front the flowers look broad and showy. Upper petals converging into a hood. Upper sepals usually somewhat paler, divaricate. Spur shorter than ovary, curved, cylindric. Flowering usually 10-14 days later than *incarnata*.

O. PRAETERMISSA. Foliis fere semper lineare-lanceolatis, a basi latâ usque ad apicem cucullatum, plerumque gradatim, interdum inaequaliter contractis, et interdum in medio paulo latioribus; viridibus, flavo-viridibus, cano-viridibus vel e viridi nigricantibus; *sine maculis*, erectis vel ascendentibus. Bracteis saepe coloratis, flori aequantibus vel superantibus. Floribus conspicuis, roseo-purpureo, rubido vel coccineo-purpureo-nigricante colore per varios gradus pictis; spicâ plus minusve latâ, diffusâ, cylindricâ aut conicâ. Labia lata est (8-10 mm.) et aeque longa ac lata, plana, plus minusve perspicue triloba. Loba media minor est et vel paulo longior vel aeque longa vel paulo brevior quam lobae laterales, *marginibus non reflexis*, et maculis, lineis aut varis nigrioribus, aut, rarius, figurâ geometricâ, cujus margines definiti sunt, signatur. A fronte flores lati et clari videntur. Petala superiora convergunt in cucullum; sepala superiora plerumque paulo pallidiora sunt et divaricata. Calcar curvatum, cylindricum, brevius est quam ovarium. Diebus 10-14 postquam *incarnata* floret.

The plant figured in the *Report of the Ashmolean Nat. Hist. Soc. of Oxfordshire* was gathered in a marshy field on the border of Hants and Berks in 1903 by Mr B. Savile Ogle, and is identical with others from Tackley, Eynsham, and Upper Heyford, Oxford, 1888; Cothill, Berks, 1892; near Lewes, Sussex; Winchester, Hants, *Hall & Ullman*, 1913; White Water-side, Northants, 1878 and 1913. The actual specimen figured (*l.c.*) was 28 inches high. Since then it has broken up into 9 distinct plants, seven of which flowered and have now become much shorter. In native habitats it varies from 12 to 20 inches. Mr Ogle has succeeded in obtaining it from seed and these seedlings, one of which is now figured, are practically identical with the parent and come quite true from the earliest stage, being like each other and the parent. They flower about 10-16 days (as in the native habitats) later than true *incarnata*.

Doubtless this is widely distributed in Britain, being indeed for the most part the purple-flowered *incarnata*, with a broad lip. I can find no figure, however, which accurately represents it. G. C. DRUCE.

2340. Habenaria viridis × Orchis latifolia, P. M. Hall in Winchester College Natural History Society Report 1912-13, pp. 6-8. Near Winchester, Hampshire, 1912, 1913. Assuming *O. latifolia* to be the second parent, the hybrid differs in being "shorter, flower spike less compact, flowers strongly tinged with green or dull coppery red (colours never seen in the Marsh Orchid), flowers tilted downwards, sometimes almost horizontal (this point is very characteristic of the Frog), spur very short." Mr Hall gives a minute description of the two forms found. At first the hybrid was thought to be probably *O. maculata* and *H. viridis*. A specimen was sent me for examination and I suggested that it might be the Marsh and not the Spotted Orchid which was the second parent. In 1913 fresh plants were found associated with a form of *incarnata*. Mr Hall now suggests, and having seen his additional specimens I think it extremely likely that the plant in question is really

$$\left.\begin{matrix} O.\ maculata \\ \times \\ O.\ incarnata \end{matrix}\right\} \times H.\ viridis.$$

2386 *b*. Polygonatum odoratum Druce (*P. officinale* All.) var. intermedium (Boreau Flore Centre Fr. ed. 3, ii., 615). Colerne, Wilts (See Syme *E.B.* ix., 179). It is most desirable to collect this plant again as it is possibly a hybrid of the two species. It may be here stated that the specimen of Miller's *Convallaria odorata* in the Herbarium at the British Museum is not *P. multiflorum* as stated in *Journ. Bot.* 442, 1907, but the plant Allioni called *P. officinale*; Miller's trivial name dates from 1768, Allioni's from 1785.

2394 (2). Allium sativum L. ? var. Ophioscorodon (Link) Doell. Near Port Logan, Wigton, in turf, but not far from houses. To this must probably be referred the *A. Ampeloprasum* var. *cornigerum* See *Report* 34, 1911. Cultivation leads me to believe that this curious *Allium* is a *sativum* form which Dr Thellung thinks is probably to be identified as above. Doubtless it is of alien origin. G. C. Druce.

2413 *b*. Ornithogalum umbellatum L., var. angustifolium (Boreau Fl. Centre Fr. ed. 3, ii., 625) Syme E.B. ix., 196. Isle of Wight. See Bromfield *Fl. Vectensis*, 501. Leaves narrowly linear, erect when young; flowers 3-5. In the type the leaves are broadly linear, recurved when young, flowers 5-12.

2461. TYPHA ANGUSTIFOLIA L., forma INTERRUPTA. Wilstone Reservoir, Herts, Sept. 1913. Female spikes divided into two or three masses with short naked spaces between. Growing with the type. G. C. DRUCE.

2461. T. ANGUSTIFOLIA × LATIFOLIA = T. GLAUCA Godr. Fl. Lorr. iii., 20, 1843, with both assumed parents near Peakirk, Lincoln S., Aug. 1913. G. C. DRUCE.

2476. ALISMA PLANTAGO-AQUATICA × ECHINODORUS RANUNCULOIDES. Near Holland Arms, Anglesey ; Tuam, Ireland. HUGO GLÜCK in *Beihefte zum Botanischen Centralblatt*, xxx., Heft 2, 124, 1913.

2641 (2). SETARIA GRACILIS H. B. K. Nov. Gen. et Sp. 1, 109. Alien, New Granada. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2647. HOMALOCENCHRUS vel LEERSIA ORYZOIDES Sw., sub-var. PATENS (Wiesb.). Plant with protruding panicle. See Rouy *Fl. Fr.* xiv., 3, 1913. Amberley Wild Brooks, Sussex. G. C. DRUCE.

2666. ALOPECURUS GENICULATUS L., var. NATANS Wahl. Fl. Lapp. 22. Culmo natante, spica minore. Marsh Gibbon, Bucks. A form rather than a true variety. G. C. DRUCE.

2684. AGROSTIS ALBA L., var. CONDENSATA Hackel. A curious form with hypertrophied glumes, owing to a nematod infecting the ovary, growing near the type at Aldeburgh, Suffolk, 1913 = *condensata* Hackel. Probably is synonymous with, and replaces var. *coarctata*. G. C. DRUCE.

2684. AGROSTIS ALBA L. forma DENSISSIMA Hack. A very critical form which looks like a hybrid of *A. alba* × *verticillata*, having the panicle of *A. verticillata* and the spikelets of *A. alba* (teste Hackel). *A. verticillata* grows within a short distance. Guernsey, Aug. 1913. G. C. DRUCE.

Gen. 653 (2). CHAETURUS Link in Schrad. Journ. ii., 313, 1799.

2689 (5). C. FASCICULATUS Link. In a field of lucerne near Slinfold, Sussex, June 1913, A. WEBSTER, vide spec. The first speci-

mens growing in Britain seen by me. It has not been previously reported to my knowledge.

2699. APERA SPICA-VENTI Beauv., sub-var. PURPUREA (Rouy) = *Agrostis purpurea* Gaudin. Iver, Bucks, 1898, etc. G. C. DRUCE.

2704. LAGURUS OVATUS L., sub-var. NANUS Guss. (Fl. Sic. i., 127). Plant small, 4-5 cm., fasciculated, much branched. L'Ancresse, Guernsey. G. C. DRUCE.

2713. HOLCUS MOLLIS L., var. PARVIFLORUS Parnell Brit. Grasses t. 21 = var. *densus* (Peterm. in Flora 233, 1844) Asch. & Graebn. Boar's Hill, Berks. G. C. DRUCE.

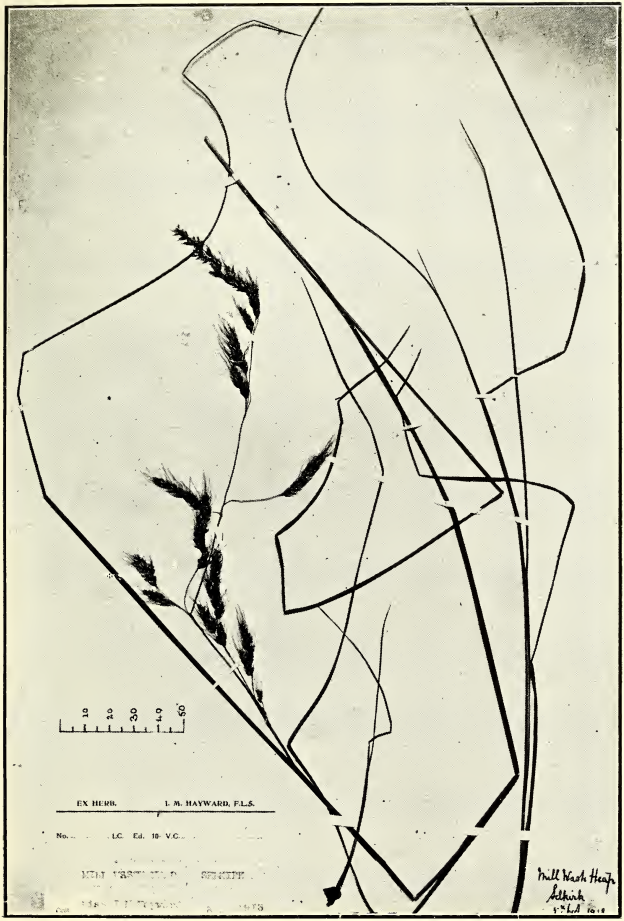
2731 (2). ELEUSINE AEGYPTIACA Desf. Fl. Atlant. i., 85. *Dactyloctenium aegyptiacum* Willd. Alien, Egypt. Near Stalybridge, on a farmer's shoddy heap, 1908; near Parkbridge, Lancs. S., F. J. Stubbs in *Lanc. Nat.* 286, 1913, ex. W. G. Travis, in *lit.*

2732. SIEGLINGIA DECUMBENS Beauv., var. BREVIGLUMIS Hackel Cat. Gr. Port. 21. Glumes elliptic-acuminate, equalling the ripe fruit. This is the common British form and the typical plant. A long-glumed form should be looked for.

2733. PHRAGMITES VULGARIS (Lam.) Druce vel P. COMMUNIS Trin. vel ARUNDO PHRAGMITES L., forma *densior*. Differs from the type in its very dense compact panicle of very dark violet-brown flowers. It was the prevailing form on the Buckinghamshire portion of Wilstone Reservoir. In the adjoining Hertfordshire part the typical plant occurred. Gathered with Mr E. D. Marquand, Sept. 1913. Panicula densissima, compacta, ex spiculis numerosis, fusco-violaceis. G. C. DRUCE.

2744 (3). KOELERIA PANICEA (Lam.) Domin Mon. Koel. 292, 1907. Alien, Reg. Medit. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2745 var. f. MOLINIA COERULEA Moench, var. ARUNDINACEA Asch. Fl. Brand i., 837, 1864. Wilstone, Bucks, Sep. 1913. G. C. DRUCE.



NASSELLA FLACCIDULA HACKEL VAR. NOVA GLOMERATA HACKEL. SELKIRK 1913. COLL., MISS I. M. HAYWARD.

Presented by Miss Hayward.

HORDEUM VIOLACEUM BOISSIER. SELKIRK 1913.
COLL., MISS I. M. HAYWARD.

Presented by Miss Hayward.

2774 *d.* GLYCERIA DISTANS Wahl., var. PULVINATA Fries. Wells, Norfolk, July 1908, F. LONG in *Wats. B. E. C. Rep.*, 1911-1912, 367. This was described by Fries in the *Mantissa* ii., p. 11, and as Prof. Hackel tells me, is a variety with short (1-3 inches) culms, in tight sods, growing on sea-shores and advancing to the water more than any other grass (as Fries says). The panicle is small, contracted, with short branches, of which the lowest are paired. The flowering glumes are somewhat more acute. I have not seen the Norfolk specimens, and Hackel says it is rare in Scandinavia, and occurs in Russian Lapland, but is sometimes mistaken for var. *capillacea.*

2817. BROMUS JAPONICUS Thunb., var. b. VELUTINUS Asch. & Graebn. Fl. Mittel-Europ. Alien. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

2817 ter. BROMUS MARGINATUS Nees. Alien, South America. Galashiels, Selkirk, Miss IDA M. HAYWARD; Leith 1911, J. FRASER.

2850 (2). HORDEUM VIOLACEUM Boiss. & Hohenack Diagn. Ser. 1, xiii., 70. Alien, Asia Minor. Galashiels, Selkirk, 1912, Miss IDA M. HAYWARD. Det. A. Hackel. A most beautiful and striking species.

2887. ASPLENIUM GERMANICUM Weiss. Respecting this plant the great authority on Pteridophytes, Dr Woynar, writes me in 1913. "Perhaps I may succeed in correcting a quite erroneous apprehension in the valuable *List of British Plants*" [where *A. germanicum* is queried in synonymy as being a hybrid of *Ruta-muraria* and *septentrionale*]. "*A. germanicum*, even if a hybrid at all, cannot certainly be *A. Ruta-muraria* × *septentrionale.* The anomalous texture of *A. germanicum* cannot originate from an intermingling of *Ruta-muraria* 'blood' with the tender green of *septentrionale.* Moreover the chief stations utterly preclude the combination. Proof positive against it is the actually existing hybrid of *Ruta-muraria* and *septentrionale* of which a sun-print of a Tyrolean plant is annexed. Plants of this [hybrid] found in Sweden and in Switzerland incline much more towards *A. Ruta-muraria*, just as do the plants from the Vosges. In my opinion it is clearly evident that this can be neither a form of *Ruta-muraria*, *germanicum* nor of *septentrionale.*" The only question which arises on this note is, whether we have the true *germanicum* in

Britain, which is probably the case, and also the hybrid referred to by Dr Woynar. In Cumberland I gathered *germanicum*? where it was growing with both *septentrionale* and the Wall-rue, but I only saw about three tufts, although there were over thirty of *septentrionale*. Neither am I aware if *germanicum* has been ever found in Britain in the absence of the Forked Spleenwort. G. C. Druce.

2896. Dryopteris Filix-mas Schott var. Twinstead, Essex N., July 1913. A remarkable form which at first suggested a hybrid of *D. Filix-mas* × *D. aristata*, as both species grew near, but Mr F. W. Stansfield, in *lit.* states that "I think your fern is pure blood *Filix-mas* of which it constitutes a very fine variety (a *decompositum*) not many of which have been found. Sir (then Dr) W. H. Allchin found one in Ireland about 1870, but I do not think it was as good as yours." G. C. Druce.

2907. Polypodium vulgare L., var. semilacerum, forma falcatum O'Kelly. Bally Vaughan, Co. Clare, P. O'Kelly. Differs from all the other *semilacerum* forms by the peculiar *falcate* curving of the *pinnae* and the obtuseness of the sub-divisions. C. T. Druery in *The British Fern Gazette* 108, (with figure) 1913.

2923 (2). Azolla filiculoides Lam. This was noticed in a ditch on Midsummer Common, Cambridge, in October 1913. It is not known how it came there. The only species of *Azolla* previously grown in the Botanic Gardens at Cambridge is *A. caroliniana* Willd. The plant was gathered with both microsporangia and megasporangia in November, and the glochidia were seen to be mostly non-septate, though one or two had a single septum towards the apex. The vegetative plant is more branched and much thicker than *A. caroliniana*, and not appressed to the surface of the water. The species (*A. filiculoides*) is indigenous only in South America. One of my students, Mr A. S. Marsh, will shortly publish an account of the occurrence and naturalisation of *A. filiculoides* and *A. caroliniana* in Europe. I may add that so far the character of the hairs of the leaves does not seem to be decisive. C. E. Moss, in *lit.*

RECENT PUBLICATIONS.

British Violets: a Monograph. Mrs E. Gregory. pp. xxiii., 108, 34 ill., Heffer & Sons, Cambridge, 1912. In this very interesting Monograph of a very difficult genus, our Violet referee, Mrs Gregory, has described the 12 species of British Violets with the very numerous varieties and hybrids in a clear and readable work which cannot fail to stimulate the study of the group. In last *Report*, pp. 154-5, the additions were briefly alluded to. They include *V. odorata* var. *praecox* Greg., a dark-flowered plant from Devon and Somerset; var. *sulfurea* (Cariot) Greg., with apricot coloured flowers from Hereford already in the *List*, which perhaps should be a sub-var. rather than a variety; the hybrid *V. collina* Bess. from Surrey and Devon, is *V. hirta* × *odorata*, but differing both from *permixta* and *sepincola*; *V. hirta* var. *variegata* from Wychwood, Oxon, differing from the type in its more angular capsule, the angles clothed with long hairs, and its beautifully variegated flowers; *Viola epipsila* × *palustris*, a hybrid from Dartmoor, *Viola Riviniana* var. *diversa* Greg. (See *Report* 496, 1910); var. *pseudo-mirabilis* (see Rübel in *New Phyt* xi., 55, 1912). *V. canina* × *silvatica* from Innisfallen Island, Co. Kerry; the true *V. rupestris* Schmidt from Durham; *V. canina* var. *sabulosa* Reichb., Codicote Heath, Herts; var. *lanceolata* Mart.-Donos, Menmarsh, Oxford; near Warham, Norfolk; Yate Lower Common, Gloster; and above Quenvais, Jersey; var. *lucorum* Reichb., Wood Walton, Hunts; *V. canina* × *lactea* var. *pumiliformis* Greg., Chailey Common, Sussex, are also among the many interesting plants described, and for which British botanists are indebted. The book is well printed, and the illustrations excellent.

The Genus Fumaria in Britain. W. H. Pugsley. pp. 76, 1912. West Newman & Co., 3s nett. In which several new Fumarias are described and the distribution of the species carefully worked out. These two publications were alluded to under "Plant Notes" in last *Report*, see p. 151-2, 1912.

British Elms. C. E. Moss. Reprinted from the *Gardener's Chronicle*, Mar. 30, Apr. 6 & 13, 1912.

Fryer's Potamogetons of the British Isles. Edited by A. H. Evans. Parts X., XI., and XII., pp. 57-76. t.t. 37-49, 15s; coloured,

21s. Lovell Reeve & Co. 1913. After many years resting in a pupa condition we are greatly pleased to see the advent of a new part of this important work which we understand is to be completed by Mr Arthur Bennett. This part treats of the *lucens* group. There is no allusion to var. *acuminatus* (Schum.). The name *P. Zizii* is used instead of *angustifolius*. *P. coriaceus* is made a distinct species. The name *P. salignus* Fryer is retained for the Herefordshire plant notwithstanding *P. salicifolius* Wolfg. is quoted without doubt in its synonymy, and if identical must be used for it. *P. heterophyllus* is made a distinct species from *P. graminifolius*. There is no reliable authority for it in Oxon or Berks, but it is recorded for S. Hants. Should not *P. varians* Fryer be *P. spathiformis* Tuck. ? *P. densus* is recorded for Flint. *P. nitens* may be added for Northants, Dumfries, Kirkcudbright and Westmorland. The plates are still unfortunately without names of the plants on them.

The British Willows. Rev. E. F. Linton. *Supplement to Journ. Bot.* 1913. In this work 18 species and sub-species, with their varieties and hybrids are described. *S. caerulea* and *S. vitellina* which Elwes and Henry (*British Trees*) give as a full species are here more correctly called varieties, and the variety *sphacelata* which they give under *S. caprea*, and which Smith described as a species in *E.B.* 2333 is omitted. It was *S. lanata* Lightfoot (not L.) and was found by Rev. Dr Stewart near Finlarig, Perth. It is by no means clear that full justice has yet been done to the careful work and cultural experiments of Borrer and his School of Salicologists.

Frequency of Floral Analysis. Rural Studies Series, Rev. E. A. Woodruffe-Peacock. Price 6d. 1913.

Vegetation of the Peak District, by Dr C. E. Moss. Demy 8vo. pp. x. 235, with 36 ill. and 2 coloured maps. Cambridge Univ. Press, 12/- nett. 1913. An excellent piece of work which makes the dry bones of the *Flora of Derbyshire*, accurate and painstaking although that work was, to speak, and aptly illustrates how necessary it is in treating of a county to link together not only the floristic and the geologic factors, but to show how much man and agricultural operations influence the vegetation of areas, so that a mere list of names and localities can no longer be considered sufficient to constitute a *Flora*. The district Dr Moss has so well described is

indeed in itself an extraordinarily interesting one, and he has done it justice.

THE TREES OF GREAT BRITAIN AND IRELAND. H. J. ELWES, F.R.S., & A. HENRY, M.A., Edinburgh: Privately printed. Vol. vii. tt. 40, pp. 1653-1933. Index, etc., xxiv., 1935-2022. 1913.

This, the final volume of an important work, includes descriptions of the three Lime trees :—(1) *T. cordata* Mill. (the *T. ulmifolia* Scop. of my *List*, which is also synonymous with *T. parvifolia* Ehrh.). The authors reject and probably wisely, the use of this name as suggested by Mr E. G. Baker (*Journ. Bot.* 318, 1898) to designate the large-leaved Lime, because they hold the specimen in Miller's Herb. has no evidence to prove it is the type. Although they consider *T. cordata* a native species, they state they have never seen a wild seedling. (2) *T. platyphyllos* Scop. they consider is doubtfully native, but to the writer it appears to have quite as good grounds for being indigenous as *T. cordata*. A var. *corallina* Solander is given with "twigs bright red" but no allusion is made as to its original locality given on Bobart's authority in Ray's *Synopsis* for Stokenchurch Woods. (3) *T. vulgaris* Hayne which seeds freely at Oxford, they hold to be "now universally admitted to be a hybrid between the two preceding species" and a form of it *T. pallida* Wierzb. is said to occur. *T. tomentosa* Moench a native of South Eastern Europe, and *T. petiolaris* J. D. Hook. are also given as planted trees. *Ilex Aquifolium* L., of which a large number of so-called varieties are given. *Buxus sempervirens* L., "probably a true native of England." *Crataegus monogyna* Jacq. is used in defiance of the Linnean Herbarium where all the sheets of *C. Oxyacantha* are this one styled form, and in defiance of the plan adopted under *Ulmus campestris* which they quote from the *Flora Anglica*, in which work this is the *C. Oxyacantha* L. The var. *splendens* Druce is referred to var. *maurianensis* Didier in *Bull Soc. Dauph.* ix., 385, 1882. *C. Oxyacantha* L. (*C. oxyacanthoides* Thuill.) in which forms, monstrosities, etc., as with the other species in this volume, are all described as varieties. *Salix Caprea* L. with vars. *orbiculata* Kerner, *elliptica* Kerner and *sphacelata* Wahl. *S. caerulea* Sm. is kept as a distinct species as is *S. vitellina* L. *Populus canescens* Sm. is said to be native and a true species; under *P. tremula*, *P. villosa* is wrongly attributed to Lange; under *P. nigra*, Lindley's variety *viridis* is

summarily dismissed in favour of the more recent *betulifolia* Torrey, but it was taken up by Loudon and was well known to horticulturists under that name. His specimen too exists at Cambridge. The Lombardy Poplar is made a variety of *P. nigra* as var. *italica*; many good botanists consider them distinct species. The Wych Elm is given as *U. montana* Stokes, and is said to be one of the parents of *U. vegeta* and *U. major*, the latter name being used, notwithstanding Smith's citation of Miller's *hollandica* for his *major*, under it is var. *Daveyi* Henry. *U. nitens* Moench is chosen for Miller's *U. glabra*, and under this is put "var. *stricta* Aiton, the Cornish Elm," but incorrectly as Aiton did not use the name *U. nitens*. This is surely as distinct a species from *nitens* as *Salix vitellina* is from *S. alba*. Var. *Wheatleyi* Simon-Louis Cat. (1869) 98 = *sarniensis*. *U. minor* Mill. is used as synonymous with *U. Plotii* Druce, and Henry says *U. sativa* Mill. is undoubtedly the English Elm (p. 1901), and that Plot's Elm (*Nat. Hist.* 158, 1677) is identical with *viminalis*; a statement made without due examination, since Plot's Elm is not *viminalis* as his specimen in *Herb. Brit. Mus.* shows, and as is also borne out by contemporaneous specimens of Stonestreet; moreover in describing it, he states that it is a new species and differs from Goodyer's Elm. *U. campestris* is used for the English Elm (but what part of *U. campestris* L. Sp. Pl., 1753, is the English Elm?) and to it is wrongly referred the Tubney Tree, which is said to grow in Oxfordshire, but the locality is in Berkshire and belongs to *U. glabra* Miller. The much desired Index is included.

Synopsis der Mittel-europaeischen Flora. Paul Ascherson and Paul Graebner. Engelmann. Leipsig. 77 and 78 Lief. Marz 26, 1913. 4 marks. pp. 801-885. Polygonaceae contd. *Polygonum tomentosum* (p. 812) is used as in my *List* = *P. maculatum* Kit. in Linnaea xxxii., 364, 1863. *P. nodosum* Pers. (1814) is used instead of *P. Lapathifolium* L., while the var. *incanum* is put under *tomentosum*, but each of the three species has its *incanum* form, and in my experience the two latter exhibit it more frequently than the former. *P. Persicaria* has its var. *biforme* Fries Nov. Fl. Suec. ii., 28, 1839, which is earlier than var. *elatum* Gren. & Godr. Fl. Fr.; the var. *prostratum* Bréb. is replaced (p. 822) by var. *ruderale* Meissn., and var. *tomentellum* replaces var. *incanum* Gren. & Godr., but the reason is not obvious. Hybrids of *tomentosum* × *Persicaria*

and *tomentosum* × *nodosum* are included. The name *P. mite* Schrank is retained and hybrids with the preceding species as well as with *minus* and *Hydropiper* given. *P. aviculare* (p. 847) is divided into two sub-species *heterophyllum* and *aequale* Lindman, and 12 pages are occupied in describing the varieties and forms of *aviculare*. *P. calcatum* is a full species, it was described by Lindman in *Bot. Notiser* 139, 1904. *P. Rayi* Bab. is given with *P. Roberti* as a synomym. The authority for *Fagopyrum* should be Miller Gard. Dict. Abr. 1754, which is earlier than Gilibert: despite the Actes the species stands as *Fagopyrum Fagopyrum* Karst.

The Index for IV. Bandes occupies 64 pages.

Lieferung 79-80 by Paul Graebner. May 23, 1913. Tiel Hauptregistr, pp. 66-152. Band V. 4 marks. Chenopodiaceae, pp. 1-64. *Beta vulgaris* L. Sp. Pl. 222, 1753, includes *B. maritima* L. Sp. Pl. 322, 1762—the var. *erecta* Gren. & Godr. should be found in Britain. Our Mangold is *B. vulgaris cicla* L., the Beet being *B. vulgaris*, many minor forms being described. Dr Murr's recent minute study of the Chenopods (see *Report* 1912, pp. 173-6) is evidenced in these pages. Many forms of *Chenopodium hybridum* are included as well as of *C. murale*, the var. *albescens* a Sicilian form which I got at Syracuse is very distinct. The name chosen for the variety of *C. urbicum* is *rhombifolium* Moquin dating from 1840, but *intermedium* Koch (as in the *List*) is 3 years earlier. This shows that the author ignores (and surely wisely) the Actes Art. No. 48, since *C. rhombifolium* Mühl. dates from 1809, whereas *C. intermedium* Mert. & Koch only from 1826. That is, the earliest trivial is *rhombifolium*, and it was apparently first made a variety by Koch as *intermedium* in his *Synopsis* of 1837. *C. leptophyllum* although of American origin is given full space and numbering. England might be given for it as well as Scotland. *C. album* and its forms occupies from p. 38-62; var. (2) *glomerulosum* Peterm. has under it *lanceolatiforme* (3), *catenulatum* (4). *Myriostachyum* Lange 1897 has under it *candicans* Moq. and *precatorium* A. & G. = *viridescens* Moq.? as well as numerous forms.

The *praeacutum* Beck, or its forms are not given for Britain. Under *subficifolium* which is given as British, are several forms. There are also *C. album* var. *lanceolatum* Coss. and Germ., and *C. album* var. *viride* Wahl. *C. album* var. *rhombeum* Peterm. Fl. Lips. 1838, includes sub sp. *paucidens* Murr. Britain is not given for it, but it occurs here. *C. concatenatum* Thuill. should be found in Britain. *C.*

striatum is given as a distinct species, under it is *C. pseudo-Borbasii* and *C. Bernburgense.*

Lieferung 81. Band V. Chenopodiaceae. Aug. 12, 1893. 2 marks. The description of the forms of *striatum* is continued *C. opuliforme* Murr being put under it. *C. album* × *striatum* is said to be = *C. pseudo-striatum* Zschacke. *C. opulifolium* and *C. Berlandierii* (N. Amer.) are kept as distinct species. There is a hybrid, *album* × *opulifolium* Murr under which is *C. Borbasii* Murr and also *C. opulifolium* × *striatum* = *C. Wheldoni* Murr A.B.Z. xix., 14, 1912, and there is, as is customary when using personal names, a brief biographical notice of Mr Wheldon on p. 78. This refers to the plant sent to the Club, see *Report* 240, 1906, and described in the last *Report* p. 173, as *C. opulifolium* × *album* subsp. *striatum.* Instead of *C. serotinum* L. (which is probably an Indian species) *C. ficifolium* Sm. is used. For the Strawberry Blite *Chenopodium foliosum* is used, but this does not retain the earliest trivial *virgatum* of the L. Sp. Pl. 4, 1753. It is the *C. virgatum* Jessen (not, says Prof. Graebner, of Thunberg). Indeed I had queried this name in my *List.* The genus *Obione* is retained. *A. patula* has a large number of forms described, and so has *A. hastata* under which is placed *A. deltoidea. A. arenaria* Woods is used instead of "*A. laciniata* L. Sp. Pl. 1053, 1753 and Herb." not of *Fl. Suec.* ed. 2, 364, but if it is correctly named in 1753, a subsequent different interpretation does not render the earlier name invalid. *Atriplex Babingtonii* is retained as the name for the species, but the earlier one is *A. glabriuscula* Edmonst., as I have already shewn.

Lieferung 82. Band VII. Paul Graebner. Geraniaceae. Aug. 12, 1913. 2 marks. *Geranium pusillum* is still attributed to Burm. f. rather than to Linnaeus. *G. sanguineum,* under this the Walney Isle plant is given as *lancastrense.* The *G. molle* var. *grandiflorum* Vis. is given under *G. Brutium* as a sub-species. Is our plant identical with this Eastern form? *G. purpureum* is kept as a sub-species of *G. Robertianum,* as it is constant in culture. Under it are *Villarsianum, modestum, litorale* and *minutiflorum.*

Lieferung 83. Band V. Chenopodiaceae-Amarantaceae. Bogen 10-14. Dec. 19, 1913. 2 marks.

Zweite Auflage. 3 Lief. 1 Band. Bogen 21-30. Leipzig, W. Engelmann. Includes Pinaceae, Ephedraceae, Typhaceae,

Sparganiaceae, Potamogetonaceae. 4 Lief. Potamogetonaceae, Naiadaceae, Aponegotonaceae, Scheuchzeriaceae, Alismaceae, Butomaceae, Hydrocharitaceae. April 1913.

As with the preceding portions, so too these parts of the Flora teem with interesting points, and are invaluable to the botanical student. We can only here express our gratitude to the great botanist Prof. Ascherson, who has done such excellent floristic work, and offer our sincerest sympathy to his surviving colleague, with the sincere hope that he may be spared to bring to completion such a monumental undertaking.

Flora von Deutschland und Fenno, Skandinavien, sowie von Island und Spitzbergen. F. Herman. pp. 524. Weigel, Leipsig, 1912.

Flore de France. Georges Rouy. Tome xiv. et dernier, pp. viii., 562, 1913. Les Fils d'Emile Deyrolle, 46, Rue du Bac, Paris. 10 francs. This, the completing volume of the valuable and suggestive French Flora, crowns the prolonged labours, and demands the hearty gratitude of all systematists to its veteran author. This volume contains the Graminées and Vascular Cryptogams. *Spartina Neyrauti* Fouc. represents *S. Townsendi* in France, and is said to be a hybrid of the same species. *Agrostis vulgaris* is made a sub-species of *A. alba*, as is *A. maritima*, and *A. prorepens* Rouy; but *A. tenuis* Sibth. is an earlier name for *A. vulgaris*. *Aira multiculmis* Dum. is made a sub-sp. of *A. caryophyllea*. The name *Deschampsia discolor* is used instead of *D. setacea*, which retains the earlier trivial. The nomenclature, however, in this, as in the preceding volumes, is decidedly erratic. *Avena sterilis* L. is rejected because the plant is not sterile. *Trisetum pratense* is used instead of *T. flavescens*, *Glyceria spectabilis* instead of *G. aquatica*. *Koeleria* and *Sesleria* become *Koelera* and *Seslera* because they are named after Koeler and Sesler. *Desmazeria* of 1823 is replaced by *Catapodium* of 1827. Under *Avena sativa* are grouped *A. orientalis*, *A. nuda*, *A. strigosa* and *A. brevis*. *Glyceria fluitans* has a var. *triticea* Fries (*Festuca loliacea* Huds.), and the sub-species *plicata* has a var. *depauperata* Crépin, said to be synonymous with the var. *triticea* M. T. Lange. A large variety of *Glyceria Borreri* (3-5 dc.) is var. *erecta* Corb. Fl. Norm. 653 which is put by M. Rouy under *Atropis*. *Glyceria distans* var. *tenuiflora* Gren. & Godr. becomes var. *miliacea* (Rouy, p. 196, under *Atropis*). It is the

Aira Brigantiaca Chaix, nomen nudum. The English habitat for *Festuca dumetorum* is omitted. It is kept as a distant species from *F. rubra*, and has under it as a race *F. arenaria* Osbeck. *F. ovina* has *F. supina* as a race and *F. capillata* Lam. (the *tenuiflora* Sibth.) as a sub-species. *F. duriuscula* L. is also a distinct species. The genus *Serrafalcus* is kept distinct from *Bromus*. *S. secalinus* has as vars. *submuticus* (Reichb.) *elongatus* (Gaud.) Rouy, *polyanthos* (Beck.) Rouy, with *S. grossus*, *S. Gmelini* and *S. Billoti* as races. The hairy variety of *S. arvensis* is called *S. Duvali* Rouy. *S. racemosus* and *S. commutatus* are kept as distinct species. *S. mollis* is retained (instead of *S. hordeaceus*) with var. *microstachys*, and sub-sp. *S. Thomini* (the latter our var. *Thomini* (Bréb.). The race *S. Ferroni* Rouy (*B. mollis* var. *compactus* Bréb.) is said to be English. *S. Lloydianus* Gren. & Godr. is kept distinct, but *Serrafalcus interruptus* Druce = *Bromus interruptus* is not given for France. *S. patulus* is given notwithstanding *Serrafalcus japonicus* (Thunb.) retains the earliest trivial. *Bromus asper* var. *vernus* Crépin Man. Belg. ed. 5, 440, is given for *B. Benekeni* Syme. *Poa supina* Schrad. is kept distinct from *P. annua*, the character 'plante vivace' distinguishing it. A race, *P. exilis* Murbeck appears to be the small cliff plant of the Channel Islands. *P. nemoralis* has 5 races, *P. miliacea* DC. (*montana* Gaud.), *P. firmula* S. F. Gray (given in the *Nat. Arr.* as a species), *P. caespitosa* Poir. (includes *glaucantha*), and *juncoides* Gaud. *P. compressa* has two varieties, *umbrosa* Beck. and *collina* Schur ; and a sub-sp. *P. Langana* Reichb. which equals *P. subcompressa* Parn. is kept distinct. *Lolium perenne* has a var. *longiglume* Grantzow and a var. *orgyale* Doell, with 10-12 flowered spikelets. *L. italicum* is called by the older name *L. Boucheanum* Kunth. It is made a sub-sp. and *L. multiflorum* is kept distinct. *Agropyron caninum* has three varieties, *majus*, *subtriflorus*, and *gracilius* Lange. *A. caesium* Presl, and its race *A. littoreum* are given as British. *Polypodium vulgare* has 7 varieties and a sub-sp. *P. serratum* with 3 varieties. *Thelypteris* and *Oreopteris* are put in Newman's genus *Hemesteum* while *Nephrodium* is still used to include *Filix-mas*. The var. *acutum* of *Asplenium Adiantum-nigrum* is made a sub-species as *A. Onopteris* L. It certainly seems at least to deserve that rank. Under *Isoetes lacustre* is given a var. *elatius* Fliche Les Isoetes des Vosges 7, 1879, which appears to be an earlier name for our *I. lacustre* var. *Morei* Syme.

The fourteen volumes which this work has occupied are almost

indispensable to the botanist who wishes to know not only the French Flora but the Botany of the British Isles. The enormous Herbarium on which it is based is now in the possession of Prince Roland Bonaparte in Paris.

A FLORA DE PORTUGAL, disposita em chaves dichotomicas. A. X. P. COUTINHO. pp. 7, 766, 1913. Lge. 8vo. Ailland, Alves & Co., Paris. A very useful, compact, and much needed work relating to the interesting flora of S.W. Europe. It begins with the Filicales, the genus *Nephrodium* being retained instead of *Dryopteris*, then follow the Gymnosperms, then the Monocotyledones, *Typha* coming before the Grasses. *Sparganium neglectum* and *Alopecurus fulvus* are sunk to varieties, whereas *Aira multiculmis* is kept distinct from *A. caryophyllea*, and has the variety *divaricata* (Pourr.). *Corynephorus canescens*, often an inland species in Portugal, has a var. *maritima* Godr. given, which is probably identical with our coast plant. *Bromus rigens* L. has its var. a. *maximus* Desf. *Ulmus glabra* Miller has two varieties, *corylifolia* (Host) and *suberosa* (Moench), and is the only species of Elm given. *Mesembryanthemum edule*, with which I identified the Cornish plant in my *List*, is given as being extensively naturalised, and I have seen it in great masses on the coast, but neither *acinaciforme* or *equilaterale* (with which the Cornish plant has, I think, been wrongly identified) are included. *Spergularia atheniensis*, with rose-lilac flowers, is said to be frequent, as it is on the south coast of Spain. *Fumaria capreolata* has two varieties, a. *pallidiflora* and b. *speciosa* (Jord.). *Sisymbrium Sophia* appears under the unusual name *Descurainia Sophia* Webb & Berthelot. The Water Cress is still called *Nasturtium*, but *palustris* and *amphibia* are put under *Roripa* Scop. *Reseda stricta* is made a variety of *R. lutea*. In Portugal *Spiraea denudata* is treated as the type as *Filipendula Ulmaria* with a var. *nivea* (Wallr.), which is our common plant. I think *denudata* is more frequent in the western part of the British Isles. 28 species of *Rubi* are given, but *Potentilla procumbens* is not included. Is it really absent from Portugal? *Medicago hispida* is given as in my *List* as the aggregate under which are grouped *denticulata*, *lappacea*, etc. The purple umbellate-flowered *Oxalis* from Brazil is *O. Martiana* Zucc., while the purple one-flowered Cape plant is *O. variabilis* var. *rubra* Jacq. The Bladder seed *Danaa cornubiense* L. is treated as a variety (not synonymous) of *Physo-*

spermum aquilegifolium. The Connemara Heath becomes *Boretta Daboecia* (L.) Baillon. The genera *Erythraea* and *Chlora* are wrongly used for *Centaurium* and *Blackstonia.* The very compact littoral form of *perfoliata* is the var. *compacta* Lange. Garsault's trivials are occasionally used, *e.g.*, *Dipsacus sativus* Garsault. The Flora ends with the Compositae in which our Meadow Thistle is called *Cirsium anglicum* DC., and 5 varieties are given of *Crepis taraxacifolia.*

Prodrome de la Flore Corse. John Briquet. Tome ii., partie i., Papaveraceae-Leguminosae iv., 409. 13 vignettes. Georg, Geneva, 1913. 10 francs. The genera *Glaucium* "Adams" and *Cakile* "Adams," which are probably misprints for Adans., were first established by Hill in British Herbal, 1756. Under *Papaver Rhoeas* M. Briquet rightly draws attention to the inadvisability of the practice adopted by M. Fedde (*Pflanzenreich*) of treating the trifling characters of hairs being patent or appressed as of systematic importance. This character widely and artificially separates *P. Rhoeas* from *P. strigosum* in Fedde's *Monograph* (see *Rep.* 228, 1912), whereas in nature one appears to be only a variety or sub-variety of the other, if indeed most of the plants so named are not hybrids of *P. Rhoeas* and *P. dubium.* Under *Fumaria capreolata* there are sub-var. *albiflora* Briq. = *F. pallidiflora* Jord. and a sub-var. *speciosa* Briq. = *F. speciosa* Jord. *F. media* Bast. is a full species, and synonymous with it is *F. muralis* Sond. Under it is var. *confusa* (Jord.) Hamm., which Briquet says is of the *Pugillus* "et sp. auth." *F. densiflora* is adopted rather than *F. micrantha*, and, like *F. parviflora* and *F. Vaillantii*, kept as a distinct species. *F. officinalis* has as varieties *tenuiflora* Fries (= *F. Wirtgeni*), *genuina*, and *densiflora* Parl. The treatment of the plants in this critical genus illustrates the difference in opinion which exists. *Barbarea vulgaris* has under it var. *rivularis* Tourlet, var. *silvestris* Fries, and var. *arcuata* (Reichb.) The last, if kept as a species as in *The List of British Plants*, is probably *Barbarea iberica* (Willd. Enum. Hort. Berol., 680, 1809, under *Cheiranthus*) DC., a much older trivial. I shall be content to call it sub-species *iberica. Roripa* Scop. is used instead of *Radicula* Hill, which M. Briquet, who doubtless sanctions *Gloriosa* L., says is not valid "parce qu'il coincide avec un nom d'organe couramment employé et n'a pas été introduit avec des noms d'espèces." Under it he puts *Roripa amphibia*, but he makes no references to the sub-vars. *indivisa* (DC.),

variifolia (DC.), and *auriculata* (Beck), nor to the hybrid with *sylvestris* (*R. barbarioides* Tausch). Under *R. Nasturtium-aquaticum* he considers the var. *siifolia* (Reichb.) and the sub-var. *microphylla* (Reichb.) as states. *Arabis Thaliana* appears under the unfamiliar name *Arabidopsis Thaliana* (Schur). *Brassica monensis* is used as representing *B. Cheiranthus* Vill. Surely there is a difference between the plant of our western coast and the Channel Island species. *Sinapis* is once again a separate genus, and *Brassica incana* is *Hirschfeldia incana* Moench. Under *Cardamine hirsuta* he has sub-sp. *C. sylvatica*, but wrongly attributed to Rouy & Foucaud instead of Syme. It might have been expected that such an active nomenclaturist as M. Briquet would have found it necessary to consult the third edition of *English Botany*, Syme being a pioneer in the making of sub-species. *Rapistrum rugosum* has 3 sub-species under it, including *Linneanum* and *orientale*. *R. hispanicum* Crantz. Crucif., however, dates from 1769, and the *Myagrum hispanicum* L. Sp. Pl., 1753, has the older trivial, *Linneanum* only dating from 1842. M. Briquet says Thellung in writing *R. rugosum* sub-sp. *hispanicum* is contravening the *Actes*. See Art. 49. When one considers the purely arbitrary distinction between species and sub-species one can see how little permanencc or uniformity of nomenclature can be obtained by this rule. Surely the permanence under the older trivial appeals to common sense. Briquet rejects Garsault's names because that author employed "uni-bi-pluri" nominals. They are now given in the *Suppl. Index Kewensis*. *Vogelia* is correctly used instead of *Neslia*, our alien species being *V. paniculata* Hornem. *Crataegus Pyracantha* Med. becomes *Pyracantha coccinea* Roem. Three species only of *Rubi*, one numbered hybrid *albidus*, one sub-species *rusticanus* (Syme had already named it sub-species *discolor*), and a variety only are given, a 'masterly' treatment of a difficult and fluid genus which, however, in Corsica is much less varied than in Britain. Nine species of *Rosa* are described. *Pyrus Malus* var. *mitis* Wallroth is said to be = *P. Malus* var. *paradisiaca* L. *Laburnum vulgare*, 1843, is used instead of the older *L. anagyroides* Med. M. Briquet does not state by what article of the *Actes* he disposes of the older name. *Medicago hispida* Gaertn. is used as in the *List* with its vars. *apiculata*, *lappacea*, and *denticulata*. Our *Trigonella Melilotus-ornithopodioides* is once again put under *Trifolium* as in *English Botany*. *Medicago minima* Grufb. and *Trifolium*

maritimum Huds. are among the examples of inconsistency. The latter is the *T. squamosum* of *Fl. Anglica.* Under *Lotus corniculatus* L., *L. uliginosus* and *L. tenuis* are put as sub-species, Briquet, but Syme made all three sub-species under the names *eu-corniculatus*, *major*, and *tenuis*. *Tetragonolobus* Scop. ('nomen utique conservandum') is kept as a distinct genus. *Vicia gracilis* is made a sub-species of *V. tetrasperma* with the authority Briquet, but Sir Joseph Hooker made it a sub-species in the *Student's Flora*, nor according to Dr Thellung is it the oldest name. *V. tenuifolia* Roth and *V. Gerardi* are sub-species of *V. Cracca*, and *V. dasycarpa* (= *V. varia* Host) is a sub-species of *V. villosa*. *V. sativa* has sub-species *obovata* Gaud. (*V. notata* Gilib. Fl. Lith. ii. 105, 1781) and sub-species *V. angustifolia* Gaud., with its var. *Bobartii*. But is not *Bobartii* the type of *V. angustfolia*? *Trifolium procumbens* L. becomes *T. campestre* Schreber in Sturm. Deutsch. Fl. vi., t. 13, 1804, et Pers. Syn. ii., 352, 1807. But Briquet rejects Linn. Fl. Suec. 261, 1755, which is an earlier name for the same plant. *Anthyllis Vulneraria* has a var. *rubriflora* DC. = *A. Dillenii* Schult., but is this not var. *coccinea* L.?

Notwithstanding the above criticisms the *Prodromus* is a very important and useful Flora of one of the most beautiful and interesting islands in the world, and M. Briquet is to be congratulated not only on the happy days he spent there, but upon the results of his labours.

On the Inheritance of Certain Characters in . . . . Senecio vulgaris L., and its Segregates, by A. H. Trow, D.Sc. In this valuable paper the author claims that "twelve elementary species have been maintained pure and true to type for at least several generations. Six have been studied in detail, *praecox*, *erectus*, *multicaulis*, *latifolius*, *genevensis*, and *lanuginosus*." All are British except *genevensis* from Montreux, and are non-radiate except *lanuginosus*, but a radiate variety of *erectus* occurs near Cardiff, and the radiate character of this form can by hybridisation be transferred to *praecox*, *multicaulis*, *latifolius*, and *genevensis*. "A radiate variety of each of of these elementary species has in fact been produced in this way, and is now being cultivated. In *multicaulis* there are at least three kinds of radiate varieties, with yellow, cream, and fimbriate florets respectively." Dr Trow states that "after an investigation extending over

six years, including the examination of about 10,000 groundsel plants, I still often find it very difficult to estimate, even provisionally, the constitution of a casual wild plant. Yet the methods of genetics, diligently applied, obviously give one the power to replace loose speculation and guesswork by irrefutable inductions, and so to lay down a foundation upon which the evolutionist and taxonomist can build with safety." Evidently these cultural experiments will, as I have already stated, not lessen, but increase the number of forms able to be defined and described. From the *Journal of Genetics*, vol. ii., n. 3, 239-276, 1912, with 24 figures.

PROCEEDINGS OF THE LINNEAN SOCIETY, 1913. In addition to the note on *Alchemilla acutidens* (p. 15) there is an account of *Ophrys Trollii* by Mr E. G. Baker. Dr Moss (p. 68, June 19, 1913) exhibited several new varieties of British plants, three vars. of *Populus nigra*, three of *Alnus* (See *Report* 179, 1912), *Ranunculus ficariæ formis*, *Primula scotica* var., *Lycium barbarum* confused with *L. chinense*, both of which occur, *Gymnadenia Wahlenbergii* and *G. densiflora*. The latter is, however, alluded to in Syme's *English Botany* ix., 103, as having been gathered by the Rev. W. W. N. Newbould in Herts, and I recorded it from Ireland in the *Gardener's Chronicle* of last year.

The Proceedings of 1912 contains a valuable INDEX TO THE LINNEAN HERBARIUM, pp. 27-152, with indications to the Linnean types, a much needed publication. A paper on the Distribution of *Elodea canadensis* in the British Isles in 1909 by A. O. Walker is given on pp. 71-90. Berks, Oxon, Bucks, Beds, Warwick, and other counties are however not mentioned.

IRISH NATURALIST, 1913. The garden form of *Saxifraga umbrosa*, near Hillsborough, Co. Down, p. 19. Additions to Irish Topographical Botany, 1908-1912, p. 105, contains numerous additions and also the corrections of the records of *Ranunculus Lingua* from 34, the plant being *R. Flammula*, of *Hieracium Schmidtii* from 28, 29, which are *H. anglicum*, of *H. caesium* var. *Schmidtii* from 28, *H. ciliatum* var. *repandum*, and of *Allium vineale* from 39, which is *A. oleraceum*. *Elisma natans* from Kerry and Clare are queried on somewhat unintelligible grounds. When Professor Glück was at my house he named without any expression of doubt flowerless specimens

collected by me in Ireland, and these he has not since examined. Notes on the Flora of the Saltees (Wexford), p. 181.

JOURNAL OF BOTANY, 1913. Notes on the Flora of Derbyshire, E. & H. Drabble, p. 5. Notes on Jersey Plants, C. E. Salmon, p. 17. *Cerastium tetrandrum* Curt., var. *dunense*, C. E. Salmon. Poppy Notes, Rev. E. Adrian Woodruffe-Peacock, p. 48, suggests that the stigmatic rays in *Rhoeas* have an average range from 9—14, with an average of 10, *dubium* range 4—7, average 6, whereas *strigosum* range from 7—10, average 8, and he suggests it is a hybrid *dubium* × *Rhoeas*. *P. Rhoeas* var. *Pryorii* ranged 10—12, average 11. The author considers this to be an improved energetic variety of the type usually found growing on a slightly richer soil. This does not agree with my observations. Mr Peacock also considers *P. Argemone* var. *glabrum* (*Bot. Rec. Club Rep.* 231, 1877) from Rasin, Lincoln, to be a hybrid, and the variety of *Rhoeas* with yellow sap (*chelidonioides* Kuntze), *Bot. Exch. Club Rep.* 151, 1912, to be (*P. Rhoeas* × *Lecoqii*) × *Rhoeas*. British *Fumaria* Records, H. W. Pugsley, p. 51. Notes on S.W. Norfolk Plants, F. C. Newton. p. 51. Worcestershire Plants, R. F. Towndrow, p. 57. Further Notes on *Epilobium* Hybrids, R. H. Compton, p. 79. *Parnassia palustris* var. *condensata*, J. A. Wheldon & W. G. Travis, p. 85. Notes on *Statice*, C. E. Salmon, p. 92, in which the plants only recently put under *Limonium* are once again placed under *Statice*, *S. humilis* and *S. recurva* being new specific combinations. The British Species of *Arctium*, A. H. Evans, p. 113, suggests using *A. vulgare* (Hill) Evans to replace *A. nemorosum* and *A. intermedium*. Two New Scottish Hawkweeds, *H. Isabellae* and *H. Shoolbredii*, p. 119. A New Hybrid Rock Rose, p. 182, Rev. E. S. Marshall, Phillip Miller's Plants, p. 132, J. Britten. *Spergularia atheniensis* in England, G. C. Druce, p. 137. Plants of the Dalwhinnie District, 1911, E. S. Marshall & W. A. Shoolbred, p. 164. Notes on Mid Perth Plants, J. R. Matthews, p. 193. Cornish Notes, C. C. Vigurs, p. 197, includes *P. Timbali* Jord. from Par. *Maianthemum bifolium* Schmidt, in England, A. B. Jackson, p. 202. Carnarvonshire Plants, S. H. Bickham, E. S. Marshall, & W. A. Shoolbred, p. 241. *Nepeta Glechoma* var. *parvifolia* Benth. in Surrey, Eleonora Armitage, p. 253. Caithness Plants, p. 278, and *Rhyncospora fusca* in Britain, p. 295, A. Bennett. Isle of Wight Plants, F. Stratton, p. 285. Further Notes on the Denbigh Flora, A. A.

Dallman, Supplement, contains many records, but most of the plants marked with an asterisk as new have already been published for that county, some in *Top. Bot.* and others in Mr Dallman's previous notes. The aliens and varieties, which are asterisked, form no part of *Top. Bot.* *Hypericum Desetangsii* Lamotte in Britain, C. E. Salmon, p. 317. *Helleborine viridiflora* in Britain, J. A. Wheldon & W. G. Travis, p. 343. *Juncus balticus* Willd. in England, R. S. Adamson, p. 350.

Icones Florae Germanicae et Helveticae. Reichenbach. Tom. 25/2, decas 15 tt. 80-3. Rosaceae contd. auct. G. Beck; decas 16, 17 tt. 84-91.

Monographie du Genre Œnothera. H. Leveille. Fasc. 3, pp. 409-466, 1913. 8vo.

The British Rust Fungi (Uredinales), Their Biology and Classifications. W. B. Grove. Camb. Univ. Press. Demy 8vo. pp. xii., 412. 290 fig. 14/-.

Flora der Gefürsteten Grafschaft Tirol, etc. Dalla Torre & L. G. v. Sarnthein. vi. Band. pp. xi., 495. 25 marks. Contains the Bibliography, and Index of species, names, etc. 1913.

The Botany of Iceland. L. Rosenvinge & E. Warming. Marine Algae by H. Jonson. Part I. 8vo. pp. 186, 1912. J. Wheldon & Co., London.

Der Formenkreis des Cirsium eriophorum (L.) Scop. in Europa. F. Petrak. Bibliotheca Botanica, Heft 78. Stuttgart 1912, pp. 92. 6 plates. 35 text figures. In this Monograph the author divides *Cirsium eriophorum* L. into 7 sub-species, our British plant receiving the name *Cirsium britannicum*, ignoring the existence of *Cirsium britannicum* Scop., which is wrongly identified by Dr E. Williams *Prod. Fl. Br.* with *Carduus pratensis* Huds. Scopoli's plant, as is proved by his description in his *Itinerary*, and his references to Haller, etc., is *C. heterophyllum.* It is, however, doubtfully lawful, and certainly not advisable to use the name *britannicum* for the English plant which is not, except as an alien, found in Scotland. Our plant is diagnosed "Capitula ovata raro ovato-globosa mediocria vel magna. Involucri parce arachnoidei foliola abrupte sub spinula in ligulam parvam-ovatam vel ovata-rotundata dilatata." Petrak gives Scotland

for his *britannicum*, which is based on the record in Lightfoot's *Flora Scotica*, p. 455, but Lightfoot's record is taken from Sibbald, who states that it was found "by the seaside between Blackness and the Queensferry," and Lightfoot himself queries this record. If it were ever found there it would be only as an alien, as which it has from time to time appeared north of the Tweed. Petrak cites without any query the plate in Sowerby [sic Syme] *Eng. Bot.* v., t. dclxxxvii. The details of the hüllschuppen in his monograph are drawn from a Huntingdon specimen. He gives as its habitat "Locis apricis, lapidosis, siccis, elatioribus Britannicae et Scotiae." But it is by no means an upland species, in fact it is almost absent from our chalk hills, and in Yorkshire does not ascend (see Lees *Fl. N. W. Yorks.*) above 300 feet. Besides *C. eriophorum* 13 allied species are described, as well as several hybrids. It is to be regretted that the author had not the opportunity of seeing our British plant growing in its native state.

A Manual Flora of Egypt. R. Muschler. 2 vol., pp. 1312 8vo. Friedlander, Berlin, 40/. A most handy work written in English, with an introduction by Prof. Ascherson and Schweinfurth, with clear descriptions of 1504 species, an account of the Phytogeography and Geology, Glossary, Tabular view of Species, an Alphabetical list of the Arabian names, and the history of Botanical discovery in Egypt. We notice *Weingaertneria* is rightly retained in preference to *Corynephorus*, despite the *Actes*, that *Pennisetum americanum* L. correctly displaces *P. typhoideum*, but that *Lepturus incurvatus*, *Hordeum maritimum*, and *Juncus glaucus* are wrongly used for *L. incurvus* Druce, *H. marinum* Huds., and *J. inflexus* L.

La Flore Saharienne, un Apercu Photographique. Dr A. S. Gubb, Paris. Paul Geuthner, le Rue Jacob, 1913. pp. xxxii., 129, with 126 photo reproductions of characteristic desert plants. The Arab names are given where possible, and many of the illustrations are of plants in situ, not the least interesting being that of the Cauliflower of the desert—the weird *Anabasis aretioides* from the Sahara ou de Bou-Hamama, and that of the striking *Phelipaea violacea*. The Rose de Sable does not, as its name might suggest, belong to the *Rosaceae*, but is an extraordinary crystallization of sulphate of calcium of a rose-like form varying in size from an apple to a man's head.

DAS PFLANZENREICH. A. ENGLER. iv., 228. Umbelliferae—Saniculoideae, von Hermann Wolff. Dec. 16, 1913. pp 305. 15 marks 80. Includes *Sanicula europaea*, *Eryngium campestre* and *maritimum*.

INDEX KEWENSIS PLANTARUM PHANEROGAMARUM SUPPLEMENTUM QUARTUM Nomina et Synonyma omnium Generum et Specierum ab initio anni MDCCCCVI ad finem anni MDCCCCX nonnulla etiam antea complectens ductu et consilio D. PRAIN confecerunt Herbarii Horti Regii Botanici Kewensis Curatores. Oxonii e prelo Clarendoniano, 1913. pp. 252. £1 16/ nett. The continuation of the monumental work keeps up its high reputation for accuracy and clearness of typography. To the nomenclaturist the inclusion of Garsault's accidental binomials is of interest since if they are to be cited, the still earlier ones of Miller (*Gard. Dict.*, 1754) and of Hill (*British Herbal*, 1756) can scarcely be ignored in future numbers. Another feature is the disuse of italics for synonyms. It seems rather undesirable to change a plan used in 4 vols. of the *Index* and in three of its *Supplements*, although doubtless a saving is effected in 'corrections.' *Centaurium capitatum* is cited from the *British Seed List*, but it dates from Druce in *Ann. Scot. Nat. Hist.* 48, 1905.

Other omissions from this and the other *Supplements*, include *

Arenaria sedoides (L.) as *Cherleria*, *Ann. Scot. Nat. Hist.* 240, 1907, not of Froel. *Benthamia angustifolia* (Lehm.) as *Amsinkia*, *British Plant List*, 103. *Benthamia spectabilis* (Fisch. & Mey.) as *Amsinkia*, *l.c.* 103. *Brassica Pollichii* (Sch. & Spenn.) as *Erucastrum*, *l.c.* 7. *Centaurium intermedium* (Wheldon) as *Erythraea*: a hybrid of *C. umbellatum* and *vulgare*, *Ann. Scot. Nat. Hist.* 48, 1905. *C. latifolium* (L.) *l.c.* 48, 1905; 242, 1907. *C. pulchellum* (Fries) *l.c.* 242, 1907 (Hayck. in Oester. Bot. Zeit. 70, 1906, called it *Centaurion*). *C. tenuiflorum* (Link) Hoffmg. & Link, *Bot. Exch. Clnb Rep.* 350, 1908. *Chorispermum syriacum* (Boiss.) (vice *Chorispora*) *British Plant List*, p. 8. *Eriophorum paniculatum* (Lam.) as *Linagrostis*, *Ann. Scot. Nat. Hist.* 227, 1906. *Festuca membranacea* (L.) as *Stipa*, *l.c.* 229. *Franseria acanthicarpa* (Hook) (*Ambrosia acanthicarpa Hook.*) = *F. Hookeriana* Nuttall (see *Bot. Exch. Club Rep.* 415, 1908). *Gattenhoffia pluvialis* (Moench as *Dimorphotheca*) *British Plant List*, p. 38. *Gentiana Pamplinii Bot. Exch. Club Rep.* 379, 1892, *Ann. Bot.* x., 621, 1896, as a hybrid of *G.*

Amarella & germanica. Habenaria Gymnadenia, Druce *Fl. Berks* 479, 1897. *H. virescens* (Zollik.) *Ann. Scot. Nat. Hist.* 244, 1907, vice *H. chloroleuca* Ridley. *Helleborine media* (Fries as *Epipactis*), *Ann. Scot. Nat. Hist.* 48, 1905 ; *H. sessilifolia* (Peterm.) *l.c.* 48. *Kentranthus Calcitrapa* (Dufr. as *Centranthus*), *British Plant List*, p. 34. *K. ruber* (L.) Druce *Fl. Berks* 268, 1897, vice *Centranthus ruber. Lappula minima* (Lehm.) vice *Echinospermum*, *British Plant List* p. 50, 1908. *L. Szovitsiana* (Fisch. & Mey.) vice *Echinospermum l.c. Legousia pentagonia* (L.), *British Plant List* 46, Jan. 1908; earlier than Thellung in *Vier Ges. Zurich* xlv., 465, 1908. *Lepturus incurvus* (L.) (vice *L. incurvatus*), *British Plant List*, 85. *Ornithopus pinnatus* (Miller), *Journ. Bot.* 420, 1907. *Oryzopsis trichotoma* (Nees) (as *Stipa*), *Bot. Exch. Club Rep.*, 420, 1909. *Radicula erythrocaulis* (Borbas), *Bot. Exch. Club Rep.*, 412, 1909. *Rhinanthus borealis* (Stern.) as *Alectorolophus*, *Ann. Scot. Nat. Hist.*, 178, 1901 in syn. *R. Drummond-Hayi* (Stern.) *l.c.* 171, 1903. *R. monticola* (Stern.) *l.c.* 178, 1901, et 171, 1903. (See also *Journ. Bot.*, 359, 1903.) *Saxifraga Farreri*, *Bot. Exch. Club Rep.*, 256, 1907, (*S. hypnoides* × *tridactylites*). *Wilckia Chia* (DC.) (vice *Malcomia*), *Bot. Exch. Club Rep.*, 412, 1909. *W. crenulata* (Boissier), *British Plant List*, p. 6, 1908.

* The authority for all the above in the places cited is Druce.

LINNAEA BOREALIS, Monographische Studie. EMIL GIGER in Beihefte Bot. Centralblatt. Band xxx., Zweite Abt. Heft. i., 1913, pp. 1-78. This gives a very complete account of the world distribution, the associates, insect visitors, and literature of this charming species.

BEITRAGE ZUR KENNTNISS DER MENTHENFLORA VON MITTELEUROPA. ANTON TOPITZ. Beihefte Bot. Centralblatt. Band xxx. Heft 2, 1913, pp. 138-264. Six major species are first described, *e.g.*, *Mentha rotundifolia* (7 vars.), *M. longifolia* (33 vars.), *M. viridis* (10 vars.), *M. aquatica* (21 vars.), *M. arvensis* (19 vars.), and *M. Pulegium* (3 vars.). Then the more fixed hybrids are given, *i.e.*, *M. villosa* Huds. (*M. rotundifolia* × $\left\{ \begin{matrix} longifolia \\ viridis, \end{matrix} \right.$) of which *M. alopecuroides* Hull is one of the 19 vars. ; *M. Maximiliana* Schultz, not yet recorded as British = (*aquatica* × *rotundifolia*), with 3 vars. ; *M. dumetorum* Schultz = (*M. aquatica* × $\left\{ \begin{matrix} rotundifolia \\ longifolia \end{matrix} \right.$) = *M. pubescens* et *hirta*

(Willd.), with 14 vars. ; *M. piperita* (*M. viridis* × *aquatica*), with 5 vars., including *M. citrata* ; *M. verticillata* (*aquatica* × *arvensis*), with 14 vars. ; *M. gentilis* (*M. arvensis* × *viridis*), with 3 vars., including *cardiaca* ; *M. rubra* (*M. verticillata* × *viridis*), with var. *Wirtgeniana* ; *M. dalmatica* Tausch (*M. arvensis* × *longifolia*), with 8 vars. ; and *M. carinthiaca* (*M. arvensis* × *rotundifolia*), with 5 vars.

ŒNOTHERA OF THE S. LANCASHIRE COAST. J. A. WHELDON. Lanc. Naturalist, Sep. 1913. States that the date on the original drawing of *Œ. biennis* in *Eng. Bot.* is given as 1805. *Œ. Lamarckiana* was distributed through this Club in 1905 by Mr C. Bailey.

ŒNOTHERA. TETRAPLOID MUTANTS AND CHROMOSOME MECHANISMS. R. R. GATES in Biol. Centralblatt 92, 1913.

ŒNOTHERA, THE MUTATION OF. T. J. STOMPS in Biol. Centralblatt. Band xxxii., n. 9, pp. 521-535, 1913.

ŒNOTHERA. THE PROBLEM OF THE ORIGIN OF Œ. LAMARCKIANA, by B. MOORE DAVIS. New Phyt. 233-241, 1913. Reprint. *Œ.* Lamarckiana is suggested to be a form of *Œ. grandiflora* [Solander] in Aiton Hort. Kew. ii., 2, 1789. The author distinguishes *Œ. biennis* and *Œ. Lamarckiana* by the following characters :—

BIENNIS.	LAMARCKIANA.
Stem without red papillae.	Stem with red papillae.
Petals 2—2.5 cm. long.	Petals 4—4.5 cm. long.
Stigma well below the tips of the anthers.	Stigma 5—7 mm. above the tips of the anthers.
Sepals normally green.	Sepals sometimes streaked with red.

The *Œ. biennis* referred to is the Dutch plant. It must be borne in mind that some races close to *Œ. biennis* have the stem colouration of *Lamarckiana*, and some small-flowered races of *Lamarckiana* have petals about the size of *biennis*, and the stigma is in a lower position, thus approaching *Lamarckiana*.

GENETICAL STUDIES IN ŒNOTHERA. BRADLEY MOORE DAVIS. American Naturalist 449-571, 1913. Describes hybrids of *biennis* and *Lamarckiana*.

A Much Desired Œnothera. By the same author. The Plant World 145-153, 1913. Any member possessing old specimens (prior to 1850) of the Liverpool *Œnothera* is asked to inform the Secretary.

Wild Flowers as they Grow. Cassell & Co. 5/- nett. 1913.

Trees as they Grow. Cassell & Co. 6/- nett. 1913.

Census Catalogue of British Hepatics. W. Ingham, 52 Haxby Road, York. 36 pp. 1/-; 1/6 interleaved. 1913.

The Early Naturalists: Their Lives and Work (1530?-1789). L. C. Miall, D.Sc., F.R.S. 8vo., pp. 12, 396., 10/- nett. Macmillan.

Mendel's Principles of Heredity. W. Bateson, M.A., F.R.S. pp. ix., 414. Camb. Univ. Press. 1913.

Researches on the Irritability in Plants. J. Chunder Rose, M.A., D.Sc., C.S.I. pp. xxiv., 376. Longmans Green & Co. 1913.

Wild Flower Preservation: A Collector's Guide. Mary Coley. 29 illust., 8vo., pp. 191, 3/6 nett. T. Fisher Unwin.

A Hand List of the Lichens of Great Britain, Ireland, and the Channel Isles. Compiled by A. R. Horwood. pp. 45, 1/- nett. Dulau. 1913.

Flora of Widnes and District. A list of plants compiled by the Field and Camera Club of the Widnes Secondary School, numbering 383 native species, which have been observed in this unpromising area.

Catalogue of Hardy Trees and Shrubs growing at Albury Park, Surrey. Compiled by A. Bruce Jackson. Private distribution. West Newman & Co. 1913. This is a very neat, handy, well printed, and useful catalogue of the species grown in the Duke of Northumberland's beautiful seat in Surrey. Considerable points of interest are included. A Black Poplar is said to be 150 feet in height, hence one of the tallest trees in Britain; a new variety of *Juglans nigra* L., var. *alburyensis* is

described. Some of the names used scarcely comply with the rule of priority, *i.e. Quercus pedunculata, Betula verrucosa, Laburnum vulgare*, but they are in common use. The Duke's example in having this book prepared might well be followed by other landowners.

PLANT ECOLOGY OF BEN ARMINE, SUTHERLAND. W. B. CRAMPTON. Scottish Geogr. Mag. 29, 1913. pp. 169-192, 256-266.

JOURNAL OF ECOLOGY. Camb. Univ. Press. Quarterly, 5/- parts. Annual Sub. 15/- nett. Some Remarks on Blakeney Point. F. W. OLIVER. Vol. i., pp. 5-16, 1913.

Reconnaissance in the Cotteswolds and the Forest of Dean. A. G. Tansley and R. S. Adamson.

The Relation of the present Plant population of the British Isles to the Glacial Period. Clement Reid, pp. 42-46.

ANNALS OF BOTANY, vol. xxvii., p. 607, 1913. Contributions to our knowledge of the species of *Utricularia* in Great Britain. Dr HUGO GLÜCK.

GARDENER'S CHRONICLE, 1913. Blakeney Point, Norfolk, The New Nature Reserve. F. W. Oliver, p. 97, with illustration of *Suaeda fruticosa*.

ACTES DU CONGRES INTERNAL DE BOT. E. DE WILDEMAN. Bruxelles 1910. Vol. i. Comptes-Rendus des Séances, Excursion, etc., 1912, pp. 383. Planches 16. Vol. ii. Conférences et Mémoires, pp. 234. Planche 57, numerous maps, 1912, A. de Boeck. Includes a valuable paper, La Protection de la Nature en Suisse, by Dr C. SCHROETER, illustrated with beautiful reproductions of Photographs. La Cinquantième Herborisation Générale de la Société Royale de Botanique de Belgique. Sur le littorale Belge, by JEAN MASSART. The plants noticed were to a very large extent similar to those on the Eastern Coast of Britain, but the following not as yet recorded as British were observed about Ostend :—*Senecio Jacobaea* var. *dunensis* Dumort., *Erodium Boraeanum* Jord., *Anchusa officinalis* var. *glabrescens* Dumort. As at Southport *Monotropa* and *Pyrola rotundifolia* are associated. *Viola tricolor sabulosa* is a conspicuous plant, which Dr Williams asserts is not British. (*Journ. Bot.* 349, 1911.)

Pour la Protection de la Nature en Belgique. JEAN MASSART. pp. 308, with 350 illustrations and maps, 1912. H. Lamertin,

Rue Coudenberg 58, Bruxelles. A very powerful appeal for the acquisition of interesting areas for the preservation of indigenous fauna and flora, with beautiful photographs showing what may be saved.

Les Naturalistes Actuels et L'Etude de la Nature. Hayey, Rue de Louvais 112, Bruxelles, 1912. Lecture delivered at L'Academie Royale de Belgique, 17th Dec. 1912. Jean Massart.

Topography and Vegetation of Blakeney Point. F. W. Oliver & E. J. Salisbury. pp. 58, 1913. F. J. Smith, Univ. Coll., Lond., 1/6.

Orchidaceenstudien zur Innsbrucker Flora. S. Engensteiner. Allgem. Bot. Zeitschrift xviii., Jahr. 1912, pp. 109-111. Bitrage zur Flora von Tirol, etc. J. Murr. *l.c.* pp. 103-8, 132-134, 141.

Contribution a L'Etude des Composees. G. Beauverd. Suite vi. Bull. Soc. Bot. Genève, vol. iv., pp. 12-55, 1912. Recherches sur les Melampyres, *l.c.* pp. 325-6.

Zum Formenkreis von Veronica Anagallis L. und V. aquatica Bernh. E. Krösche. Allgem. Bot. Zeitschrift, pp. 129-132, 1912.

Flora von Stiermark. A. Hayek. 2 Band. Heft 6. Bogen 26-30. Berlin, 1912, 3 marks. Heft 7, May 1913, 3 marks.

Rubi Europae vel Monographia iconibus illustrata Ruborum Europae. H. Sudre. Fasc. v., pp. 161-200. t. clvi.-cxcv. Folio.

Die Ungarisch-Oesterreichische Flora des Carl Clusius vom Jahre 1583. Dr H. Christ. See Oesterr. Botanisc. Zeitschrift, p. 426, 1912; pp. 131-136, 159-167, 1913. Many of the names used by Clusius are identified with their modern equivalents, and a brief biographic notice is also given.

Adventiv-Flora von Gross Britannien. J. Murr. Allgem. Bot. Zeitschrift, xix., pp. 13-15, 1913.

CERASTIUM-TANULMANYOK (ETUDES DE CERAISTES). S. BORZA. Botan. Köslemények, pp. 41-79, 1913.

A FLORA OF MANILA. E. D. MERRILL. 8vo. pp. 490, 1912.

THE LAND OF THE BLUE POPPY. F. K. WARD. Travels of a Naturalist in Eastern Tibet. Camb. Univ. Press. pp. xii., 284. 40 plates, 5 maps. 12/.

LYCOPODIALEN HOKAIDOS NEBST DENEN VON JAPANISCH-SACHALIEN. H. TAKEDA. Bot. Mag., Tokyo, vol. xxiii., n. 274, 275, 1909, includes a description of *L. alpinum* var. *planiramulosum* Takeda, allied to *L. alpinum* var. *decipiens* (Syme).

PLANTES NOUVELLES OU CRITIQUES DE LA FLORE DU BASSIN SUPERIEUR DU RHONE. G. BEAUVERD. Bull. Bot. Soc. Genève. 2me Ser. iv., 1912, n. 9. Mars 29, 1913, pp. 388-444.

PRESIDENTIAL ADDRESS ON THE DEVELOPMENT AND DISTRIBUTION OF THE GENUS EUCALYPTUS. R. H. CAMBAGE. pp. 58 and Map. G. Roberts, 17 Warwick Sq., London, E.C.

NOMENCLATURE OF HEGETSSCHWEILER FLORA DER SCHWEIZ 1838-1840. A. THELLUNG. Renjahrsbl. der Gelehrten Gessells, in Zurich, 1913.

GEOLOGICAL RELATIONS OF STABLE AND MIGRATORY PLANT FORMATIONS. C. B. CRAMPTON. Scot. Bot. Rev. 1912.

PRACTICAL BOTANY. F. CAVERS, D.Sc., F.L.S. Provides a course of Elementary Practical Botany suited to modern requirements. University Tutorial Press, New Oxford St. 4/6.

TEXT BOOK OF BOTANY. J. M. LOWSON, M.A., B.Sc. Fifth Edition. University Tutorial Press, New Oxford St. 6/6.

A TEXT BOOK OF BOTANY. Drs EDUARD STRASBURGER, LUDWIG HOST, HEINRICH SCHENCK, and GEORGE KARSTEN. Fourth English Edition, revised with the tenth German Edition by Prof. W. H. Lang. pp. xi., 767, with 782 Illust. Macmillan & Co. Price, 18/ nett.

Syllabus der Pflanzenfamilien. Adolph Engler. Dr Ernst Gilg, 457. Abbild xxxii., 387. Berlin, 1912.

Bemerkungen über Farn-Pflanzen Steiermarks. H. Woynar. In Sonder-Abdruck aus den Mitteilungen des Naturwissenschaftlichen Vereines für Steiermark. pp. 120-200, 1912. Is an erudite paper on Fern nomenclature.

Systematik der Gefasspflanzen. A. Thellung. Berichte der Schweizerischen Botanischen Gesellschaft. Heft xxii., pp. 81-92, 1913. Contains a list of 57 papers on Systematic Botany published in 1912.

Floristik der Gefasspflanzen. A. Thellung. *l.c.*, pp. 93-109. Notices 63 publications.

La Flore Adventice de Montpellier. A. Thellung. Cherbourg, A. Le Maout. 8vo. pp. 728, 1912.

Pflanzengeographische Monographie des Bernina-Gebietes. E. Rübel. Engler's Bot. Jahrs. xlvii., Heft 1-2, 1911, pp. 1-296. Heft 3-4, 1912, pp. 297-616, mit 20 Fig. in text, 1 Karte, 1 farbigen Tafel, and 58 Vegetation Bildern (Tafel i-xxxvi.).

Description of Wild and Cultivated Species of Aster and Helianthus in Mittel-Europa. A. Thellung. Allg. Bot. Zeitsch. No. 6, 7-8, 9, 1913. An exceedingly useful key to these difficult Composites.

Weitere Beitrage zur Nomenklatur der Schweizerflora (IV.) Hans Schinz und Albert Thellung. In Mitteilungen aus dem botanischen Museum der Universitat Zurich (LXV.). In this interesting paper the authors have contrasted the specific names in Rouy & Foucaud's *Fl. France* and Ascherson & Graebner's *Synopsis* for the Monocotyledonous Orders from Alismaceae to Cyperaceae, showing that in 39 instances different names are employed. The authors then give instances of necessary changes of names for some of the plants mentioned in the Swiss Floras. Among these are Panicum Ischaemum Schreber ap. Schweigger Sp. Pl. Erlang., 16, 1804, instead of *P. lineare* Krocker, 1787, non L., and *P. glabrum* Gaudin. Gastridium ventricosum (Gouan) Schinz & Thell. comb. nov., which is

based on *Agrostis ventricosa* Gouan Hort. Monsp. 39, 1762, and is earlier than *Milium lendigerum* L. Sp. Pl. 91, 1763. BROMUS PRATENSIS Ehrh. ex. Hoffm. Deutsch. Fl., ed. 2, ii., 52, 1800, vice *B. commutatus* Schrader. This I should only give as a sub-sp. *B. pratensis* (Ehrh.), comb. nov. CAREX VERNA Vill., vice *C. caryophyllea* Latour. C. HOSTIANA DC., vice *C. Hornschuchiana* Hoppe; but has not *C. fulva* Host been overlooked? CAREX FUSCA All. Fl. Pedem. ii., 269, 1785, not of Herb. or of L. C. Bailey, vice *C. Goodenowii* Gay. [*C. fusca* has been used in varied senses.] ARMORACIA LAPATHIFOLIA Gilib. Fl. Lituan. iv., 53, 1782, vice *A. rusticana* G. M. et S. Fl. Wett. ii., 426, 1800. POTENTILLA PARVIFLORA Gaudin ex Mirith Guide Bot. Vallis, 88, 1810, vice *P. thuringiaca* Bernh. in Link Enum. Hort. Berolii, 64, 1822. OXYTROPIS SERICEA L. (Lam.), Simonkai Enum. Pl. Transs. 178, 1886, vice *O. uralensis* DC. Astrag. 68, 1802. VICIA TENUISSIMA (M. Bieb.) Schinz & Thell., comb. nov., vice *V. gracilis*, Lois. Fl. Gall. ii., 460, 1807. It is based on *Ervum tenuissimum* Marsc.-Bieb., Tabl. Casp. 185 app.n. 55, 1798. EPILOBIUM ALPINUM L. is properly retained in the usual sense. UVA-URSI is adopted instead of *Arctostaphylos* Sprengel, a dangerous precedent. Why not then adopt *Dens-leonis* Hill, etc? SYMPHYTUM UPLANDICUM Nyman Syll. Fl. Europ. 80, 1854, vice *S. peregrinum* Briggs in *Bot. Exch. Rep.* for 1877-8, 17, but see *Index Sem. Hort. Dorpat.* 4, 1820. RHINANTHUS is wisely retained instead of *Alectorolophus*. OROBANCHE BARBATA Poiret, vice *O. minor* Sm., and O. VULGARIS Poiret, vice *O. caryophyllacea* Sm., as suggested by Mr F. Williams. GALIUM PUMILUM Murray Prod. St. Gott. 44, 1770, vice *G. asperum* Schreber, 1771. ARCTIUM NEMOROSUM Lej. & Court. in Mag. d'Hort. i., 289-290, 1833, et Comp. Fl. Belg. iii., 129, 1836, vice *Arctium intermedium* Lange Handb. Dan. Fl. 463, 1851, et vice *A. vulgare* A. H. Evans in *Journ. Bot.* 117, 1913, "non *Lappa vulgaris* Hill." The following is an abstract of their views:—"The validity of the name *A. nemorosum* Lej. & Court. has been in recent times repeatedly attacked (especially by A. V. Hayek, Dalla Torre, Sarntheim, Druce, Moss, etc.). The ground is this, that in the Kew Index it is to be deplored that the two oldest citations of 1833 and 1836 are wanting and (as the reference for *A. nemorosum*) only "Lejeune in Reichb. Ic. Fl. Germ. xv., 81" [erroneously instead of 54) is given, where the name stands only in the synonymy of *L. intermedia*. Meanwhile *A. nemorosum*, with the authority "Lej. et

Court. Compend. flor. Belgicae manscr." had been validly published already in 1833 in the *Magazin d'Horticulture*, t. i. . . . and, indeed, on p. 289 with a short French description, and on p. 290, where the characters of the four species, *A. minus* Schkuhr, *majus* Gmel., *nemorosum* nobis, and *tomentosum* Schkuhr, were set opposite each other, again with brief differential diagnoses. In the *Compendium* itself (1836) the species then appears with a Latin description. The belonging of *Lappa macrosperma* Wallr. to our species was recently doubted by Moss, who would assign Wallroth's plant rather to *A. majus* Schkuhr (= *A. Lappa* L.), yet certainly with injustice, for even if the accuracy of Ray's synonyms as doubtfully cited by Wallroth be questioned, yet Wallroth's diagnosis ("capitulis racemoso-virgatis") admits of no doubt about the identity of the species. (Conf. also Koernicke *l.c.*, 1864). A. H. Evans (*Journ. Bot.*, Apl. 1913) cites for *L. intermedia* Lange Fl. Dan. t. 2663, fasc. 45, 8, 1844. The three species of *Lappa* described and figured by Hill (*Veg. Syst.*, 1761) we identify as follows:—*L. vulgaris* = *A. Lappa* L. (*L. major* Gaertner); *L. arctium* = *A. tomentosum* Miller; *L. minor* = *A. minus* (Hill) Bernh. [To this may be added that in the *Ann. Scot. Nat. Hist.* 222, 1906, I had come to the same conclusion, and had made *A. vulgare* (Hill Veg. Syst. iv., 28, 1762) = *A. majus* Bernh. In *Bot. Exch. Club Rep.* 195, 1912, I stated that Dr Thellung had shown that *A. macrospermum* was more recent than *A. nemorosum.*] Viola canina L., vice *V. ericetorum*, Schrad., is used in the sense I have already urged. The authors say:—"In an article which lately appeared 'On the Name *Viola canina*' (*Journ. Bot.*, Sept. 1911), A. I. Wilmott seeks to adduce proof that by the splitting up of the Linnean collective species *V. canina* (= *canina* auct. + *rupestris* Schmidt + *silvestris* Lam. em. Kit. Rchb. + *Riviniana* Rchb., etc.) the name must in a restricted sense be upheld for *V. Riviniana* Rchb. (1823) . . . It is meanwhile not difficult to bring forward weighty arguments in favour of the retention of general names in common use for questionable species. At once it follows from Linnaeus' diagnosis (foliis oblongo-cordatis) and the habitat (in Europae apricis) that the author at least wished the *V. canina* auct. (*ericetorum* Schrad.) to be understood under his species, and also the statement 'habitat in pascuis et campis' in the *Flora Suecica* (1745) and later ed. 2 (1755) which equally is cited after the *Hortus Cliffortianus* in the first place in the synonymy speaks absolutely for this acceptation

(*V. canina* L. = *V. ericetorum* Schrad.). In addition to that it happens that according to Reichenbach (1823) and Rouy and Foucaud, *Fl. Fr.* (1896) the *V. canina*, Hayne, *l.c.* iii. (1813) belongs to *canina* auct., so that this author has not yet seized the exact splitting up of the Linnean aggregate species (his *ericetorum* is consequently a superfluous name) one such resulted first in 1814, through Schultes (*Oesterr. Fl.* ed. 2, 1814) in which *canina* L. is specified in the sense of *canina* auct. rec. and *silvestris* Kit. = *silvatica* Fr. vel *Riviniana* Rchb. . . [Here I may interpolate the fact that Schrader never published *V. ericetorum.*] Only after the *Fl. Suecica* did Linnaeus cite the synonymy of Haller and Bauhin, which consist, according to Wilmott, for the most part of *V. Riviniana* (and *silvestris*), and which this author brings forward as being decisive of his view. But the circumstance that the older English authors (up to about 1800) have used the name *canina* in the sense of *Riviniana* respecting *silvestris*, cannot be held to turn the scales in the face of the incongruity with the Linnean diagnosis and in opposition to the restriction in his *Flora Suecica* (conf. also the very just remarks of Reichenbach *Fl. Germ. Excurs.* sect. 3, 1832). The herbarium of Linnaeus, as is often the case, can give no reliable explanation of the question: according to Fries (1842) the *V. canina*, Linn. Herb. belongs to *silvatica*; according to Wilmott, on the other hand, it represents a mixture of *canina* auct. and *rupestris* Schmidt." LACTUCA ALPINA Benth. appears under the unusual name *Cicerbita alpina* Wallroth.

A NEW FLORA OF SHROPSHIRE is offered to subscribers at 10/6. Orders may be sent to Mr E. S. Cobbold, Church Stretton, Salop.

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A SUPPLEMENT TO MURRAY'S FLORA OF SOMERSET is being prepared by the Rev. E. S. MARSHALL for the Committee of the Somerset Archaeological and Natural History Society.

THE VEGETATION OF YORKSHIRE. Its History and Associations on the lines of Botanical Survey, based on the Geologic and Phyto-palaeologic remains: being an examination into the sources, the presence or passing of the Floristic Constituents—their When and How and Where: being also a Supplement to previous "Floras" of York, and a list of the Localities and Species, newly classified, new to the County or some of its river basins since 1888, by F. ARNOLD LEES. The Brambles by A. E. Bradley. Demy 8vo., about 500 pages. Subscription 12/6 net. London: A. Brown & Sons, 5 Farringdon Avenue, E.C.

BRITISH FLOWERING PLANTS. From drawings, in water colour, by Mr HENRY PERRIN, with notes and an introduction by Prof. G. S. Boulger, F.L.S. Three vols., royal quarto. Twelve guineas. B. Quaritch, London.

THE FLORA OF NOTTINGHAMSHIRE by Professor CARR is nearing completion.

SAGINA PROCUMBENS × SAGINOIDES, C. M. LINDMAN in Botaniska Notiser, 267, 1913. An extremely valuable and able paper of 16 pages, from so eminent a critical authority as Prof. Lindman, who goes very minutely into the history of the above plant. He mentions that *S. scotica* from Ben Lawers had been named by me as a true species in *Bot. Exch. Club Rep.* 14, 1911, while Dr Ostenfeld had named it as above in *New Phyt.* 117, 1912, and "that these two different views do not really contradict each other, but that both admit of being defended." Lindman has been able to identify it in herbaria from many localities in Sweden and Norway; Lapponia; North Iceland; Mont d'Or, France; Riesengebirge, Germany; Rigi, Switzerland; Salzburg, Moravia, Austria; Cottian Alps, Piedmont; Yenisei, Asia; Behring Island; America; Greenland W. and E. It would be interesting to know if in all these cases the two supposed parents also occur with it. He states the hybrid was recorded as early as 1868 from Bernina in Switzerland by C. C. Brügger (*Jahresb. Naturf. Ges. Graubünd* ii., 23-4, p. 47, 1880-1881) under the name *S. media*, that it appears as *S. hybrida* Kern., in *lit.*, and in Dalla Torre's & Sarnth. *Fl. Tirol.* ii., 155, 1909, and that it was discovered at Tromsö in the northernmost parts of Norway by Prof. G. Lagerheim, who published it as *S. Normaniana* in *Kgl. Norske*

Vidensk. Selsk. Skrift. No. i, 1898. Lindman says he has no doubt that the cultivated specimens of the original plant which he has seen are identical with widely spread Scandinavian small flowered *Sagina*, and that he cannot distinguish them from the Ben Lawers plant. But Dr Schinz tells him, that so far as *S. media* Brügger is concerned, he does not believe any true hybrid *procumbens* × *saginoides* exists in Switzerland, but that *S. media* is a form of *procumbens* with occasional pentamerous flowers, which will appear in the 3rd edit. of *Flore der Schweiz* as forma *intermixta* Beck. Brügger's own specimen labelled *procumbens* × *saxatilis* is this form; but in his herbarum his collection of *S. procumbens* contains some plants which Prof. Lindman thinks may be the hybrid. He goes on to ask whether this widely distributed plant should be considered as a mere hybrid. "There may theoretically exist grounds for that view, but there is no complete evidence, and practically it is very tempting to treat this plant as a species on account of its wide and fairly continuous distribution, well marked differences from other *Saginae*, and uniformity over the whole of its large area; it is very tempting indeed, notwithstanding its predominating sterility." On this point, however, Dr Lindman does not appear to be conversant with its behaviour in Britain. With us its pollen is normal, it seeds quite freely, even in my Oxford garden where there is no other *Sagina* grown to cross-pollinate it, and probably its shyness in seeding in other instances may be due to its creeping habit which often (as in the case of *Lysimachia Nummularia*) leads to apparent sterility. Wider and closer examination of it more and more convinces me that it is a good species, and this is also the opinion of Prof. Graebner, who has grown it in Berlin. It may be quite possible that there also is a hybrid of *procumbens* × *saginoides* which mimics it (as is stated to be the case with a hybrid *Hypericum perforatum* × *dubium* simulating *Hypericum Desetangsii*). Prof. Lindman says that Prof. Lagerheim has laid stress on the hybrid nature of his *Normaniana*, and alludes to Ostenfeld's opinion on the Ben Lawers plant, but, he adds, "several features might be said to point to a distinct species of a quite peculiar appearance. Moreover, as to this plant, I hardly think that the suppression of the sexual cells can in every case be regarded as sufficient proof in deciding this question. As to the pollen, I have examined a great number of flowers, and I was sometimes surprised to find the pollen grains all alike, and very well developed. The plant in question taken

as a proper species, and regarded in its whole geographical distribution, may thus comprehend some not equivalent forms. Nethertheless, in the majority of cases it shows a striking uniformity, and as sharp limits as both of the presumptive parents. Provided that it has a heterozygotic origin, we must not think that hybrid individuals arise again and again. I rather think that the majority of the *S. media* are not of to-day, but old specimens, bringing forth a numerous offspring by layers as long as they are devoid of seeds." Prof. Lindman points out that the figure *E.B.* t. 2105, 1810, is the true *S. saginoides* (L.), as is the plant labelled *Spergella macrocarpa* in Reichb. *Ic. Fl. Germ. et Helv.* v., fig. 4963 b. The plant in f. 4962 labelled *Spergella saginoides*, is, he says, *S. media*. Swartz (*K. Vet. Ac. Handl. Stockh.* 44t. if. 2, 1789) has correctly figured the Linnean species. It is also given in *Flora Danica* ix., t. 1577, 1818. Presl, when he described his *S. Linnaei* (*Rel. Haenk.* ii, i., 14, 1831), cites the *English Botany* figure for his plant, and I may add the plate of *L saxatilis* in Syme *E.B.* t. 249 is also this species, being the original *E.B.* drawing not very wisely altered.

A word may be added as to the use of the names *Sagina media* Brügger and *S. Normaniana* Lagerheim. With all due deference to Prof. Lindman, I would suggest that, assuming our plant to be a good species, both names appear to be untenable according to the *Actes*, as they were given to what was considered to be a hybrid plant, not a species. As regards *S. media* Brügger, the only available specimen so labelled by the author, is, as Thellung says, and as Lindman agrees, not even the hybrid, but only a form of *procumbens*, so that *media* should be rejected.

Robert Brown collected this plant on Ben Lawers in August 1794, and he considered it to be a new species In the British Museum Herbarium there are specimens labelled by him, "Nimis affinis Saginae procumbenti, differt praecipue floribus quinquefidis, decandris, pentagynis, capsulis longioribus, statura majore, pedunculis longioribus et denique statione alpina."

OBITUARIES.

Henry Groves, born Oct. 15, 1855, died at Clapham, Nov. 2nd, 1912. Educated at Godalming Grammar School, where he acquired a love for, and studied Botany and Natural History under the kind

supervision of Mr Peter Churton, the Headmaster. In later years he joined the South London Microscopical and Natural History Club of which he was Secretary from 1884-1897, when it was dissolved. He discovered *Vertigo Moulinsiana*, new to Britain, which he beautifully figured in the *Trans. Herefordshire Nat. Hist. Soc.*, 812, 1882. In 1877 in conjunction with his brother, still happily with us, he began to study *Characeae*. The first note on these plants appeared in *Journ. Bot.* 1878, when *Chara connivens* was recorded as a British plant. In 1880 the brothers published in the same Journal the *Review of the British Characeae*, the drawings being entirely made by Henry Groves. In 1892 the first set of the *Characeae Britannicae Exsiccatae* was issued, consisting of beautifully prepared specimens, the second appearing in 1900. In 1892 *Chara tenuissima* was added to the Irish Flora, and in the same year Henry Groves became a Fellow of the Linnean Society, serving on the Council from 1899 to 1902, and again in 1911, till the time of his death. In 1904, in conjunction with his brother, he edited the ninth edition of *Babington's Manual*. In 1907 he became a Trustee of the South London Botanical Institute, and in 1910 acted as Delegate of the Linnean Society at the International Botanical Congress. (See also Dr Stapf in *Proc. Linn. Soc.* 59, 1913.) His views on Nomenclature were sound, being based on uniformity of practice, and logical treatment, and it is greatly to be regretted that he was not at the Congress at Vienna, when so much that is unfair and arbitrary was adopted. In 1911 the account of the *Characeae* in Professor Urban's *Symbolae Antillanae* was contributed by the brothers Groves. He bore a long and wearisome illness (tuberculosis) with characteristic courage and patience. His premature death brought a feeling of personal loss to a large circle of friends. The foregoing is a brief abstract of a memoir of him by Mr James Groves which with his portrait appeared in *Journ. Bot.* 73, 1913. Among the Botanical papers written by Henry Groves either by himself or in conjunction with his brother are the following:—*Revision British Characeae* in *Journ. Bot.* 1880, pp. 97-103, 129-135, 161-167. *Chara obtusa* Desv., *Journ. Bot.* 1881, pp. 1-3. *Notes on British Characeae*, *Journ. Bot.* 1881, 353-356; 1883, 20-23; 1884, 1; 1885, 81; 1886, 1; 1887, 146; 1889, 65; 1895, 289; 1898, 409. *Ranunculus ophioglossifolius in Hants Journ. Bot.* 1882, 51; *Spartina Townsendi*, nova species, *Bot. Exch. Club Rep.* 1880, 37; and *Journ. Bot.* 1882, 1. *Rosa tomentosa* var. *Woodsiana*, *Bot. Exch. Club Rep.* 1880, 30, a

newly described variety now extinct in its original station. *Review of Characeae in Eng. Bot., Journ. Bot.* 1885, 350, 369. *Carex atrata in Easterness, Journ. Bot.* 1887, 27. *Epilobium alpinum, Journ. Bot.* 1889, 109. *Lycopodium complanatum, Journ. Bot.* 1891, 178. *Utricularia intermedia, Journ. Bot.* 1893, 374. *Ranunculus tripartitus, Journ. Bot.* 1896, 277. *Euphrasia salisburgensis, Journ. Bot.* 1897, 58. *Callitriche truncata, Journ. Bot.* 1897, 147. *Ranunculus intermedius, Journ. Bot.* 1900, 134. *A New Hybrid Ranunculus* (*R. Hiltoni*), *Journ. Bot.* 1901, 121. *Centaurea nigra & Jacea, Journ. Bot.* 1902, 159. *Radicula, Journ. Bot.* 1902, 200. *Use of Linnean Names,* Linn. Soc. Meeting, Jan. 16, 1902. *C. C. Babington Memoir, Journ. Bot.* 1904, 352. *Alsine and Minuartia, Journ. Bot.* 1904, 309. *The Name of the Primrose, Journ. Bot.* 1906, 179. *Ononis reclinata in Glam. Journ. Bot.* 1907, 280. *Ranunculus divaricatus, Journ. Bot.* 1907, 379. *R. lutarius, Journ. Bot.* 1907, 452. *Characeae from the Cape, Journ. Linn. Soc.*, vol. xxxvii., 1906, 285-7. *Characeae* from the Philippine Islands, *Philippine Journ. of Science*, vii., No. 2, 69, 1912.

Peter Ewing, born at Kinross in 1849, died at Glasgow on August 3rd, 1913. When the totally unexpected news reached me in Kerry of Ewing's death, I felt, as many of his intimate friends must have done, such a shock that I could think of nothing else for a while. He had but recently retired, and I was looking forward to spending more frequent holidays with him, and here was I, under the reeking Brandon Mountain, at one of the very places I had planned we should explore together. I had already collected some things to send him. *L'homme propose et Dieu dispose.* Ewing was a man to be loved by those who knew him. He was born at Kinross in 1849, and was the second of six sons. He had two sisters. Ewing left school at 9 years of age. His parents were weavers, but his father went to Edinburgh and entered a bookseller's business; thence he returned to Kinross and began a stationery business. He also took up photography in the days of wet-plate work, and Ewing used to walk to Rumbling Bridge and back—32 miles—to sell some of these photographs. A branch establishment was opened at Callander. This was not easily reached, as he and his father had to walk 26 miles to Stirling, then take train to Dunblane, and walk thence another 16 miles to Callander. These tramps were good training for the many longer and rougher botanical ones which followed in the Grampians. Here

Ewing first realized his future love—a mountain. It was near here also, not far from Coilantogle Ford—a place famed for Scott's soul-stirring account of the combat between Fitz-James and Roderic Dhu —that he picked up a packet of ferns and mosses lost by some tourist. This was his conception as a future botanist. When 14 years of age, having got enough pocket-money for the purpose, he left Kinross at 3 a.m. to catch the early boat at 6.30 across the Firth. He was intent on finding *Asplenium septentrionale* on Arthur's Seat, and when we once had a few hours' stoppage of the vessel at Christiansand he rushed me off to shew me this well-remembered plant in abundance on the rocks there. At 17 he was apprenticed as a joiner. He afterwards moved to Glasgow, where he went to various evening classes in order to improve his knowledge of his calling. He also went to a class in Botany to improve the knowledge of his hobby. He entered an architect's office as surveyor, and afterwards became surveyor to the Phœnix Fire Office, where he subsequently became manager. During a holiday of three days, when still an apprentice, he walked 70 miles in 26 hours, botanising at intervals on the way. His six inches of stature beyond that of ordinary man was a valuable asset in these journeys, as some of us realized who had to keep pace with him in many mountain rambles. Once when fern-hunting in Inverkip Glen he accidentally met a party of vasculum-berigged persons from Glasgow. This incident led him to join the Glasgow Naturalists' Society, of which he became one of the most valuable members. All his leisure time was devoted to botanical study, and he excelled in his knowledge of alpine plants and their habitats, and I have never seen him happier than when tramping over the shining schists of the Perthshire mountains. He was treading on what one might call a turf of *Sibbaldia procumbens*, *Gnaphalium supinum*, *Conostomum boreale*, *Solorina crocea*, etc., on the way to much rarer plants, such as *Carex ustulata*, *Woodsia*, and *Morckia Blyttii*. To attempt to show him any rare alpine on the Breadalbane range was *montrer le soleil avec un flambeau*. He had climbed the Perthshire mountains oftener than any other : they were mostly old friends to him. The summit of Ben Lawers had been ascended by him between 50 and 60 times, and he had spent at least a hundred days on its flanks. His old friend, Dr Stirton, with whom he was often on Ben Lawers in his younger days, beat him, however, in the number of times he had ascended to the summit of this mountain, as he told me, when we were together in Harris, that

he had been up 98 times. The last time but one that I was up this Mecca of British botanists, a frequent guest of Ewing's, our mutual friend Dr Braithwaite, the veteran bryologist, was with us, but he did not attempt to go to the summit. Ewing had also crossed the border to visit with me some of the mountains of Yorkshire and Wales. He also visited Norway several times to study the alpine plants. I had the good fortune to go with him the last time he was there, and for above a month we saw a host of treasures. He seemed to miss nothing with his aquiline eye, and the reader can imagine his pleasure as a sedge-lover when walking over and about countless numbers of *Carex ustulata, C. atrata, C. vaginata, C. misandra, C. limosa, C. alpina, C. incurva, C. chordorrhiza, C. bicolor, C. alpicola, C. microglochin, C. capitata, Eriophorum alpinum, E. Scheuchzeri, Elyna Bellardi, Kobresia bipartita,* etc., to say nothing of all the other uncommon alpines. He usually carried his camera, and when he was photographing an ecological association, with *Eriophorum Scheuchzeri* as the dominant plant, one inquisitive bull out of a herd that was roaming these mountains made up to us, and as we stood on guard with two six-feet alpenstocks, it contented itself with superintending within a few feet. We left it still staring after us. The Norwegian district we liked best was the Dovrefjeld, with the Kongsvold as the stopping place. This locality is about 3000 feet above sea-level, at the latitude of S. Iceland, and abounds in alpine plants. He also spent some time at other places like Lillehammer and Trondhjem.

He was particularly interested in alpine sedges, and had noticed the zonal forms of the same species. Several of his papers were devoted to them. He was a worker at topographical botany, too, and published several papers on this subject. He also devoted much time to the bryophytes, particularly to the Hepatics, lists of which he published for certain areas, and if Macvicar's comprehensive work on their distribution in Scotland is consulted, his name will be found as one of the chief contributors for those counties he had visited. In the *Glasgow Naturalist* for September, 1913, a list of 21 of his papers are enumerated. Mention is also there made of another very useful paper of his, "The Glasgow Catalogue of Native and Established Plants." This is a full list of the plants of S.W. Scotland, with their Watsonian distribution. This was published in 1892, and enumerated 1515 species. In 1899 he published an extended list with 1959 species. He amassed a large herbarium of British and Norwegian

vascular plants, Mosses and Hepatics. He was an ex-president of the Natural History Society of Glasgow, and was its representative for the last ten years at the meetings of the British Association. He presented a fine series of photographs of rare alpine plants *in situ*—as lantern slides—to the collection possessed by this section, at the meetings of which he was one of the most constant attenders. It is a lamentable thing that he did not live long after his retirement, as he might then have been able to crystallize his numerous observations, the publication of which would certainly have made him known to a still larger circle. He was a Fellow of the Linnean Society, and belonged to a number of other Societies. He was twice married, and leaves a wife, three sons, and four daughters. His widow is a good field-botanist, and was often with him on his later mountain and other excursions. She was a great help to him in arranging his collections. I think I can safely repeat that he has left behind him "ein guter Name unschätzbar."—Wm. West.

The following papers are also by Mr Ewing :—Flora of Ben Laoigh, *Proc. Nat. Hist. Soc., Glasg.*, Jan. 9, 1883, pp. 274-288. Hepaticae of Breadalbane Range, *Ann. Scot. Nat. Hist.* (1903), pp. 235-243 ; (1904) 181-4. Report on State of Alpine Flora in Breadalbane, *Glasg. Trans. Nat. Hist. Soc.* (1901-2), pp. 330-2. Hepaticae of Clyde Area, *Glasg. Trans. Nat. Hist. Soc.* (1902-3), pp. 52-8. Scottish Alpine Forms of Carex. An Oecological Problem, *Glasg. Trans. Nat. Hist. Soc.* (1907), pp. 226-235. The Flora of the Culbin Sands, *Glasg. Naturalist*, v., Nov. 1912.

Martin J. Sutton, J.P., F.L.S., Chevalier of the Legion of Honour. We sincerely regret the sudden death of the distinguished horticulturist, which occurred in December 1913, in his 63rd year.

Paul Fredrich August Ascherson, born June 4, 1834, and died at Berlin, March 6, 1913. He published the excellent *Flora der Provinz Brandenburg*, 2nd and 3rd part in 1855, the first part being issued in 1864. In conjunction with his pupil, Prof. P. P. Graebner, he published the elaborate and erudite *Synopsis der Mittel-europaeischen Flora*, 7 volumes of which had been completed at the time of his lamented decease. On his 70th birthday his friends published a *Festschrift* of 44 pages, containing a list of his publications. He travelled extensively in Egypt. His first Flora proved how deeply he had studied the thorny question of nomenclature, and it is much to be regretted that his early views have not prevailed, as they promised

a more stable and logical system than the one which for a time claims to hold the field.

Baron Avebury, P.C., D.C.L., LL.D., F.R.S., D.Sc. (Sir John Lubbock), born in London, April 30th, 1834, died May 28th, 1913, at Kingsgate Castle, Kent. We have to deplore the death of this prolific writer and genial scientist, whose energy in putting before the public in a readable manner volume after volume, treating on such a variety of subjects as :—"The Use of Life," "The Beauties of Nature," "The Pleasures of Life, Part 1 and 2," "Fifty Years of Science." "British Wild Flowers considered in Relation to Insects," "Buds and Stipules," "Ants, Bees, and Wasps," "The Origin of Civilisation and the Primitive Condition," "Notes on the Life History of British Flowering Plants, 1905," etc., etc., with over a hundred memoirs (see *Trans. Roy. Soc.*) gave an enormous impetus to the study of natural science. He has not been inaptly described as the "Admirable Crichton of the Victorian Era." He passed 29 measures through the Houses of Parliament, was President not only of the Institute of Bankers, but of the Linnean Society, the British Association, and the London Chamber of Commerce. His keenness remained even to an advanced age. Only a few years back I had the pleasure of meeting him again at Cornbury Park, when he was greatly interested in the two species of *Crataegus*, which, with their varieties, are so well represented in the historic forest of Wychwood. Although a Benthamite, he saw that there was much to be said in favour of distinguishing them as species, and subsequently wrote to me about them. He claimed to have been the first person in England to be photographed. He certainly has engraved himself deeply on contemporaneous history. Many of his publications had an enormous sale, and were translated into several languages, "The Pleasures of Life," even into Urdu, Guzerati and Japanese. This year in Venezuela, I saw a lad in the garden of a seminary, a few miles out of Caracas, reading an English book. This was Lubbock's "Pleasures of Life," and when I told him I knew the author he became very interested, and insisted upon being our very agreeable guide into the adjacent mountains. I had hoped to have been able to tell the author of the incident, but on my return to England found that the accomplished savant, the sage politician, and distinguished financier, had passed away, leaving the world distinctly poorer by his loss.

NEW COUNTY AND OTHER RECORDS.

3. THALICTRUM FLAVUM L. Roundsea Wood, Lancs. N., 69 b, W. H. PEARSALL.

23. RANUNCULUS LINGUA L. Llanedilan, Denbigh, 50, HARNAMAN ex DALLMAN in *Journ. Bot. Suppl.* 4, 1913.

37. R. CIRCINATUS Sibth. Near River Conway, HODGE ex DALLMAN in *Journ. Bot. Suppl.* 4, 1913.

40. R. HETEROPHYLLUS Web. Rusland, Lancs. N., W. H. PEARSALL.

42. R. BAUDOTII Godr. In brackish ponds near the railway line, near Roose, Lancs. N., 69 b, Sep. 1913, W. H. PEARSALL, in *lit.*

45. R. LENORMANDI Schultz. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 4, 1913.

104. FUMARIA CAPREOLATA L. Richmond, York N.W., *Hb. C. Bailey*, ex PUGSLEY in *Journ. Bot.* 50, 1913.

107. F. BORAEI Jord. Builth, Brecon, 42, C. BAILEY; Ilkley, York M.W., 64, PUGSLEY, *l.c.*

109. F. BASTARDI Bor. Ruthin, Denbigh, 50, *Hb. C. Bailey*, PUGSLEY, *l.c.*; near Ruthin, G. C. DRUCE.

125. RADICULA AMPHIBIA Druce. Cavendish Dock Railway, Lancs. N., W. H. PEARSALL, in *lit.*

126. RADICULA ISLANDICA (Thellung) Druce (*Nasturtium terrestre* Br.). Foulshaw, Westmorland, 69 a; near Ulverston, Lancs. N., 69 b, W. H. PEARSALL, in *lit.*

131. BARBAREA INTERMEDIA Bor. Colliston, etc., and the var. FALLAX Lor. et Bar. (Rouy & Fouc. *Fl. de France* 1, 201), Friockheim, Forfar, R. & M. CORSTORPHINE.

205. BRASSICA OLERACEA L. Cefn-yr-Ogof, Denbigh, DALLMAN in *Journ. Bot. Suppl.* 8, 1913.

210. B. MONENSIS Huds., sub-sp. *B. Cheiranthos* Vill. Alien. Yarnton, Oxon, 1912, in some plenty. Sp. now distributed. G. C. DRUCE.

226. DIPLOTAXIS TENUIFOLIA DC. Barrow-in-Furness, Lancs. N., 69 b, probably introduced; Dalton, D. LUMB. Barrow, W. H. PEARSALL.

227. D. MURALIS DC. Near Great Orme, Denbigh, HODGE ex DALLMAN in *Journ. Bot. Suppl.* 8, 1913. Is this locality really in Denbigh?

249. THLASPI ARVENSE L. Casual. Barrow-in-Furness, 69 b, W. H. PEARSALL; Dalton, 69 b, 1913, D. LUMB.

271. CAKILE MARITIMA Scop. Walney, 69 b, W. H. PEARSALL, in *lit.* I have seen it there.

282. RESEDA PHYTEUMA L. Alien, Europe. Chalky arable field near Ranmore, Surrey, 1912, Lady DAVY. Well established there.

293. VIOLA SYLVESTRIS var. PUNCTATA Druce. Dalton, Lancs. N., 69 b, D. LUMB.

294. V. RIVINIANA Reichb., var. DIVERSA Greg. Dalton, Lancs. N., 69 b, D. LUMB.

278. V. ODORATA var. DUMETORUM (Jord.). Dalton, Lancs. N., 69 b, D. LUMB.

299. V. HIRTA var. FOUDRASI (Jord.). Dalton, Lancs. N., 69 b, D. LUMB.

300. V. CALCAREA Greg. Dalton, Lancs. N., 69 b, D. LUMB. All of the above Violets have been named by Mrs Gregory.

344. SILENE QUINQUEVULNERA L. Perran Sands, Cornwall, June 1913, W. TRESIDDER, vide sp.

345. SILENE PENDULA L. Alien, Europe. Mount Wise, Cornwall, 1912, C. C. VIGURS; Par, Cornwall, 1910, G. C. DRUCE. Named by A. THELLUNG.

360 *b*. LYCHINIS PRESLII Sekera, with hermaphrodite flowers, a single clump on a dry bank on the north slope of the Braid Hills, 83, J. FRASER in *Trans. Edin. Bot. Soc.* 184, 1913.

366. CERASTIUM ERECTUM Cosson & Germ. Cefridwysarn, Merioneth, W. PAMPLIN in *Hb. Druce.* Grange, 69, *Hb. C. Bailey.*

372. CERASTIUM PUMILUM Curtis. Lowestoft, Suffolk E. *Herb. Brit. Mus.*

379. STELLARIA MEDIA Vill., var. BORAEANA (Jord.). Ketton, 55 b, G. C. DRUCE; Walney, etc., 69 b, W. H. PEARSALL.

380. STELLARIA NEGLECTA Weihe (*major* Koch, not *umbrosa* Opiz). Downham Market, A. WEBSTER; Bentley Hill, Stafford, W. PURCHAS; Huscote, Northants, G. C. DRUCE.

396. ARENARIA VERNA L. Hamsfell Grange, 69 b (confirmatory), W. H. PEARSALL, in *lit.*

403. SAGINA SAGINOIDES Dalla Torre, vera. Ben Lawers, etc., Perth M., 88; Glas Thulaçhan, Craig-y-Damph, Perth E., 89; Glen Shee, Dole, Caenlochan, Forfar, 90; Callater, Aberdeen S., 92; Loch Aan, Banff, 94; Glen Ennich, Easterness, 96; Aonach Mor, Westerness, 97; Ben Dothaidh, Ben Doran, Ben Laoigh, Argyll, 98, G. C. DRUCE.

406 *b*. S. REUTERI Boiss. Lancs. N., 69 b, D. LUMB, in *lit.*

408 (2). S. SCOTICA Druce. Glen Dole, Forfar, 90; Glen Callater, Aberdeen S., 92; Ben Laoigh, Argyll, 98, G. C. DRUCE; Sweden, Norway, Germany, Switzerland, LINDMAN.

418. CLAYTONIA SIBIRICA L. Sawrey and Cartmel Fell, 69 b, W. H. PEARSALL, in *lit.*

419. C. PERFOLIATA L. Hawkshead and Broughton Mills, 69 b, W. H. PEARSALL, in *lit.*

421. MONTIA FONTANA L. Peebles, Miss IDA M. HAYWARD.

467. LINUM ANGUSTIFOLIUM Huds. Near Oakham, Rutland, 1913, EARL OF GAINSBOROUGH, in *lit.*

528. LUPINUS NOOTKATENSIS Donn. Alien. On the shingly margins of the Tay near Aberfeldy, Perth M., G. C. DRUCE.

595. MELILOTUS ALBA Desr. Alien. Near Baroden, by the Welland, Rutland, 1912, Miss CODRINGTON, in *lit*; Dumbarton, 99, Miss IDA M. HAYWARD, in *lit.*

618. TRIFOLIUM SCABRUM L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 16, 1913.

710. LATHYRUS SYLVESTRIS L., var. LATIFOLIUS Peterm. Sandling Junction, Kent, July 1913, Rev. F. L. FOORD KELCEY.

725. L. NISSOLIA L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 16, 1913.

738. PRUNUS CERASUS L. Uldale, Cumberland, June 1913, G. ADAIR, vide sp.

780. RUBUS RHOMBIFOLIUS Weihe. Broxbourne Wood, Herts, Aug. 1913, Misses TROWER and G. C. DRUCE; Tiptree Heath, Essex N., 1913, G. C. BROWN.

786. RUBUS RUSTICANUS Merc. Pitscandly Hill, Forfar, 1913, R. and M. CORSTORPHINE, vide sp.

802 (2). RUBUS MACROTHYRSOS Lange. Hunsbury Hill, Northants, Aug. 1913, G. C. DRUCE.

821. R. DREJERI G. Jens. Great Bromley, Essex N., 1913, G. C. BROWN.

830. R. OIGOCLADUS P. J. M. and L. Besechurch, Essex N., 1913, G. C. BROWN.

934. ROSA GLAUCA Vill., var. CABALLICENSIS (Puget). Melrose, Roxburgh, 80, G. C. DRUCE.

935. ROSA CAESIA Sm. (*coriifolia* Fr.). Wood Perry, Horton, Oxon; near Wendover, Bucks, G. C. DRUCE.

var. BOVERNIERIANA Lag. & Puget. Kidlington, Oxon; Lawers, Perth, G. C. DRUCE.

var. LINTONI (Scheutz). Swanbourn, Bucks; Lough Neagh, Derry, G. C. DRUCE.

967. CRATAEGUS OXYACANTHOIDES Thuill. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 18, 1913.

1010. SEDUM TELEPHIUM, var. PURPUREUM L. (*Fabaria*). Dumbarton Rock, 99, Miss IDA M. HAYWARD, in *lit.*

1032. MYRIOPHYLLUM SPICATUM L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 20, 1913.

1038. CALLITRICHE POLYMORPHA Lönnr. New Bridge, Berks, June 1913, G. C. DRUCE.

1039. C. INTERMEDIA Hoffm., var. AUGUSTIFOLIA. Harloch Reservoir, 69 b, W. H. PEARSALL, in *lit.*

1049. EPILOBIUM TETRAGONUM L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 21, 1913.

1042. PEPLIS PORTULA L., sub-var. DENTATA (Druce). See *Report* 20, 1911. Near Dalton, Lancs. N., 69 b, W. H. PEARSALL.

1090. BUPLEURUM ROTUNDIFOLIUM L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 21, 1913.

1129. SESELI LIBANOTIS Koch. Beds, 1913, J. E. LITTLE, in *lit.*

1151. PEUCEDANUM SATIVUM B. & H. Well established along railway, Ormsgill, 69 b, W. H. PEARSALL.

1194. GALIUM ERECTUM Huds. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 23, 1913.

1203. G. VAILLANTII Lois. Ashcot and Shapwick, Somerset, 1913, Rev. E. S. MARSHALL, in *lit.*

1242. GRINDELIA SQUARROSA Dunal. Alien. Near Cirencester, Gloster E., 1913, W. G. GREENWOOD, vide sp.

1254. ASTER LONGIFOLIUS Lam. Alien. Near Yarnton, Oxford, 1912, completely established, G. C. DRUCE.

1261. ERIGERON ACRIS L. Sandscale, Lancs. N., 69 b, 1913, D. LUMB, in *lit.* Without personal authority for 69 in *Top. Bot.*

1270. ANTENNARIA DIOICA Gaertn. Lane End, Hants S., June 1912, P. M. HALL, in *lit.*

1279. INULA HELENIUM L. 1 mile east of Bunessan, at Scoor, Isle of Mull, 1913, Hon. Mrs FRANCES PEMBER ex R. C. DAVIE, in *lit.* Lancs. N., 69 b, D. LUMB, in *lit.*

1310 *b.* BIDENS TRIPARTITA L., var. INTEGRA Koch. Oxford, Berks, Northants, G. C. DRUCE; Dalton, Lancs. N., 69 b, W. H. PEARSALL.

1358. CHRYSANTHEMUM BALSAMITA L. Alien. Culzean, Ayrshire, E. LAURIE FOGO ex A. WEBSTER, vide sp.

1388. DORONICUM PARDALIANCHES L. Aberaron, Cardigan, June 1913, Lady DAVY, in *lit.*

1401. SENECIO VULGARIS L., var. RUBRICAULIS (Trow). Oxford, 1886, G. C. DRUCE; Cardiff, 1886, F. T. RICHARDS; Glam.; Lighthorn, Claverdon, Warwick, C. E. PALMER; Blakeney, Norfolk, 1911, G. C. DRUCE; Pyrford, Surrey, G. C. DRUCE, as forma *crepiformis*, but this condition is due to an insect; sand dunes, Freshfield, Lancs., as *radiatus*, W. G. TRAVIS in *Hb. Druce.*

var. PRAECOX (Trow). Portishead, Somerset, as *radiatus* Koch, J. W. WHITE (a radiate hybrid); Banbury, Oxon, 1904, G. C. DRUCE; Dallington, Northants, G. C. DRUCE; Aylestone, Leicester, A. R. HORWOOD; Killarney, Kerry; Larne, Antrim, G. C. DRUCE.

S. PRAECOX × ERECTUS. A conspicuously rayed plant, Hort. Cantab. ex LYNCH, 1912.

1402. S. CINERARIA DC. Alien. St Aubin's, Jersey, now fully naturalised, 1913, F. W. ATTENBOROUGH, vide sp. In 1907 it was just spreading from a garden.

1462. CENTAUREA SOLSTITIALIS L. Alien. Near Wilbury, Beds, 1913, J. E. LITTLE, in *lit.*

1465. C. CALCITRAPA L. Alien. Near Wilbury, Beds, 1913, J. E. LITTLE, in *lit.*

1468. C. ASPERA Willd. Alien. Par, Cornwall, July 1911, G. C. DRUCE.

1477. CARTHAMUS TINCTORIUS L. Alien. Aldborough, Suffolk E., 1913, G. C. DRUCE; Abingdon, Berks, 1913, Miss LINDSAY and G. C. DRUCE.

1639. HYPOCHAERIS MACULATA L., with scape hairy to the top. Near Hitchin, Beds, 1913, J. E. LITTLE, in *lit.* A most interesting record.

1646 (2). TARAXACUM SPECTABILE Dahlst. Dalwhinnie, Easterness, 96, MARSHALL and SHOOLBRED, in *Journ. Bot.* 166, 1913.

1663. TRAGOPOGON PRATENSIS L., var. MINUS (Mill.) Blomf. Galashiels, 79, 1913, Miss IDA M. HAYWARD, in *lit.*

1674. CAMPANULA RAPUNCULOIDES L. Near Gosford, Haddington, 1913, Miss GRENFELL and G. C. DRUCE.

1686. VACCINIUM VITIS-IDAEA L. Rusland Moss, Lancs. N., 69 b, W. H. PEARSALL, in *lit.*

1687. OXYCOCCUS QUADRIPETALUS Gilib., var. MICROCARPUS (Turc.). Flowering specimen of this from Glen Shee, Perth E., July 1883, G. C. DRUCE is, teste Prof. Lindman, probably this. Leaf specimens are inadequate for determination.

1707. PYROLA ROTUNDIFOLIA L., var. MARITIMA (Kenyon). Sandscale, Lancs. N., 69 b, 1913, Dr DANIELS ex D. LUMB, in *lit.*

1712. HYPOPITYS MONOTROPA Crantz. Sandscale, Lancs. N., 69 b, 1913, D. LUMB, in *lit.* It was found also by W. Duckworth at Grange in 1907, teste W. H. PEARSALL, and he also gathered it at Scarsdale in 1913 as the var. *glabra.*

1738. LYSIMACHIA TERRESTRIS (L.) Britton (*L. stricta* Aiton). Alien. Well established, Rondrea Wood, Lancs. N., 69 b, W. H. PEARSALL, in *lit.* and vide sp.

1739. STEIRONEMA CILIATUM Rafn. Roxburgh, 80, 1913, Miss IDA M. HAYWARD, in *lit.*

1742. ANAGALLIS FEMINA Mill. Derwen, Denbigh, ex DALLMAN in *Journ. Bot. Suppl.* 29, 1913.

1760. Gentiana Pneumonanthe L. New locality, Pitt Down, Sussex, E. H. Farr, in *lit.*

1783. Omphalodes verna Moench. Alien. Pennant Hall, Denbigh, Dallman in *Journ. Bot. Suppl.* 30, 1913.

1791. Symphytum tuberosum L. Crich, Derby, E. & H. Drabble in *Journ. Bot.* 7, 1913 ; near Haydon Bridge, Northumberland, Miss Ida M. Hayward, in *lit.*

1792. S. peregrinum Ledeb. Newquay, etc., 1913, C. C. Vigurs ; Dalton, etc., Lancs. N., 69 b, W. H. Pearsall and D. Lumb.

1793. S. orientale L. Ruan Lanihorne, Cornwall E., 1913, E. Thurston ex C. C. Vigurs ; Ketton Stone Pits, Rutland, Miss Codrington and G. C. Druce ; Lothian, J. Fraser.

1795. S. caucasicum Bieb. Alien. Ruan Lanihorne, Cornwall E., 1913, E. Thurston ex C. C. Vigurs, in *lit.*

1800. Anchusa officinalis L. Alien. New locality, near Woodbridge, Suffolk, Rev. C. W. Peck, in *lit.*

1820. Myosotis collina Hoffm. Alien. Lancs. N., 69 b, 1913, D. Lumb, in *lit.*

1854. Atropa Belladonna L. In some quantity and luxuriant specimens in disused gravel pits near Peakirk, Lincs. S. Already recorded as an alien in the county. G. C. Druce.

1867. Verbascum nigrum L. Alien. Rubbish heaps, Brymbo, Denbigh, ex Dallman in *Journ. Bot. Suppl.* 31, 1913.

1882. Linaria supina Desf. Alien. Between Cosham and Fareham, Hants. S., 1912, Mrs Wedgwood, vide sp.

1890. Antirrhinum Orontium L. to remove ? in *Top. Bot.* Denbigh, Dallman in *Journ. Bot Suppl.* 31, 1913.

1898. Mimulus Langsdorfii Greene, in *Journ Bot.* 5, 1905. Denbigh, Dallman in *Journ. Bot. Suppl.* 32, 1913. The name must stand as *M. guttatus* DC. *M. Langsdorfii* is not available, being only cited in synonymy.

1899. M. MOSCHATUS Dougl. Alien. Wastdale, Cumberland, 1913, P. M. HALL, in *lit.* Above Spittal of Glenshee, near Cairnwell, 1400 feet, Perth E. Spec. distributed. Miss J. GORDON ex R. and M. CORSTORPHINE. The Denbigh locality in *Journ. Bot. Suppl.* 32, 1913, has been already published in the *Report* 314, 1912.

1891. SCROPHULARIA VERNALIS L. In great abundance near Tynningham, Haddington, Miss GRENFELL and G. C. DRUCE.

1893. S. ALATA Gilib. Mill Pond, Waddon, Surrey, vide A. BENNETT in *Journ. Bot.* 61, 1913 ; Kimbolton, Hereford, A. LEY, vide sp., ex H. J. RIDDELSDELL.

1894. S. NODOSA L., var. PRYORII Pryor. Near Bude, Cornwall, Sep. 1913, Hon. Mrs BARING, vide sp.

1906 (2). VERONICA LONGIFOLIA L. Alien. Galashiels, Selkirk, 1913, Miss IDA M. HAYWARD.

1912. V. ANAGALLIS-AQUATICA vera. Cowbit, Lincoln S. ; North Berwick, Haddington, G. C. DRUCE.

1931. EUPHRASIA STRICTA Host. Grand Mare, Guernsey, 1913 ; Ketton Stone Pits and Baroden, Rutland, 1913 ; Burton, Westmorland ; Monk's Wood, Hants, 31 ; Drummore, Wigton, 74 ; Wakerley, Northants, G. C. DRUCE ; Ettrick Bridge, Selkirk, G. C. DRUCE.

1933. E. BREVIPILA B. & G. Bullingdon, Oxon ; Ettrick Bridge End, Selkirk, G. C. DRUCE.

1934. E. NEMOROSA Pers. Grand Mare, Guernsey ; Ketton, Rutland ; Casterton, Lincoln S., 1913, G. C. DRUCE.

1954. RHINANTHUS STENOPHYLLUS (Stern.). Lancs. N., 69 b, D. LUMB, in *lit.*

1955. RHINANTHUS MONTICOLA Druce. Malham Tarn, York M.W., A. E. BRADLEY, in *lit.* and vide sp.

1978. UTRICULARIA MINOR L. Near Pentre Foelas, Denbigh, DALLMAN in *Journ. Bot. Suppl.* 32, 1913.

1988. MENTHA ROTUNDIFOLIA Huds. Galashiels, Selkirk, 1912, Miss IDA M. HAYWARD.

1990. × M. VILLOSA Huds. Galashiels, Selkirk, Miss IDA M. HAYWARD, vide sp.

var. NEMOROSA (Willd.). Yarnton and Weston, Oxon, G. C. DRUCE.

1991. M. SPICATA L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 33, 1913.

1999. × M. RUBRA Sm. Near Hertford, 1913. Shewn to me by Mr W. GRAVESON.

2042. SCUTELLARIA GALERICULATA L., var. PUBESCENS Mutel. Cows Mouth, Silverdale, Lancs. N., 69 b, Sep. 1913, G. ADAIR, vide sp.

2047. MELITTIS MELISSOPHYLLUM L. Pentre Felin, Llangollen, Denbigh, 1908, RUDDY ex DALLMAN in *Journ. Bot. Suppl.* 34, 1913.

2056. × STACHYS AMBIGUA Sm. Loch Fithie, Forfar, Sep. 1913, R. & M. CORSTORPHINE, vide sp.

2057 *b*. S. PALUSTRIS L., var. CANESCENS Lange. Par, Cornwall, H. W. DALTRY, vide sp.

2069. LAMIUM MACULATUM L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 34, 1913.

var. LAEVIGATUM (L.). Clova, Forfar, 1913, R. & M. CORSTORPHINE, vide sp.

2081. TEUCRIUM BOTRYS L. Railway bank, near Micheldever, Hants, 1913, in some quantity, Miss C. R. SCOTT, in *lit.*

2117. CHENOPODIUM RUBRUM L., and sub var. PSEUDOBOTRYOIDES (Wats.). Sandscale, Lancs. N., 69 b, W. H. PEARSALL, in *lit.*

2124. CHENOPODIUM BERLANDIERII Moquin, var. ZSCHACKEI J. Murr. North Berwick, Haddington, 1913, G. C. DRUCE.

2138. BETA MARITIMA L. Roa Island, Askam, 69 b, 1913, W. H. PEARSALL, vide sp.

2149. ATRIPLEX GLABRIUSCULA Edmonst., var. BABINGTONII (Woods) Druce. Colwyn Bay, DALLMAN in *Journ. Bot. Suppl.* 35, 1913.

2160. SALICORNIA RAMOSISSIMA Woods. Dunnesholme, Duddon Valley, 1913, D. LUMB, vide sp.

2176. POLYGONUM TOMENTOSUM Schrank (*maculatum*). Cowbit, Lincs. S., 53, G. C. DRUCE.

2184. POLYGONUM AEQUALE × CALCATUM. Par, Cornwall, 1911, teste Lindman, with P. AEQUALE Lindm., foliis et fructa angustis, G. C. DRUCE.

2198. RUMEX ACUTUS L. North Berwick and Tynningham, Haddington, 1913, G. C. DRUCE.

2205. R. PULCHER L. Casual. Llangollen, Denbigh, DALLMAN in *Journ. Bot. Suppl.* 35, 1913.

2216. HIPPOPHAE RHAMNOIDES L. Furness Abbey, etc., W. H. PEARSALL, in *lit.* Perhaps planted. At North Berwick, 82, are the largest specimens I have seen. It is abundant there. G. C. DRUCE.

2220. EUPHORBIA DULCIS L. New Timber, Sussex, 1913, Miss PHYLLIS BUXTON, vide sp.

2230. E. CYPARISSIAS L. Formerly on Railway embankment, Ruabon, Denbigh, DALLMAN in *Journ. Bot. Suppl.* 36, 1913.

2237. E. LATHYRUS L. Chelsham, Surrey, C. E. BRITTON in *Journ. Bot.* 226, 1913.

2255. BETULA VERRUCOSA Ehrh. Woodham Ferris, 18, Alphampstead, 19; Cromer, 27; Thelford, 28; near Daylesford, 33; Ludlow, 40; Ketton, 55; North Berwick, 82, G. C. DRUCE.

2261. QUERCUS ROBUR L. Preston, 55; near Thelford, 28, G. C. DRUCE.

2267. SALIX PENTANDRA L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 36, 1913.

2271. S. PURPUREA L. Llangollen, RUDDY ex DALLMAN in *Journ. Bot. Suppl.* 36, 1913.

2295. EMPETRUM NIGRUM L. Kirkby Moor, etc., Lancs. N., W. H. PEARSALL.

2300. Stratiotes Aloides L. Blackbank Pond, west of Crieff, Perth. Originally introduced in 1861. Still abundant (*Trans. Bot. Soc. Edin.*, 180, 1913), R. C. Davie.

2301. Malaxis paludosa Sw. New locality, Fannich Forest, West Ross, on the Braemore side, 1913, Lady Margaret Watney, vide sp.

2309. Spiranthes Romanzoffiana Cham. Lough Neagh, Armagh, *Irish Nat.* 179, 1913.

2315. Helleborine palustris Schrank. Sandscale, Lancs., N., 69 b, Dr Daniels ex D. Lumb, in *lit.* Without personal authority in *Top. Bot.* for 69.

2319. H. atrorubens Druce. Eisteddfodd Rocks, Denbigh, ex Dallman in *Journ. Bot. Suppl.* 37, 1913.

2335. Ophrys apifera Huds. Park Woods, etc., Lancs. N., 69 b, W. H. Pearsall, in *lit.*

2360. Sisyrinchium angustifolium Mill. Alien. Dartford Heath, Kent, 1913, H. W. Monckton, in *lit.*

2382. Ruscus aculeatus L. Near Preston, Rutland, shewn to me by Mr John Codrington.

2409 (2). Scilla hispanica Miller 1768. Alien. Cothill, Berks, G. C. Druce.

2415. Lilium pyrenaicum Gouan. Lamorra, Penzance, Cornwall W.. half a mile from nearest habitation, no suspicious vegetation near. July 1913, R. B. Ullman, in *lit.*

2416. L. Martagon L. Near Kilmeston, Hants, 1913, P. M. Hall, in *lit.*

2431. Juncus balticus Willd. Southport Dunes, Lancs. S., 1913, R. S. Adamson, in *lit.*

2436. J. alpinus Vill. Near Cromer, Norfolk, E. Vachell. The record for Glamorgan in Bennett's *Add. to Top. Bot.* is a mistake for Norfolk. Mr Bennett identified the plant as *alpinus*, but I have not seen the specimen.

2442. J. BUFONIUS sub-sp. RANARIUS (Nees) = (*J. ranarius* Nees), Dropmore; Burnham Beeches, Bucks; Virginia Water, Berks and Surrey; near St Albans, Herts; North Berwick, Haddington; G. C. DRUCE.

2450. JUNCOIDES NEMOROSUM Morong (*Luzula nemorosa*). Alien. Near Liskeard, Cornwall, 1913, Miss CICELY FOSTER, vide sp.

2458. J. SPICATUM L. = *Luzula spicata.* Ben More, Mull, 103, E. VACHELL, vide sp.

2471. LEMNA POLYRHIZA L. Bogs near Arbirlot, Forfar, 1913, R. and M. CORSTORPHINE.

2474. L. GIBBA L. Towyn, Denbigh, DALLMAN in *Journ. Bot. Suppl.* 39, 1913.

2484. SCHEUCHZERIA PALUSTRIS L. The Moor of Rannoch, Perth, 1912, A. H. EVANS, in *lit.* A distinct locality from the one in Argyll, whence I distributed specimens through the Club in 1912.

2495. POTAMOGETON NITENS Weber. Boro Fen, Northants. The spec. which Professor Graebner (*Rep.* 599, 1910) named *heterophyllus* is named *nitens* by Mr A. Bennett without doubt. G. C. DRUCE. River Leven, Haverthwaite, Lancs. N., 69 b, W. H. PEARSALL, in *lit.* and vide sp.

2501 and 2502. P. PRAELONGUS Wulf. and P. PERFOLIATUS L. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 39, 1913.

2507. P. FRIESII Rupr. Loch Stemster, Caithness, A. BENNETT in *Journ. Bot.* 258, 1913.

2508. P. STURROCKII A. Benn. Stemsley Loch, Caithness, A. BENNETT, *l.c.*

2510. P. TRICHOIDES Cham. & Schlecht. Dunning, Perth, J. R. MATTHEWS ex A. BENNETT in *Journ. Bot.* 336, 1913.

2512. P. PECTINATUS L. Ormsgill, Lancs. N., 69 b, 1913, W. H. PEARSALL, vide sp.

2516. RUPPIA ROSTELLATA Koch. S. Walney, Lancs. N., 69 b, 1913, W. H. PEARSALL; near Llandudno Junction, Denbigh, DALLMAN in *Journ. Bot. Suppl.* 39, 1913; Roa Isle, Walney, Lancs. N., 69 b, W. H. PEARSALL.

2517. ZANNICHELLIA PALUSTRIS L. Barrow-in-Furness, Lancs. N., 69 b, 1913, W. H. PEARSALL, vide sp.

2517 *b*. ZANNICHELLIA PALUSTRIS L., var. GIBBEROSA (Reichb.). Wyken Church, Warwick, Oct. 1852, T. KIRK in *Hb. Druce.*

2518. Z. MARITIMA Nolte. Old Park Wood, Lancs. N., 69 b, W. H. PEARSALL, vide sp.

2520. ZOSTERA MARINA L., var. AUGUSTIFOLIA Horn. Roa and Walney Isle, Lancs. N., 69 b, 1913, W. H. PEARSALL, vide sp.

2543. SCIRPUS FILIFORMIS Savi. East Ruston Common, Norfolk, 1913, GEORGE TALBOT, vide sp. Not a New County Record, but very interesting as illustrating the occurrence of an Atlantic species on the east coast.

2558. CAREX PSEUDO-CYPERUS L. Roundsea Wood, Lancs. N., 69 b, W. H. PEARSALL, in *lit.*

2573. C. DISTANS L. Hornstock Bog, Northants, in plenty. G. C. DRUCE.

2575. × C. XANTHOCARPA Dés̆g. Hornstock, Northants, 1913, G. C. DRUCE.

2577. C. OEDERI Retz., var. ELATIOR And. (? crossed with *lepidocarpa*). Bedford Purlieus, Northants, G. CHESTER, vide sp.

2600. × C. TURFOSA Fries. Lakeside, Windermere, 69, W. H. PEARSALL, in *lit.*

2614. C. MURICATA L. Rusland, Lancs. N., 69 b, W. H. PEARSALL, in *lit.*

2615. C. PAIRAEI Schultz. Aldburgh, Suffolk E., 1913, G. C. DRUCE.

2620. C. DISTICHA Huds. Denbigh, DALLMAN in *Journ. Bot. Suppl.* 40, 1913.

2650 (2). PHALARIS ANGUSTA Nees. Near Reading, Berks, 1913, V. C. MURRAY, where the finder showed me it growing in some plenty by the roadside. This South American species is figured in *Fl. Batava*, n. 1842, 1912.

2674. PHLEUM ALPINUM L. Helvellyn, Cumberland, at about 2700 feet, 70, Sep. 1913, GILBERT ADAIR. A most interesting addition to the English Flora, from a mountain which is also the only known English habitat of *Cystopteris montana* and *Salix lapponum*. Vide sp.

2686 (2). AGROSTIS NEBULOSA Boiss. & Reut. Alien, S. Eur. Osney, Oxford, on waste ground, Aug. 1913, G. C. DRUCE.

2693. CALAMAGROSTIS EPIGEIOS Roth. Great Ganinick Isle, Scilly, 1913, J. W. WHITE, in *lit.*

2726. GAUDINIA FRAGILIS Beauv. Alien. Charlestown, near St Austell's, Cornwall E., W. TRESIDDER ex C. C. VIGURS, vide sp.

2737. CYNOSURUS ECHINATUS L. Alien. Dalton-in-Furness, Lancs. N., 69 b, 1913, D. LUMB, vide sp.

2752. DESMAZERIA LOLIACEA Nyman. Garston, Lancs. S., J. A. WHELDON in *Journ. Bot.* 280, 1913, but already given for 59 in *Top. Bot.* but on old authority.

2828. AGROPYRON PUNGENS Roem & Schult. Near North Berwick, 82, G. C. DRUCE.

2851. HORDEUM JUBATUM L. Alien. Growing among turf, Sandscale, Lancs. N., 69 b, 1913, D. LUMB, vide sp.

2855. ELYMUS ARENARIUS L. North Berwick, Aug. 1913, to remove ? for Haddington in *Top. Bot.*

2882. ASPLENIUM VIRIDE Huds. Llangollen, Denbigh, DALLMAN in *Journ. Bot. Suppl.* 42, 1913.

2888. Asplenium septentrionale Hoffm. 4 plants seen in Lancs. N., 69 b, W. H. Pearsall, in *lit.* It is queried for Westmorland in *Top. Bot.* It has occurred (? as an alien) on a wall at Rowallane, Co. Down, *Irish Nat.* 154, 1912.

2892. Polystichum angulare Presl, var. Braunii (Spenn.). My valued correspondent Dr H. Woynar of Graz tells me that the plates 47 and 62 in Step's *Wayside and Woodland Ferns* represent the above plant, which Dr Woynar says is a true species, distinguished, *inter alia*, from *angulare* and *aculeatum* by the shape of the frond, the lower pinnae narrowing, gradually becoming shorter, thus giving an elliptic appearance. It was first found in Britain by our late member, the Rev. W. H. Painter, near Bristol in Somersetshire. Mr Step kindly tells me that the photographs for the plates referred to were obtained from plants not growing in a native state, but from the Rock Garden at Kew.

2906. Cystopteris fragilis Bernh. Marlborough, Wilts, 1912, J. G. Everitt, in *lit.*

2917. Hymenophyllum peltatum Desv. Conway gorge, Denbigh, Dallman in *Journ. Bot. Suppl.* 41, 1913.

2923 (2) Azolla filiculoides Lam. Sulham, Berks; Nuneham, Oxon, G. C. Druce; Cambridge, Dr Moss, in *lit.*

2932. Selaginella Selaginoides Gray. Denbigh, Dallman in *Journ. Bot. Suppl.* 43, 1913.

CORRECTIONS, ETC.

Lythrum Hyssopifolia L. See *Report* 221, 1912. From New Timber, Sussex. Having seen a painting of this plant in flower from the above locality, I am obliged to refer it to *L. Graefferi* Ten., a native of S. Europe.

Utricularia Bremii Heer. See *Report* 215 and *Journ. Bot.* 316, 1912. The specimens sent me by Mr Lumb were named by me *U. minor*, and Dr Glück has so named the gathering made by Mr W. H. Pearsall, so its record for this place must be deleted, unless indeed both species occur.

Potamogeton natans L., forma. [Ref. No. 4779.] Great Bedwyn, Wilts. C. P. Hurst. See *Report*, p. 290, 1912, where by a critic it was referred to *P. polygonifolius*. The specimens were in a very young condition, but in the fresh state, as sent to me by Mr C. P. Hurst, showed the characteristic jointed petiole of *natans*. Older specimens from the same locality sent by Mr Hurst have been submitted to Mr A. Bennett, who agrees to its being *natans*.

Azolla caroliniensis Willd. *Report* 1912, p. 220. Suleham, Berks. V. Murray. This year I obtained it in good fruit, and Mr N. E. Brown refers it to *A. filiculoides* Lam.

Ulmus Plotii Druce. See *Report*, p. 30, 1911. Fineshade, Northants; Sawbridgeworth, Essex S. [Ref. No. 6608.] Statements have been made by Mr A. Henry and Dr Moss that the Elm figured and described in Plot's *Nat. Hist. Oxf.* 158, 1677, is *U. viminalis*. When I described the above tree I was conversant with the practically contemporaneous specimen in *Herb. Dubois* at Oxford collected by the Rev. W. Stonestreet about 1700 and labelled by him *Ulmus folio angusto glabro* Plot, which is similar to these. Fortunately I was able to subsequently examine Plot's plants, which are preserved in *Herb. Sloane* at Cromwell Road, and which are named by Bobart. Those supposed not to have been previously described are marked with an *. The elm specimen is labelled * *Ulmus folio angusto glabro*. It is not *U. viminalis*, and is my *U. Plotii*. It must be remembered that the leaves gathered at different seasons and from different parts of the same tree vary considerably. It has been asserted that *U. Plotii* is synonymous with *U. minor* Miller, but although there seems to be some presumptive evidence from its localities, yet Miller's descriptions and synonyms for his elms are so muddled and inadequate that various authors give different identifications. For instance, Dr Moss is quite certain that the common English elm is *Ulmus campestris* Miller, while Mr Henry asserts that it is *U. sativa* Miller. Dr Moss asserts that my *U. Plotii* is *U. sativa* Miller, while Mr Henry says it is *U. minor* Miller. Plot himself says that his "narrow-leaved elm, which also being smooth," is distinct from *U. minor* of Gerard and Parkinson, and that it grows wild in the coppices of the Park at Hanwell, near Banbury. It must be borne in mind that Goodyer supplied the description of the elms

for the second edition of Gerard's *Herbal*, and that Goodyer and Plot were doubtless well acquainted. My friend Mr Braggins, a well-known expert on timber, tells me he bought nineteen trees of this species which grew near Banbury in 1901. The largest of these was estimated to yield about 168 cubic feet of timber, and the estimated average was 121 feet, but to this may be safely added 20 per cent. for bark and waste deduction, so that the average would be between 140 and 150 cubic feet. For timber purposes they were past their prime, the longest trees opening very faulty in the centre. The wood is of very good quality, easy to work, and of a different texture from the Wych, Dutch, or English Elm, and has a general usefulness as a substitute for Ash or Wych Elm. The name Locks Elm can have no reference to any difficulty in working or dressing of the wood. Can it be a corruption of "Plot's?" The tree which was illustrated in the *Report* has a girth at 4 feet from the ground of 11 feet, and he estimates the contents of timber at 150 cubic feet, but the adjoining tree would, he thinks, yield 175 cubic feet. It is about 85 feet high. There are also several trees near Banbury, on the Northamptonshire side of the Cherwell. Some of these are 80 feet high, and would yield about 125 feet of timber. Mr Braggins says—"They should be more numerously planted, not only on account of their beauty, but their usefulness as timber when full grown, so that they would be specially useful in small clumps in parks or on boundary hedges of coppices, but not in situations where they are liable to be lopped, as lopping spoils the timber for any clean use."

NOTE ON TOPOGRAPHICAL BOTANY.

North, or Lake Lancashire, is entirely detached from the rest of the County Palatine by Morecambe Bay and a wedge of Westmorland. The name Lake Lancashire was given it by Watson, who included it with Westmorland in his vice-county 69. This is unfortunate, as it is often impossible to say whether plants recorded for 69 occur in one county only, or both. In view of the facts that North Lancashire possesses an exceptionally rich flora—quite worthy of separate treatment—and that ultimately a Flora of the whole of Lancashire is contemplated, I would suggest that in future we adopt the very simple

expedient of denoting Westmorland (the larger area) as 69 a, and North Lancashire as 69 b—the present county-boundaries to be understood. The adoption of this differentiation would remove ambiguity, tend to greater accuracy, and at the same time leave the original number unaltered.—W. H. PEARSALL.

In strongly supporting the simple plan suggested by Mr W. H. Pearsall, I would also urge that Leicester and Rutland should be so treated. The *Flora of Leicester* does not include that of Rutland. I suggest Leicester should be 55 a, and Rutland 55 b.—G. C. DRUCE.

PLANTS TO BE LOOKED FOR.

LEPIDIUM HIRTUM DC. This is like *L. Smithii* Hook., except that the fruit (pod) is covered with hairs. It was found near Perth, (see *Eng. Bot.* t. 1803) but possibly as a casual, as it has not since been recorded. Smith, who had the true *hirtum* from the Continent in his collection, may have mistaken the origin of the plants mentioned in *Eng. Bot.*

VERONICA OPACA resembles *V. didyma*, but the contrasting features are:—

V. OPACA.	V. DIDYMA.
Sepals elliptic, not overlapping at the base.	*Sepals* ovate, overlapping at the base.
Stamens inserted distinctly above base of the corolla tube.	*Stamens* inserted at, or a little above the base of corolla tube.
Style not longer than the capsule notch.	*Style* longer than the capsule notch.
Corolla pale blue.	*Corolla* bright blue.
Capsule with short incurved, but not glandular hairs.	*Capsule* with more or less glandular, straight hairs.

CAREX DAVALLIANA Sm. This was first described by Smith in *Linn. Soc. Trans.* v., 1266, 1800, but the specimens from marshy ground, Mearnshire, Prof. J. Beattie, Jun., on which he founded it were *C. dioica*, although Clarke in *First Records*, 162, gives this as the first discovery. The plant was first added to the British flora by Mr Groult. See *Eng. Bot.* t. 2123, 1810. It was found at

Lansdown, in boggy ground on the slope of a hill, about $1\frac{1}{4}$ miles from Bath. The ground came into the possession of Mr W. Beckford of Fonthill, and was drained and built on. The plant should be specially searched for in basic bogs or marshes.

Carex Davalliana.	Carex dioica.
Rootstock densely caespitose, without elongate stolons.	*Rootstock* creeping, rarely subcaespitose with elongate stolons.
Stem usually rough, in upper part more triangular.	*Stem* smooth, very faintly triangular.
Female spike oblong.	*Female spike* ovoid.
Fruit, when ripe, narrowly lanceolate, reddish brown, $\frac{1}{5}$ in., eventually markedly deflexed.	*Fruit*, when ripe, dark brown, ovate-oval, $\frac{1}{6}$ in., more or less deflexed.

Other erroneous records are given by Smith in *Eng. Fl.* iv., 78, namely :—spongy bogs in the County of Down, *Sherard*; near Belfast, *Templeton*; in a bog near Crossgate toll, and by the Side of Guillon, Edinburgh, *Mr Manghan Hooker*. Smith, there is no doubt, had Davall's Swiss specimen by him when he described it in *Fl. Brit.*, as no British specimens were known at that time. He mistook Beattie's specimen of *C. dioica* for this species.

ALIENS GROWING AT THE DOCKS, BARROW-IN-FURNESS, 1913.

Alyssum incanum L., *Sisymbrium altissimum* L., *S. orientale* L., *Brassica elongata* Ehrh., *Diplotaxis tenuifolia* DC., *Lepidium Draba* L., *L. sativum* L., *Saponaria Vaccaria* L., *Linum usitatissimum* L., *Melilotus alba* Desr., *M. arvensis* Wallr., *Coronilla varia* L., *Erigeron canadensis* L., *Artemisia biennis* Willd., *Matricaria suaveolens* Buch., *Salvia verticillata* L., *Plantago ramosa* Asch.

W. H. PEARSALL.

ALIENS AT BOSTON DOCKS.

Roemeria hybrida DC., *Sisymbrium Sophia* L., *Cicer arietinum* L., *Trigonella caerulea* Ser., *Prionitis Falcaria* Dum., *Asperula*

arvensis L., *Anthemis arvensis* L., *Matricaria suaveolens* Buch., *Centaurea Solstitialis* L., *Plantago Lagopus* L., *Setaria glauca* Beauv.

S. J. HURST, in *lit.*

ALIENS AT DALTON-IN-FURNESS.

Saponaria Vaccaria L., *Hypericum elatum* Aiton, *Vogelia paniculata* Horn., *Securigera Securidaca* (L.) Degen & Dorfl. = *Bonaveria Securidaca* Desv., *Lonicera Xylosteum* L., *Dipsacus fullonum* L., *Campanula rapunculoides* L., *Fagopyrum tataricum* Gaertn., *Hordeum jubatum* L.

D. LUMB, in *lit.*

ALIENS AT LYNN DOCKS, NORFOLK, 1907.

(NOT NECESSARILY NEW RECORDS.)

Diplotaxis muralis DC., *Medicago Falcata* L., *Erigeron canadensis* L., *Cirsium setosum* Meyer, *Anchusa ochroleuca* var. *italica*, *Salvia pratensis* L., *Euphorbia Esula* L.

REV. C. W. PECK, in *lit.*

ALIENS AT GALASHIELS, SELKIRK, 1913.

Lepidium bonariense L., *Silene inaperta* L., *S. nocturna* var. *brachypetata*, *S. quinquevulnera* L., *Polycarpon tetraphyllum* L., *Trifolium glomeratum* L., *Mentha gentilis* L., var. *Hackenbruckii* Briq., *Juncus capitatus* Weigel, *Phalaris angusta* Nees.

MISS IDA M. HAYWARD.

PERSONAL NOTES.

Mr E. W. HUNNYBUN, who is making a series of drawings of British plants for the *Cambridge British Flora*, would be much obliged if members would assist him in obtaining some of his *desiderata*, a list of which, with other information, will be gladly supplied by him. He will defray the cost of transmission and supply tins for the plants.

MISS BERTHA REID, 26 Ardilaun Road, Highbury, N., Prof. J. PERCIVAL, The Pyghtle, Northcourt Avenue, Reading, and R. Y. STAPLEDON, Esq., Agricultural Dept., Unversity College of Wales, Aberystwyth, would be much obliged if members will kindly supply

seeds and fruits of British plants. Members willing to assist are asked to communicate with the foregoing members direct. Mr Stapledon especially wishes for *Leguminosae*, *Umbelliferae*, *Compositae*, and *Scrophulariaceae*.

Miss Reid would also like fresh examples of the British orchids (without roots).

Lady Davy, Wintergreen Wood, Pyrford, Surrey, wants fresh specimens of *varieties* of the British orchids.

Mrs Adams, F.L.S., 14 Vernon Road, Edgbaston, and Miss Trower, Stansteadbury, Ware, Herts., are painting British plants. Would members who are willing to assist in supplying specimens kindly let them know? The latter specially needs British *Rubi*.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, is anxious to have seeds or roots of rare British species. He will defray all expenses.

W. Norwood Cheesman, Esq., J.P., The Crescent, Selby, York, will be glad to receive or exchange specimens of *Mycetozoa*.

The Club is greatly indebted to the Director and Staff of the Royal Gardens, Kew, and to the Keeper and Staff of the British Museum Herbarium for much assistance, as well as to our foreign experts. Mr F. N. Williams, Mr E. D. Marquand, and the Rev. F. Bennett have also very kindly rendered assistance.

If members have any spare copies of the *Report* for 1912, or any copies of *Reports* anterior to 1879, would they kindly send them to the Secretary, who will defray the cost of transmission.

Will members kindly endeavour to increase the membership roll, by bringing the Society to the notice of their friends?

May I add that any opinion expressed in the preceding pages is purely personal and necessarily in no way assumes to carry with it the authority of the Club.

With best wishes, I am yours very sincerely,

G. Claridge Druce.

SUPPLEMENT TO BOTANICAL EXCHANGE CLUB REPORT FOR 1913,

BY

G. CLARIDGE DRUCE, M.A., F.L.S.

PART I.

NOTES ON NOMENCLATURE.

NOTES ON SOME OF THE TRIVIALS USED IN THE EARLY WORKS OF LINNAEUS.

The Vienna Actes (Art. 19) say that "Botanical Nomenclature begins with the *Species Plantarum* of Linnaeus, ed. 1, 1753. It is agreed to associate genera, the names of which appear in this work, with the descriptions given of them in the *Genera Plantarum* ed. 5, 1754".

Art. 48 states "when . . . a species is moved into another genus the first specific epithet . . . must be retained.

The enforcement of this rule necessitates several new combintions, as has been recently brought home to me while I was making somewhat extensive researches into the early names of plants for the identifications of specimens in the Morisonian herbaria at Oxford, the account of which is being shortly published by Professor Vines. A complete examination of all the specific names in the two earliest editions of the *Species Plantarum* has been made, which has shown that the following combinations made necessary by the Actes do not appear to be given in the *Index Kewensis* or its four *Supplements*. Doubtless a few of these may have been already made that have escaped the attention of the careful compilers of that monumental work, and still others may have been subsequently formulated.

In a few cases it is possible that monographers may reject the earliest trivial as being of too doubtful application. It has been, however, felt desirable to bring the results of the investigation together in a single paper, so that attention being directed to them, those which bear the fire of criticism may be adopted.

It may be well to state that in my correspondence with Alphonse de Candolle in 1891, I gave the reason which had induced me to formulate a rule (*Pharmaceutical Journal* 1892) that both generic and specific citation should date from the *Species Plantarum* of 1753, the names of genera at that time dating from 1737. This allowed a large number of competing names to intervene between the earlier and the later works of Linnaeus, so that Kuntze (*Rev. Gen. Pl.*) made an enormous number of plant changes by using genera which had been described between the dates alluded to. After some considerable exchange of views, the veteran botanist wrote to me in 1892, saying he should no longer oppose, but in future would support the date 1753 as the starting point of both genera and species. Quite independently the great botanist Ascherson also entered into communication with De Candolle on the same subject, and chiefly by his efforts, the matter was put before the botanical world, and was eventually adopted at the Vienna Congress. It is, however, greatly to be regretted that, in order to avoid temporary inconvenience, the principle of priority should have been sacrificed by the vote taken at that meeting, when an arbitrary "List of Nomina Conservanda" was issued on most illogical and unjust lines, the very unfairness of which will probably prevent them having a more than temporary place in the Rules of Nomenclature. The permanence of the trivial, in whatever grade it is placed, should also have been insisted on, and it would have been on the whole advantageous had there been no exception to the permanence of the oldest trivial, even if the name had been subsequently used for another plant in the genus. In such cases, and they are not sufficiently numerous to warrant the infringement of a great principle, the more recent combination would have to be renamed.

Article 45. "When a genus is divided into two or more genera, the name must be kept and given to one of the principal divisions. If the genus contains a section or some other division, which, judging by its name or its species, is the type or the origin of the group, the name is reserved for that part of it. If there is no such section or subdivision, but one of the parts detached contains a great many more species than the others, the name is reserved for that part of it." This rule has been recently construed by the eminent botanist M. Briquet into using *Nymphaea* vice *Castalia*, and the consequent restoration of Smith's *Nuphar*, which is so much later than Salisbury's *Castalia*; although in this instance the Linnean genus *Nymphaea* consists of

four species, one of which is now a *Nelumbium*, two being white and the other a yellow Lily, yet Linnaeus put the yellow Lily first in the genus, and when Salisbury separated the two white Lilies from it, he left that which came first on the list to represent the Linnean *Nymphaea*, and in doing so in this small genus he could scarcely be accused of taking away a great many more species than he left, although the proportion was two to one. Jussieu in 1789 took away *Nelumbium*. Salisbury removed two species of *Castalia* in 1805, while the genus *Nuphar* was not established until 1808. Therefore Salisbury has precedence over Smith.

So too with the Linnean genus *Statice*, which Linnaeus wrongly founded on such two distinct genera as the Thrifts and Sea Lavenders. Miller first in 1754 (*Gard. Dict. Abr.*) and Hill more accurately and completely in the *British Herbal* of 1756, separated the Sea Lavenders under their Tournefortian name, notwithstanding there were more species of them than of the Thrifts, calling them *Limonium*, by which name they had been so long and widely known. Mr C. E. Salmon, not many years ago, renamed our British species under *Limonium*, but quite recently reverses his views (I think owing to a misinterpretation of Art. 45) and now once again calls them *Statice*. The Thrifts which were separated as *Armeria* by Willdenow in 1809, had long been associated with the name *Statice*, while *Limonium* had been always used to designate the Sea Lavenders. Therefore who shall blame Miller for keeping up the continuity of a name? Is not this conservation, although expressed, at least according to the spirit of Art. 45, "when a genus is divided, the name must be kept and given to one of the principal divisions?" Therefore *Statice* being the species which came first in the *Species Plantarum*, and the plant which had been previously associated with the name, was wisely left by Miller to bear it, notwithstanding its numerical inferiority. Moreover, another section of Art. 45 seems to bear out this reading. "If the genus contains a section or some other division, which judging by its name, or *its species*, is the type or origin of the group, the name is reserved for that part of it." *Limonium* had not (except in a few instances) been called *Statice*, and although there was no division made by Linnaeus in his genus, yet practically it fell into two groups, as is shown in his treatment of it in the *Genera Plantarum* : *Statice*, the Thrifts ; *Limonium*, the Sea Lavenders, one species being an *Acantholimon*. Therefore I contend as I did (*Linn. Soc. Journ.*) that

we should still use *Statice* in the sense of *Armeria* Willd., and *Limonium*, versus *Statice*, as established by Tournefort and revived by Miller and Hill.

Nomenclaturists who have been so easily led to accept the practice of M. Briquet in regard to *Nymphaea* have not, it seems, sufficiently realised what the logical effects of such a course demand. Take, for instance, the Linnean genus *Convallaria*. This consists of eight species, three of which are in the more modern genus *Polygonatum*, three in *Smilacina*, one in that wrongly-called *Maianthemum*, leaving the Lily of the Valley alone to bear the Linnean name *Convallaria*. Therefore, as the three species of *Polygonatum* were first separated from the genus by Miller in 1754 and called by the Tournefortian name, five species of the restricted genus *Convallaria* were left. *C. bifolium* was taken out by Adanson in 1763, leaving four species; therefore, when Necker established his *Tovaria* in 1790, Moench his *Polygonastrum* in 1794, and Desfontaine his *Smilacina** as it is now generally although unjustly used, can it be seriously contended that either author should have used the generic name *Convallaria* to designate the three species, *C. racemosa*, *C. stellutata*, and *C. trifolia*, and given to the Lily of the Valley, which happened to be the solitary species, a new generic name? Why should we use *Convallaria* in a new sense and make these new combinations, *C. dahurica* (Turc.), *C. flexuosa* (Bertol.), *C. Forskaliana* (Schultes), *C. fusca* (Wall.), *C. japonica* (Gray), *C. laxiflora* (Hemsley), *C. oleracea* (Hook. f.), *C. paniculata* (Mart. & Gal.), *C. purpurea* (Wall.), *C. nervulosa* (Hemsley), *C. ramosa* (G. Don), *C. Salvini* (Hemsley), *C. scilloidea* (Mart. & Gal.), *C. sessilifolia* (Nuttall), *C. thyrsoidea* (Hemsley), *C. Fargesii* (Diels), *C. oliyophylla* (Hook. f.), and *C. Wallichii* (King)? There can be no doubt as to these being more numerous than the species of true *Convallaria*, which would have either to be put under Moench's genus *Lilium-convallium*, or some other name, since only three species are enumerated in *Ind. Kew.* The List of Nomina Conservanda would require very great extension.

A similar instance is to be found under *Chelidonium* L., which consists of four species. Miller in 1754 separated *Glaucium* from it, but, according to the new interpretation of the laws, illegally, taking out *C. corniculatum* and *C. flavum*, leaving behind *Chelidonium majus* and the plant afterwards named *Roemeria hybrida*. There are now

* These three names are synonymous.

about 20 species in the genus *Glaucium* and two in the restricted genus *Chelidonium*. Are then all the species of *Glaucium* to be named *Chelidonium*, and a new generic name found for the two species of Celandine? There is a stronger example in the Linnean genus, if such it could be called, *Cheiranthus*, which has thirteen species. This consists (giving the *Kew Index* names) of five species of *Malcomia*, five (now four) of *Mathiola*, only two of the modern *Cheiranthus*, and one of *Erysimum*. Shall, therefore, the upwards of thirty species of *Cheiranthus* be called *Cheiri*, and upwards of forty of *Malcomia* be called *Cheiranthus*?

Take again the Linnean genus *Antirrhinum*. The genus *Linaria* which Linnaeus had wrongly merged into it was separated by Miller in 1754. Can it be for one moment considered that he acted wrongly in giving the generic name *Linaria* to those plants which, following previous botanists, he considered to belong to that group? Why should he reverse the Tournefortian names by calling them *Antirrhinum*, which they were not? Who is bold enough to venture to rename them now? The Linnean genus was made up of about forty species. Three only of these belong to the *Antirrhinum* section, one is an *Anarrhinum*, and thirty-four are *Linaria*. This is quite equivalent to the case of *Statice*. The proportion of species is given by Uphof (Die Pflanzen gattungen) as *Antirrhinum* 30, *Linaria* 160.

The genus *Fumaria* L. consists of eleven species. Three of these only are *Fumaria*. Indeed, some authors put *spicata* into a separate genus, *Platycapnos*. One is a *Sarcocoprios*, two are what the *Ind. Kew.* calls *Dicentrae*, while five belong to *Corydalis* = *Capnoides*. Therefore, if the more numerous section is to retain the original name, *Fumaria* vice *Corydalis*, it necessitates a new name for *Fumaria*. It may here be urged that *Corydalis* is one (among many) of the Nomina Conservanda, but nomenclaturists will not welcome additional evidence of the inequality of the Rules.

Take again the genus *Cistus*, which, as defined by Linnaeus, had thirty-seven species. Miller separated the genus *Helianthemum* in 1754, taking out twenty-six species, leaving eleven only, the plants now called *Cistus*. Was he wrong in giving the older name to the larger section, notwithstanding that the new genus had a larger number of species than the old? This proportion is still maintained, Uphof giving *Cistus* 30 species, *Helianthemum* 135. Are all these latter to be called *Cistus*, as the Sea Lavenders are to be called *Statice*?

The genus *Geranium* affords another example. *Pelargonium* and *Eronium*, separated from it by L'Héritier in 1787, contain a larger number of species than were left in *Geranium*. Again this proportion, according to the *Kew Index*, is maintained.

Other examples exist in shoals; we may refer to *Myagrum*, which had nine species, five belonging to *Rapistrum*, one each to *Myagrum*, *Vogelia*, *Cochlearia*, and *Camelina*. Are all the species of *Rapistrum* to become *Myagrum*?

Finally, take the genus *Carduus*, consisting of twenty-six species. *Carduus Acarna* Sp. Pl., ed. i., is in the 2nd edition transferred to *Cnicus*. Of the twenty-six species five only are unplumed thistles, *e.g.*, *C. nutans*, *C. acanthoides* and *C. crispus* (which most modern authors unite), and *C. pycnocephalus* and *C. defloratus* (which are in ed. i.), whereas there are fifteen species of plumed thistles (*Cirsium*). The six other species belong to five different genera—*Tyrimnus*, *Mariana*, *Notobasis*, *Serratula*, and two are *Jurinea*. Is it seriously contended that *Carduus* L. is to supersede *Cirsium*, and that the true Thistles are to be called by some other name?

To myself the rule as it stands is fairly clear. In the case of *Antirrhinum* and others, Linnaeus in the *Genera Plantarum* gives the various generic names which he has associated together. If these are disassociated, the respective species must be grouped under one or other of those names; that is *Linaria* and *Antirrhinum* for their respective species, even if the numerical proportion is larger in one of the subordinate names. See also under *Statice*.

May we not, therefore, in view of the enormous upheaval such a course as that foreshadowed in *Statice* and *Nymphaea* would entail, modify Article 45 by adding a sentence to it—"*That the rule only applies to future divisions of genera or groups, and has no retrospective action.* As with the definition of species, so too with genera, the rule of priority shall be enforced?" The adoption of such a rule appears to be necessary, since, as it stands, at anyrate in the English version, Article 45 is not free from ambiguity, and may, if unaltered, lead to unnecessary disturbances in nomenclature.

EXAMPLES IN WHICH THE NUMERICALLY INFERIOR PORTION OF A GENUS RETAINS THE ORIGINAL NAME.

Hyacinthus L., 13 species, 2 only of which are *Hyacinthus*,

4 (5) are *Muscari*, 2 *Scilla*, 2 *Dipcadi*, 1 *Lachenalia*, and 1 *Lanaria* (not divided into sections).

ILLECEBRUM L., 11 species, 1 only of which is *Illecebrum*, 4 *Paronychia*, 2 *Alternanthera*, 2 *Telanthera*, 1 *Philoxerus*. Even in the section (caulibus prostratis) there are 2 *Paronychias* to 1 *Illecebrum*; the same proportion as in *Nymphaea*.

PENTAPETES L., 3 species, 2 of which are *Pterospermum*.

MENYANTHES L., 3 species, 2 of which are *Nymphoides* (= *Limnanthemum*).

ANDROMEDA L., 9 species, 1 only is *Andromeda*, 2 *Cassiope*, 2 *Leucothoe*, the other 4 species being in as many different genera.

ALISMA L., 7 species, 1 only *Alisma*, 2 *Echinodorus*, 1 *Damasonium*, 1 *Elisma*, 1 *Sagittaria*.

ARUNDO L. Scheuch., 6 species, 1 only *Arundo*, 2 *Calamagrostis*, 1 *Bambusa*, 1 *Ammophila*, 1 *Phragmites*.

SECALE L., 4 species, 1 only *Secale*, 2 *Agropyron*, 1 *Triticum*.

BROMELIA L. Plin., 5 species, 1 only *Bromelia*, 2 *Æchmaea*, 1 *Ananas*, 1 *Karatas*.

MOMORDICA L., 8 species, 2 *Momordica*, 3 *Luffa*, 1 each of three different genera.

MENISPERMUM L. Tourn., 7 species, 1 only *Menispermum*, 4 *Cocculus*, 1 each of *Anamirta* and *Tinospora*.

ARETHUSA L. Gron., 4 species, 1 only *Arethusa*, 2 *Pogonia*, 1 *Disperis*.

POTHOS L., 1 only *Pothos*, 5 *Anthurium*; the latter has now about 212 species, while *Pothos* has 59.

MYOSOTIS L. Dill, 4 species, 1 only *Myosotis*, 2 *Echinospermum* (*Lappula*) and 1 *Lithospermum*.

HEDYSARUM L. Tourn., 46 species, of which 6 only are *Hedysarum*, 16 being *Desmodium*, 5 *Lespedezia*, 5 *Onobrychis*, and 14 various genera. *Desmodium* has now about 250 species, while *Hedysarum* has only about 125. This has 4 sections, the section "*Foliis pinnatis*" having 6 *Hedysarum* and 5 *Onobrychis*.

FAGUS L. Tourn., 3 species; 1 is the Beech, 2 are *Castanea*.

RICINUS, 3 species, 1 being *Ricinus*, 2 *Macaranga*. The *Index Kew.* enumerates about 6 species of Castor Oil, 89 of *Macaranga*. This may be held to be covered by the name *Ricinus*, which alone was used for the solitary species.

UNIOLA L., 3 species, 2 *Eragrostis*, 1 only *Uniola*.

Hyssopus L., 3 species, 1 only *Hyssopus*, 2 being *Lophanthus*. (The first was the old *Hyssopus*.)

Arctotis L., 11 species, 3 being *Arctotis*, 4 *Ursinia*, and 3 now merged into one of *Cryptostemma*.

Robinia L., 7 species, 1 only being a *Robinia*, 3 *Carragana*, 1 each *Lonchocarpus*, *Pongamia*, and *Sesbania*. (*Robinia* was an old name for False Acacia).

Arnica L., 7 species, 1 only *Arnica*, 4 *Gerbera*, 1 each *Senecio* and *Doronicum*. *Gerbera* now has 39 species, *Arnica* 25.

Tussilago L. Tourn., 4 species, only 1 *Tussilago* and 3 *Petasites*.

Calendula L., 8 species, 3 *Calendula*, but 5 *Dimorphotheca*.

Cynanchum L., 5 species, 1 *Cynanchum*, 2 *Gonolobus*, 1 *Marsdenia*. (Now there are 100 species of *Gonolobus* and about 60 *Cynanchum*.)

Cynosurus L., 11 species, 2 only *Cynosurus*, 3 *Eleusine*, and 6 different genera 1 species each.

Cerbera L., 3 species, only 1 *Cerbera* and 2 *Thevetia*.

Galega L. Tourn., 8 species, only 1 *Galega*, 7 being *Tephrosia*. (*Galega* now only has about 6 species, *Tephrosia* over 200.)

Xeranthemum L., 12 species, 1 only *Xeranthemum*, 4 *Helichrysum*, 3 *Helipterum*, but there are two sections. The first, with two species, contains *Xeranthemum annuum*.

Conyza L., 19 species, 2 only being *Conyza*, 3 *Inula*, 2 *Sericocarpus*, 2 *Pluchea*, 3 *Blumea*, 4 *Veronia* ; *Phagnalon*, *Pterocaulon*, and *Neurolaena* 1 each.

Baccharis L., 7 species, 1 only *Baccharis*, 3 *Pluchea*.

Satyrium L., 8 species, 3 of which are *Habenaria*, 1 each *Himantoglossum* or *Orchis*, *Epipogon*, *Spiranthes*, *Goodyera*, *Eulephia*.

Laurus, 12 species, 1 only *Laurus*, 3 *Cinnamomum*, 3 *Persea*, 2 *Lindera*, 1 each *Ceanothus*, *Canella*, and *Sassafras*.

Amaryllis L., 11 species, 1 only *Amaryllis*, 2 *Buphane*, 2 *Crinum* ; the 7 other species belong to 7 different genera.

Rhizopophora L., 6 species, 3 *Brugniera*, 1 *Kandelia*, 1 *Ægiceras*, and 1 *Sonneratia*.

Gesneria L., 3 species, 2 *Pentaraphia*, 1 *Rhytidophyllum*.

Epidendrum L., 30 species in 3 sections, is an *olla podrida*. 3 species are *Epidendron*, 3 *Cymbidium*, 3 *Dendrobium*, 3 *Oncidium*, 2 *Vanilla*, 2 *Vanda*, 2 *Brassavola* ; the others belong to 12 different genera.

Nearly all these names (although representing a numerically inferior portion of the genus) should be retained, as like *Statice* (for the Thrifts), "the name" as mentioned in Article 45 is the type of the genus.

NEW COMBINATIONS.

ABUTILON AMERICANUM (L. Amoen. Acad. iv., 400) as Lavatera: comb. nov., not of Sweet, vice *A. Jacquini* G. Don Gen. Syst. i., 503. Malvaceae. Jamaica, Don.

ADENOCLINE PROCUMBENS (L. Sp. Pl. 1036, 1753) as Mercurialis: comb. nov., vice *Paradenocline procumbens* Muell-Arg. Euphorbiaceae. Hab. wrongly given as China in *Sp. Pl.* but Afr. austr. in *I.K.* See DC. *Prod.* xv. (2), 1141.

ADENOSMA GLUTINOSUM (L. Sp. Pl. 611, 1753) as Gerardia: comb. nov., vice *A. grandiflorum* Benth. (see *Journ. Linn. Soc.* xiii., 114, 1873) = *Pterostygma grandiflorum* Benth. Scrophulariaceae. China (*Sp. Pl.* ?).

AGATHOSMA CAPENSIS (L. Syst. ed. x., 939, 1759) as Hartogia: comb. nov., vice *A. hispida* Bartl. & Wendl. f. = *Diosma capensis* Murr. Rutaceae. Afr. austr.

AGLAIA PINNATA (L. Sp. Pl. 938 [638], 1753) as Vitex: comb. nov., vice *A. odorata* Lour. Fl. Coch. 173, 1790. Meliaceae. Given for Ceylon in *Sp. Pl.* and *Ind. Kew.*, but according to *Fl. Ceylon* it is a native of China and Malay.

AMELLUS ASTEROIDES (L. Sp. Pl. 902, 1753) as Verbesina: comb. nov., vice *A. Lychnitis* L. Syst. ed. x., 1255, 1759. Compositae. Afr. austr.

AMPHITHALEA IMBRICATA (L. Amoen. Acad. 6, Sp. Pl. 1004, 1763) as Crotolaria: comb. nov., vice *A. densa* Eckl. & Zeyh. Leguminosae. Afr. austr.

ANDROCYMBIUM CAPENSE (L. Sp. Pl. 483, 1763) as Melanthium: comb. nov., vice *A. leucanthum* Willd. Mr Baker quotes *M. capense* as a syn. of *A. leucanthum* in Fl. Cap. vi., 519. Liliaceae. Afr. austr.

ANEILEMA MALABARICUM (L. Sp. Pl. 412, 1763) as Tradescantia: comb. nov., vice *A. nudiflorum* R. Br. Prod. 271. *T. malabarica* is

cited from L. *Mantissa* in *Fl. Brit. Ind.* v., 379. Commelinaceae. Ind. or.

Argania spinosa (L. Sp. Pl. 193, 1753) as Sideroxylon: comb. nov., excluding hab. "Malabar" and Rheede and Plukenet's synonyms, vice *A. Sideroxylon* Roem. & Schultes. Sapotaceae. Marocco.

Argyrolobium lunaris (L. Sp. Pl. 715, 1753) as Crotolaria; comb. nov., vice *A. lanceolatum* Eckl. & Zeyh. Leguminosae. Afr. austr.

Artemisia incana (L. Sp. Pl. 844, 1753) as Tanacetum: comb. nov., vice *A. fasciculata* Bieberstein. Compositae. Orient. *T. incanum* L. is cited for *A. fasciculata* by Boissier in *Fl. Orient.* iii., 368.

Asparagus asparagoides (L. Sp. Pl. 339, 1753) as Medeola: comb. nov., vice *A. medeoloides* Thunberg. (*Dracaena medeoloides* L. fil. Suppl. 203). Liliaceae. Afr. austr.

Aster biflorus (L. Sp. Pl. 841, 1753) as Chrysocoma: comb. nov., not of Michaux or Presc., vice *A. Dracunculoides* Lamarck. Compositae. Sibiria (*Sp. Pl.*) (Ledebour *Fl. Alt.* iv., 98, cites *C. biflora* under *A. Dracunculoides*).

Athamanta turbith (L. Amoen. Acad. iv., 310, Sp. Pl. 374, 1763) as Seseli: comb. nov., not of Brotero, teste *Ind. Kew.* The Linnean name is cited with a ? in DC. *Prod.* iv. 155, vice *A. Matthiola* Wulf. Umbelliferae. Europe.

Atraphaxis frutescens (L. Sp. Pl. 359, 1753) as Polygonum: comb. nov., not of C. Koch, vice *A. lanceolata* Bunge. Polygonaceae. Sibiria. The Linnean name is cited by Meisner in DC. *Prod.* xiii., 78.

Athryxia crinita (L. Amoen. Acad. 6, Sp. Pl. 1225, 1763) as Aster: comb. nov., vice *A. heterophylla* Less. Compositae. Afr. austr. In *Fl. Capensis* iii., *Aster crinitus* Thunb. Cap. 688 is referred to *Arthryxia capensis* Ker., and in DC. *Prod.* vi., 277, the Linnean name is cited.

Atriplex fera (L. Sp. Pl. 1456, 1763) as Spinacea: comb. nov., vice *A. lenticularis* C. A. Meyer. Chenopodiaceae. Asia.

Aulax cancellata (L. Sp. Pl. 91, 1753) as Leucadendron: comb. nov., vice *A. pinifolia* Berg. (*L. pinifolium* L. Mantissa 36). Proteaceae. Afr. austr.

Barringtonia asiatica (L. Sp. Pl. 512, 1753) as Mammea: comb. nov., vice *B. Butonica* Forst., teste *Ind. Kew.* = *B. speciosa* L. fil. Suppl. 312 = *Butonica speciosa* Lam. (= *Michelia asiatica* O.K.).

Myrtaceae. Hab: Java (*Sp. Pl.*); Ins. Pacif. (*Ind. Kew.*); China austr., Java, Sumatra, Moluccas, DC. *Prod.* iii., 283.

BELMONTIA EXACOIDES (L. Sp. Pl. 332, 1763) as Gentiana: comb. nov., vice *B. cordata* E. Meyer. Gentianaceae. Afr. austr. In *Fl. Capensis* iv. (1), 1057, 1909, *Belmontia* is merged into *Sebaea*, and this species stands (p. 1074) as *S. exacoides*.

BERKHEYA ATRACTYLOIDES (L. Sp. Pl. 1161, 1763, Amoen. Acad. 6) as Carlina: comb. nov., vice *B. carlinoides* Willdenow Sp. Pl. iii., 2275. Compositae. Afr. austr. The Linnean trivial is not cited in *Fl. Capensis*. Willdenow cites *Gorteria herbacea* L. Suppl. 381, 1781, for it, but there is no reference there to the plant of the *Amoenitates*.

BIARUM ORIENTALE (L. Sp. Pl. 1373, 1763) as Calla: comb. nov., vice *B. Bovei* Blume, teste *Ind. Kew.* Aroidaceae. Oriens. (Decaisne, Ann. Sc. Nat. iv., 346, 1835, makes no allusion to the Linnean plant). (Otto Kuntze *Rev. Gen. Pl.* 742, uses *Homaid*[*a*] Adans. instead of *Biarum* Schott).

BOERHAVIA [Boerhaavia] CHINENSIS (L. Sp. Pl. 33, 1753) as Valeriana: comb. nov., vice *B. repanda* Willdenow. Nyctaginaceae. China. See DC. *Prod.*

BONNAYA ANTIPODA (L. Sp. Pl. 635, 1753) as Ruellia: comb. nov., vice *B. veronicaefolia* Sprengel Syst. i., 41, 1825, teste *Ind. Kew.* Scrophulariaceae. India. Not cited in DC. or *Fl. Ind.* Sprengel gives no citation of the Linnean plant, nor does Retzius, (*Obs.* iv., 8), under *Gratiola*.

CADABA FRUTICOSA (L. Sp. Pl. 671, 1753) as Cleome: comb. nov., vice *C. indica* Lamarck, under which, in *Fl. Brit. Ind.* i., 172, the Linnean name is cited. Capparidaceae. India.

CALLIANDRA INERMIS (L. Sp. Pl. 1509, 1763) as Gleditsia (excl. Duhamel's Syn.): comb. nov., vice *C. Houstoni* Benth., in Hook. *Journ. Bot.* ii. 139, 1840 = *Acacia Houstoni* Willd. Sp. Pl. iii., 1062, where *G. inermis* is cited. Leguminosae. Mexico.

CAPPARIS INDICA (L. Sp. Pl. 503, 1753) as Breynia: comb. nov., vice *C. Breynia* L. Syst. x., 1071, 1759. *B. indica* is cited for it, DC. *Prod.* i., 252. Capparidaceae. Amer. austr.

CELSIA OSBECKII (L. Sp. Pl. 179, 1753) as Verbascum: com. nov., vice *C. bugulifolia* Jaub. & Spach. Scrophulariaceae. Orient. (*Ind. Kew.*). Boissier (*Fl. Orient.* iv., 351) says of the Linnean plant "ex parte quoad plantam orientalem."

CENTROPOGON CORNUTUS (L. Sp. Pl. 1320, 1753) as Lobelia : comb. nov., vice *Lobelia surinamensis* L. Sp. Pl. 1320, 1763, and *Centropogon surinamensis* Presl. Campanulaceae. Cayenne. DC. *Prod.* vii., 344, cites *L. cornutus* with a ?

CHIOCOCCA ALBA (L. Sp. Pl. 175, 1753) as Lonicera : comb. nov., vice *C. racemosa* L. Syst., ed. x., 917, 1759. Rubiaceae. Ind. occ. *L. alba* is cited for this in DC. *Prod.* iv., 482.

CLERODENDRON INDICA (L. Sp. Pl. 109, 1753) as Siphonanthus : comb. nov., vice *C. Siphonanthus* Aiton. See also *Ovieda spinosa* L. Sp. Pl. 637, 1753, which (teste *Ind. Kew.*) is the same species. Verbenaceae. India. In *Fl. Brit. Ind.* iv., 595, C. B. Clarke quotes *C. Siphonanthus* from Willdenow *Sp. Pl.* for this species.

COCCULUS HIRSUTUS (L. Sp. Pl. 341, 1753) as Menispermum : comb. nov., vice *C. villosus* DC. Menispermaceae. India. The *Fl. Brit. Ind.* i., 100, cites the Linnean name under *C. villosus. Men. hirsutus* and *myosotoides* L. Sp. Pl. 341, 1753, are now united. The earlier generic name is *Cebatha* Forsk., 1775.

CRANTZIA CHINENSIS (L. Sp. Pl. 234, 1753) as Hydrocotyle : comb. nov., vice *C. lineata* Nuttall, teste *Ind. Kew.* Umbelliferae. China.

CREPIS PONTANA (L. Sp. Pl. 810, 1753) as Hypochaeris : Beck *Fl. Nied. Oest.* 1275, vice *C. montana* Reichb. Compositae. Savoy.

CRYPTOSTEMMA CALENDULA (L. Sp. Pl. 922, 1753) as Arctotis : comb. nov., vice *C. calendulaceum* R. Brown. Compositae. Afr. austr. The Linnean trivial is wrongly attributed to Willdenow in *Fl. Capensis* iii., 467.

CTENIUM GANGITUM (L. Sp. Pl. 53, 1753) as Nardus : comb. nov., vice *C. carolinianum* Panz. Graminaceae. Amer. bor. (*Ind. Kew.*). The older generic name is *Campulosus* Desv. in Bull. Soc. Philom. ii., 189, 1810. CAMPULOSUS GANGITIS (L.) O.K. *Rev. Gen. Pl.* ii., 763.

CULLUMIA CILIATA (L. Sp. Pl. 859, 1753) as Xeranthemum : [*Heranthemum* Sphalm.], comb. nov. (not *C. ciliaris* R. Br.), teste *Ind. Kew.*, vice *C. decurrens* Less. Compositae. Afr. austr.

CUSCUTA MYRICOIDES (L. Sp. Pl. 388, 1753) as Schinus : comb. nov., vice *C. africana* Willdenow. Convolvulaceae. Afr. austr. It is the *Schrebera schinoides* L. Sp. Pl. 1662, 1763, which Choisy in DC. *Prod.* ix., 454, says is this plant p.p.

CYPERUS MUCRONATUS (L. Sp. Pl. 42, 1753) as Schoenus : comb. nov., not of Rottl. or Steudel, vice *C. aegyptiacus* Gloxin, and *C. schaenoides* Griseb. Cyperaceae. Europe.

DAEDALACANTHUS CAPENSIS (L. Sp. Pl. 9, 1753) as Eranthemum : comb. nov., vice *D. montanus* Anders. Acanthaceae. Ind. or. (*Ind. Kew.*). The Linnean name is cited under *D. montanus* in *Fl. Brit. Ind.* iv., 421, by C. B. Clarke.

DAUCUS ORIENTALIS (L. Sp. Pl. 211, 1753) as Caucalis : comb. nov., vice *D. pulcherrimus* Koch, in DC. *Prod.* iv., 210, where as in Boissier *Fl. Orient., Caucalis orientalis* Bieb. is said to be synonymous. Umbelliferae. Orient.

DENDROBIUM OVATUM (L. Sp. Pl. 952, 1753) as Epidendron : comb nov., vice *D. chlorops* Lindley Bot. Register, 1844, teste *Ind. Kew.* Orchidaceae. India.

DESMANTHUS PERNAMBUCANUS (L. Sp. Pl. 519, 1753) as Mimosa : comb. nov., vice *D. depressus* Humb. & Bonpl. Leguminosae. Amer. The older generic name is *Acuan* Medic. Theod. Sp. 62, 1786 = *Acuanhia* O. Kuntze.

DIASTELLA PROTEOIDES (L. Sp. Pl. 90, 1753) as Leucadendron : comb. nov., vice *D. ericaefolia* Knight. See *Fl. Capensis* v. (i.), 653, where the Linnean name is cited.

DICOMA SPINOSA (L. Sp. Pl. 859, 1753) as Xeranthemum : comb. nov., vice *D. Burmanni* Less., in Linnaea v., 289, 1830. Compositae. Afr. austr. The Linnean trivial is not cited in *Fl. Capensis*, vol. iii., by Lessing, *l.c.*

DIOSMA UNIFLORA (L. Sp. Pl. 199, 1753) as Brunia : comb. nov., vice *D. cupressina* L. Mantissa i., 501, not *Diosma uniflora* L. Sp. Pl. 198, which is *Adenandra uniflora*. Rutaceae. Afr. austr.

DISA BIFLORA (L. Sp. Pl. 939, 1753) as Orchis : comb. nov., vice *D. torta* Swartz. In *Fl. Capensis* v. (3) 258, 1913, the authors give *Orchis satyroides* L. Amoen. Acad. vi., 109, 1763, and *D. torta* Swartz as synonyms of *Schizodium arcuatum* Lindley, but if Lindley's genus is kept distinct, and not merged into *Disa* as in *Ind. Kew.*, we must write *Schizodium biflorum*, comb. nov. Orchidaceae. Afr. austr.

DYSODIA AURANTIA (L. Sp. Pl. 877, 1753) as Aster : comb. nov., not of Hoppe or Willdenow, vice *D. appendiculata* Lag., teste *Ind. Kew.*, not in DC. Compositae. Vera Cruz.

ECBOLIUM ADHATODA (L. Sp. Pl. 15, 1753) as Justicia : O. Kuntze Rev. Gen. Pl. i., 487, vice *E. Linnaeanum* Kurz. Acanthaceae. Zeylon. It is the *Adhatoda Vasica* Nees, *Adhatoda* being the Tamil name for the plant scarcely altered.

ERUCARIA HISPANICA (L. Sp. Pl. 669, 1753) as Sinapis : comb. nov., vice *E. tenuifolia* DC. Syst. ii., 675, where the Linnean trivial is cited. Cruciferae. Europe mer.

EUGENIA CUMINI (L. Sp. Pl. 471, 1753) as Myrtus : comb. nov., vice *E. Jambolana* Lamarck. Myrtaceae. Zeylon. Jamun was an Indian name for the fruit.

E. PINNATA (L. Sp. Pl. 516, 1753) as Plinia : comb. nov., vice *Plinia crocea* L. Mantissa ii., 244, teste *Ind. Kew.*, not in DC. Myrtaceae.

EXACUM TRINERVE (L. Sp. Pl. 189, 1753) as Chironia : comb. nov., vice *E. zeylanicum* Roxburgh. Gentianaceae. Zeylon. A most beautiful blue-flowered species.

FICINIA CAPENSIS (Juslenius in L. Amoen. Acad. iv., 264, 1760) as Schoenus : comb. nov., vice *F. ramosissima* Kunth, teste *Ind. Kew.* Cyperaceae. Afr. austr. The older generic name is *Melancranis* Vahl, 1806.

GENIOSPORUM MENTHOIDES (L. Sp. Pl. 598, 1753) as Ocimum : comb. nov., vice *G. prostratum* Benth. Labiatae. Zeylon. In *Flora Ceylon* iii., 267, *O. menthoides* and *O. tenuiflorum* are both said to be = *G. prostratum* Benth., but *Ind. Kew.* gives *O. tenuiflorum* as = *G. sanctum* L. Mant.

GLOXINIA PERENNIS (L. Sp. Pl. 618, 1753) as Martynia : comb. nov., vice *G. maculata* L'Héritier Stirp. Nov. 149. Gesneraceae. Amer. mer. The Linnean name is cited in DC. *Prod.* viii., 534.

GNIDIA SQUARROSA (L. Sp. Pl. 358, 1753) as Daphne : comb. nov., vice *G. carinata* Thunb. Prod. Cap. 76. Thymelaeaceae. Afr. austr. See DC. *Prod.* xiv., 589.

GONOLOBUS LUTEUS (L. Amoen. Acad. v. 307, Sp. Pl. 404, 1763), as Vinca : comb. nov., vice *G. caroliniensis* R. Br. Asclepiadaceae. Amer. bor.

GRAMMANTHES CENTAUROIDES (L. Amoen. Acad. 6, Sp. Pl. 404, 1763) as Crassula : vice *G. gentianoides* DC. *Prod.* iii., 393, teste *Ind. Kew.* Crassulaceae. Afr. austr.

GRIELUM GRANDIFLORUM (L. Sp. Pl. 683, 1753) as Geranium : comb. nov., vice *G. tenuifolium* L. Gen. ed. 6, 578, 1764. Rosaceae. Afr. austr.

GYNURA INCANA (L. Sp. Pl. 1169, 1763) as Cacalia : comb. nov., vice *G. nitida* DC. Compositae. India. *Crassocephalum* Moench Meth. 516, 1794, is the older generic name.

HALENIA CORNICULATA (L. Sp. Pl. 227, 1753) as Swertia: comb. nov., vice *H. sibirica* Borckh. Gentianaceae. Sibiria. The Linnean name is cited by Ledebour *Fl. Rossica*, iii., 75. (*Tetragonanthus corniculatus* O. Kuntze).

HELIOPSIS OPPOSITIFOLIA (L. Sp. Pl. 907, 1753) as Rudbeckia: comb. nov., vice *H. laevis* Pers.: see also *Silphium solidaginoides* L. 920, 1753, which, teste *Ind. Kew.* is the same species. Compositae. Amer. In DC. *Prod.* v., 550, the Linnean name is cited under *H. laevis* Pers.

HYDROLEA CAPSULARIS (L. Amoen. Acad. iv., 308, Sp. Pl. 278, 1763) as Lycium: comb. nov., vice *H. elegans* A. W. Bennett. Hydrophyllaceae. Amer. trop., teste Bennett. Eric Torner in *Cent. Pl.* ii., and in *Amoen. Acad.* iv., 308, 1760, relying upon Miller, gave the habitat as Mexico. In DC. *Prod.* x., 181, *Lycium capsulare* L. ex Smith in Rees *Cyclop.* xxi, is referred to *H. glabra.* A. W. Bennett (*Linn. Soc. Journ.* x., 272, 1871), queries the Linnean trivial, doubtless on the evidence of the *Prodromus.* O. Kuntze *Rev. Gen. Pl.* 435, gives it as *Nama elegans* O.K.

HYPOXIS CAPENSIS (L. Sp. Pl. 420, 1763) as Amaryllis: comb. nov., vice *H. stellata* L. fil. Suppl. 197. Amaryllidaceae. Afr. austr.

IFLOGA AMBIGUA (L. Sp. Pl. 1190, 1763) as Artemisia, excl. ic. Commel. ad *Phylicam trichotoniam* ex. Less. ref.): comb. nov., vice *Trichogyne laricifolia* Less. Compositae.

IPOMAEA MEDIUM (L. Sp. Pl. 156, 1753) as Convolvulus: comb. nov., vice *I. denticulata* Choisy. Convolvulaceae. Asia, etc.

INDIGOFERA INDICA (L. Sp. Pl. 712, 1753) as Aspalathus: comb. nov., not of Lamarck or Miller, vice *I. aspalathoides* Vahl. The Linnean name is cited in *Fl. Brit. Ind.* ii., 94. Leguminosae. India.

JACQUEMONTIA VERTICILLATA (L. Sp. Pl. 220, 1763) as Convolvulus: comb. nov. and L. Amoen. Acad. v., 394, as Ipomoea, vice *I. hirsuta* Choisy, teste *Ind. Kew.* Convolvulaceae. Mexico. (The *Ipomaea verticillata* L. Amoen. Acad. v., 294, is referred, DC. *Prod.* ix., 397, to *J. azurea* var. *parvifolia.*)

JACQUINIA ACULEATA (L. Sp. Pl. 339, 1753) as Medeola: comb. nov, vice *J. ruscifolia* Jacquin. Myrsinaceae. Amer. mer. (In DC. *Prod.* viii., 151, the Linnean name is cited.)

JURINEA MULTIFLORA (L. Sp. Pl. 817, 1753) as Serratula: comb. nov., excluding syn. ex Gmelin, which Linnæus himself queries, vice *J. linearifolia* DC. Compositae. Asia.

KANDELIA CANDEL (L. Sp. Pl. 634, 1763) as Rhizophora : comb. nov., vice *K. Rheedii* Wight & Arnott. Rhizophoraceae. India. The Linnean name is cited in *Fl. Brit. Ind.* ii., 437.

LANARIA LANATA (L. Sp. Pl. 318, 1753) as Hyacinthus : comb. nov., vice *L. plumosa* Aiton = *Argolasia lanata* Lam. Haemodoraceae. Afr. austr.

LAUNAEA RESEDIFOLIA (L. Sp. Pl. 1198, 1753) as Scorzonera : comb. nov., vice *L. chondrilloides* Hook. f. = *Zollikoferia chondrilloides* DC. (In the *Prod.* vii., 183, the Linnean name is cited. Compositae. Hisp. (*Sp. Pl.*). Asia (*Ind. Kew.*).

LESSERTIA HERBACEA (L. Sp. Pl. 723, 1753) as Colutea : comb. nov., vice *L. linearis* DC. = *Colutea linearis* Thunb. Leguminosae. Afr. austr. (*Coluteastrum herbaceum* O. Kuntze Rev. Gen. Pl. i., 171.)

LEUCOSPERMUM HYPOPHYLLOCARPODENDRON (L. Sp. Pl. 92, 1753) as Leucadendron : comb. nov., vice *L. Hypophyllum* R. Br. Proteaceae. Afr. austr. (O. Kuntze *Rev. Gen. Pl.* ii., 578, retains this in the genus *Leucadendron.*)

LIGHTFOOTIA FRUTICOSA (L. Sp. Pl. 168, 1753) as Campanula : comb. nov., vice *L. subulata* L'Héritier. Campanulaceae. Afr. *C. fruticosa* is cited in *Fl. Capensis* iii., 555, for *L. sessiliflora* Sond. = *L. subulata* L'Héritier.

LIMNOPHILA INDICA (L. Sp. Pl. Syst. ed. x., 919, 1759) as Hottonia : comb. nov., vice *L. gratioloides* R. Br. Scrophulariaceae. Asia, etc. The Linnean name is cited in *Fl. Brit. Ind.* iv., 271, under *L. gratioloides.*

LONICERA ALBA (L. Sp. Pl. 350, 1753) as Vaccinium : comb. nov., not *Lonicera alba* L., p. 175, which is *Chiococca alba* (L.), vice *L. ciliata* Michx. Caprifoliaceae. Amer. bor.

LORANTHUS PURPUREUS (L. Sp. Pl. 1023, 1753) as Viscum : comb. nov., vice *L. uniflorus* Jacquin. Loranthaceae. Caroliniana (*Sp. Pl.*) St. Domingo (*Ind. Kew.*)

L. PARASITICA (L. Sp. Pl. 175, 1753) as Lonicera : comb. nov., vice *L. loniceroides* L. Sp. Pl. 473, 1763. See also *Scurrula parasitica* L. Sp. Pl. 111., 1753, et vice *Loranthus Scurrula* L. Sp. Pl. 472, 1763. Loranthaceae. India.

LYPERIA LYCHNIDEA (L. Sp. Pl. 87, 1763) as Selago : comb. nov., vice *L. fragrans* Benth. In *Fl. Capensis* iv., 2, this is put by Hiern in the genus *Sutera* Roth, which dates from 1821 (not the *Sutera* of

Roth of 1807, which belongs to the *Chenopodiaceae*). *Lyperia* dates from 1835, and this is retained in the *Index Kewensis*.

MAGNOLIA LILIFERA (L. Sp. Pl. 755, 1763) as Liriodendron : comb. nov., not *Magnolia lilifera* Baillon, vice *M. pumila* Andrews. Magnoliaceae. Java, etc. DC. *Prod.* i., 81, gives the Linnean name.

MAHERNIA GROSSULARIFOLIA (L. Sp. Pl. 673, 1753) as Hermannia : comb. nov., vice *M. heterophylla* Cav. See DC. *Prod.* i., 496, where the Linnean name is cited. Afr. austr.

MATRICARIA SUFFRUTICOSA (L. Sp. Pl. 1183, 1763) as Tanacetum : comb. nov., vice *M. multiflora* Fenzl. The Linnean name is cited in the synonymy of *M. multiflora* in *Fl. Capensis* iii., 166. Compositae. Afr. austr.

MELOLOBIUM AETHIOPICUM (L. Sp. Pl. 740, 1753) as Cytisus : comb. nov., vice *M. cernuum* Eckl. & Zeyh. The Linnean name is cited under this in *Fl. Capensis* iii., 80. Leguminosae. Afr. austr.

MICROMERIA FRUTICOSA (L. Sp. Pl.) as Melissa : comb. nov., vice *M. marifolia* Benth. Labiatae, 382, where the Linnean name is cited. Labiatae. Europe.

MICROMERIA VIMINEA (L. Sp. Pl. 795, 1763) as Satureia : comb. nov., vice *M. obovata* Benth. Labiatae, 380, where the Linnean name is cited. Labiatae.

MIMETES PROTEOIDES (L. Sp. Pl. 90, 1753) as Leucadendron : comb. nov., vice *M. purpurea* Br. Proteaceae. Afr. austr. In the *Fl. Capensis* v. (1), 652, Phillips & Hutchison put it in the genus *Diastella*.

MUNDTIA CAPENSIS (L. Sp. Pl. 741, 1753) as Ulex : comb. nov., vice *M. spinosa* DC. *Prod.* i., 338, as *Mundia*, where the Linnean name is cited. It is the *Polygala spinosa* L. Amoen. Acad. ii., 241. Mundt was a well-known African collector. Polygalaceae. Afr. austr.

MYROXYLON BALSAMUM (L. Sp. Pl. 384, 1753) as Toluiferum : comb. nov., vice *M. toluiferum* Humb. Bonpl. & Kunth. Leguminosae. Amer. trop.

NANOPHYTON ACUTUM (L. Sp. Pl. 122, 1753) as Camphorosma : comb. nov., vice *N. caspicum* Less., teste *Ind. Kew.* In DC. *Prod.* xiii., 126, *C. acuta* L. is put among the species "non sata nota." Chenopodiaceae. Asia.

NELUMBIUM NELUMBO (L. Sp. Pl. 511, 1753) as Nymphaea : comb. nov., vice *Nelumnium speciosum* Willd. Nymphaeaceae. India. (*Nelumbo* Adans. Fam. ii., 76, 1763, is the earlier generic name.)

NEMOPANTHUS MUCRONATUS (L. Sp. Pl. 350, 1753) as Vaccinium : comb. nov., vice *N. fascicularis* Rafinesque (*Nemopanthes*?) Ilicaceae. Amer. bor. The older generic name is *Ilicioides* Dum. of 1804. The above is *I. mucronata* Britton.

OEDERA CAPENSIS (L. Amoen. Acad. 6, Sp. Pl. 1274, 1763) as Buphthalmum, vice *Oedera prolifera* L. Mantissa ii., 159. See DC. *Prod.* vi., 1. The Linnean name is not cited in *Fl. Capensis.*

OSMITES LEUCANTHA (L. Sp. Pl. 1261, 1763, Amoen. Acad. 6) as Anthemis : comb. nov., vice *Osmites anthemoides* DC. Prod. vi., 291. In *Fl. Capensis* ii., 304, *O. bellidiastrum* Thunb. Cap. 701, is used and is made to include *anthemoides,* but in *Index Kewensis* they are kept distinct. Compositae. Afr. austr.

OTHONNA OTHONNITES (L. Sp. Pl. 1244, 1763) as Cineraria : comb. nov., vice *O. frutescens* L. Mantissa ii., 282, where *C. Othonnites* is cited with a ? Compositae. Afr. austr. In DC. *Prod.* v., 478, the Linnean name is cited.

OXYTROPIS SIBIRICA (L. Sp. Pl. 755, 1753) as Phaca : comb. nov., vice *O. lanata* DC. · One of the Linnean synonyms refers to *O. oxyphylla* DC. Ledebour in *Fl. Rossica* i., 580, cites *Phaca sibirica* from L. fil. Suppl. 126, as representing this plant. Leguminosae. Sibiria.

PENTARRAPHIA ACAULIS (L. Syst. x., 1110, 1759) as Gerardia : comb. nov., vice *P. Sloanei* Hanst. (See DC. *Prod.* vii., 526). Gesneraceae. Jamaica.

PHORADENDRON VERTICILLATUM (L. Sp. Pl. 1023, 1753) as Viscum (sive syn. ex Sloane) : comb. nov., vice *P. trinervium* Nuttall. Loranthaceae. Jamaica.

PHRYNIUM OVATUM (L. Sp. Pl. 288, 1753) as Pontederia : comb. nov., vice *P. capitatum* Willdenow *Sp. Pl.* i., 17, who cites the Linnean name (*Phyllodes capitatum* O. Kuntze). Scitaminaceae.

PROSOPIS CINERARIA (L. Sp. Pl. 1500, 1763) as Mimosa : comb. nov. (*M. cinerea* L. Sp. Pl. 517, 1753, is a duplicated name), vice *Erosopis spicigera* L. Mantissa i., 68.

PSORALEA FRUTICANS (L. Sp. Pl. 770, 1753) as Trifolium : comb. nov., vice *P. bracteata* Berg. Leguminosae. Afr. austr. The Linnean name is cited in DC. *Prod.* ii., 218.

RAFNIA CAPENSIS (L. Amoen. Acad. 6, et Sp. Pl. 995, 1763) as Spartium : comb. nov., vice *R. opposita* Thunberg, who cites *Cytisus capensis* Berg. DC. *Prod.* ii., 118, cites the Linnean name. Leguminosae. Afr. austr.

Rondeletia stipularis (L. Sp. Pl. 160, 995, 1763) as Petesia : comb. nov., vice *R. tomentosa* Swartz, who cites the Linnean *Petesia stipularis* with a query. Rubiaceae. Jamaica. (See DC. *Prod.* iv., 407.)

Rothia indica (L. Sp. Pl. 778, 1753) as Trigonella : comb. nov., vice *R. trifoliata* DC. Baker in *Fl. Brit. Ind.* ii., 62, cites the Linnean name. Leguminosae. India. (*Westonia indica* O. Kuntze.)

Rudolphia planisiliqua (L. Syst. ed. x. 1165, 1759, and Sp. Pl. 993, 1763) as Erythrina : comb. nov., vice *R. peltata* Willdenow. (The Linnean name is cited in DC. *Prod.* ii., 414.) Leguminosae. S. Domingo.

Sabbatia difformis (L. Sp. Pl. 226, 1753) as Swertia : comb. nov., vice *S. Elliottii* Steudel. Gentianaceae. Virginia. (DC. *Prod.* ix., 49, gives *S. Elliottii* as = *S. paniculata*, and *Swertia difformis* = *S. corymbosa.*

Salmaea verticillata (L. Sp. Pl. 833, 1753) as Bidens : comb. nov., vice *S. Eupatoria* DC. Cat. Hort. Monsp. 141 (the Linnean trivial is not cited there), teste *Ind. Kew.* Compositae. Vera Cruz.

Sanseviera hyacinthoides (L. Sp. Pl. 321, 1753) as Aloe : comb. nov., vice *S. zeylanica* Willdenow. (This is the Linnean var. a.) Haemodoraceae. India. (O. Kuntze *Rev. Gen. Pl.* ii., 648, gives it as *Acyntha* Med. 1786 = *A. zeylanica* O.K.)

Sapium glandulosum (L. Sp. Pl. 1191, 1753) as Hippomane : comb. nov., vice *S. Aucuparium* Jacquin, teste *Ind. Kew.* Euphorbiaceae. Vera Cruz.

Selinum chinense (L. Sp. Pl. 245, 1753) as Athamanta : comb. nov., vice *Selinum Monnieri* L. Amoen. Acad. iv., 269. Umbelliferae. Hab. Chin. (*Sp. Pl.*) (DC. *Prod.* iv., 152, queries this as being = *Cnidium Monnieri* Guss.)

Senecio montanus (L. Sp. Pl. 881, 1753) as Solidago : comb. nov., not of Lamarck, which is a form of *S. Doronicum*, nor of Willdenow, which is a form of *nebrodensis*, vice *S. Cacaliaster* Lamarck *Fl. Fr.* ii., 132. Linnaeus also described it in *Sp. Pl.* ed. ii., 1169, 1763, as *Cacalia Sarracenica*, but the trivial *montanus* in the first edition of the *Sp. Pl.* 1753, has precedence. Compositae. Europe.

S. provincialis (L. Sp. Pl. 884, 1753, vel Gouan Illustr., p. 68) as Inula : comb. nov., vice *S. uniflorus* Allione *Fl. Pedem.* i., 200.

Rouy (*Fl. Fr.* vii., 332) puts a query to *Inula provincialis* L., but cites *I. provincialis* Gouan Illustr. without doubt as being identical. Compositae. Europe.

Senecio sibiricus (L. Sp. Pl. 924, 1753) as Othonna : comb. nov., teste *Ind. Kew.* vice *S. Ligularia* Hooker f. This is not the *S. sibiricus* L. f. Suppl. 370, which (teste *Ind. Kew.*) is *S. altaica* Sch. Bip. Compositae. Sibiria.

Serjania Cururu (L. Sp. Pl. 365, 1753) as Paullinia : comb. nov., vice *S. nodosa* Radlk., teste *Ind. Kew.* Sapindaceae. India occ. (*Ind. Kew.*).

Serjania Seriana (L. Sp. Pl. 365, 1753) as Paullinia : comb. nov., vice *S. sinuata* Schum. Sapindaceae. S. Domingo (cited in DC. *Prod.* 603).

Serratula erucifolia (L. Sp. Pl. 858, 1753) as Xeranthemum : comb. nov., vice *S. xeranthemoides* Bieberstein. Ledebour cites the Linnean name in *Flora Rossica*, ii., 760. Compositae. Sibiria.

Sisymbrium dentatum (L. Sp. Pl. 664, 1753) as Hesperis : comb. nov., not of Allione nor Torrey, vice *S. bursifolium* Torner in *Linn. Amoen. Acad.* iv., 322. Cruciferae. Italy. In both the *Sp. Pl.*, *l.c.* and in the *Centuria* ii., 322, *Hesperis flore albo minimo, siliqua longa, folio profunde dentata* Boerh. Lugd. ii., p. 20, are either quoted or referred to, and it is taken up also by Dillenius in *Hort. Elth.*, t. 148, f. 177, p. 179. (See also Druce & Vines' *Dillenian Herb.* 169.) Allione's plant is *S. pinnatifidum.*

Sonneratia caseolaris (L. Sp. Pl. 635, 1763) as Rhizophora : comb. nov., vice *S. acida* Linn. f. Suppl. 252 (*Aubletia caseolaris* Gaertn. The Linn. name is cited in DC. *Prod.* iii., 231). Kuntze *Rev. Gen. Pl.* i., 398, uses *Blatti* Adans. Fam. ii., 88, 1762, for the generic name = *B. caseolaris* O.K.

Spatalla racemosa (L. Sp. Pl. 91, 1753) as Leucadendron : comb. nov., vice *S. ramulosa* R. Br. In *Fl. Capensis* v. (1), 692, while citing the Linnean name, *S. gracilis* Knight is used by Phillips and Hutchison.

Stenandrium tuberosum (L. Sp. Pl. 610, 1753) as Gerardia : comb. nov., vice *S. rupestre* Nees in DC. *Prod.* xi., 283. Acanthaceae. Nees in DC. *Prod.* xi., 199, makes *Gerardia tuberosa* synonymous with *Cryphiacanthus acaulis*, now *Ruellia* sp. ? Willdenow *Sp. Pl.* iii., 575, queries the Linn. name under his *Ruellia rupestris.*

STERCULIA SIMPLEX (L. Sp. Pl. 977, 1763) as Hibiscus : comb. nov.. vice *S. platanifolia* L. f. Suppl. 423. DC. *Prod.* i., 483, cites the Linnean name. Sterculiaceae.

STERCULIA APETALA (Jacq. Amer. 30, et L. Sp. Pl. 1366, 1763) as Helicteres : comb. nov., not of Karst. Fl. Columb. ii., 35, vice *S. Helicteres* Pers. Persoon *Syn.* ii., 240, cites Jacquin *Amer.* 238, for this plant, which he says is a native of Carthagena.

STRUTHIOLA DODECANDRA (L. Sp. Pl. 513, 1763) as Passerina : comb. nov., vice *S. erecta* L. Mantissa i., 41. Thymelaeaceae. Afr. austr. The Linnean name is cited in Thunberg's *Flor. Capensis*, 382 (Kuntze *Rev. Gen. Pl.* ii., 583, puts it under *Belvala* Adans. Fam. ii., 285, as *B. dodecandra* O.K.).

TANACETUM ABROTANIFOLIUM (L. Sp. Pl. 897, 1753) as Achillea : comb. nov., vice *T. millefoliatum* Fisch. & Meyer. See DC. *Prod.* vi., 129, where the Linnean name is marked ? Compositae. Armenia.

TANACETUM BIPINNATUM (L. Sp. Pl. 900, 1753) as Anthemis: comb. nov., not of Sch. Bip., vice *T. myriophyllum* Willdenow Sp. Pl. iii., 1814, where the Linnean name is cited. (See DC. *Prod.* vi., 59.) Compositae. Oriens.

TODDALIA TRIFOLIATA (L. Amoen. Acad. 6, et Sp. Pl. 1453, 1763) as Myrica : comb. nov., vice *Toddalia lanceolata* Lamarck. Rutaceae. This is put under *Vepris lanceolata*, Juss. in *Fl. Capensis* i., 446, but the Linnean name is not cited. It is the *Boscia undulata* Thunberg, and the *Crantzia lanceolata* O.K. If *Vepris* is kept distinct, this plant becomes *Vepris trifoliata* (L.) comb. nov.

TRITICUM SQUARROSUM (L. Sp. Pl. 1051, 1753) as Aegilops : comb. nov., not of Banks & Solander, nor of Roth, vice *T. Aegilops* Beauv. Graminaceae. Oriens.

TRICHOGYNE AMBIGUA (L. Sp. Pl. 1190, 1763) as Artemisia : comb. nov., vice *Trichogyne laricifolia* Less. Compositae. Afr. austr. See under *Ifloga*. In the *Fl. Capensis* iii., 287, *Artemisia ambigua* Sieber is cited.

VANILLA DOMESTICA (L. Sp. Pl. 952, 1753) as Epidendron : comb. nov., vice *Vanilla angustifolia* Willd. Sp. Pl. iv., 121, where the Linnean syn. and vernacular name is cited. It is wrongly referred to *V. aromatica* Sw. in *Ind. Kew.*). Orchidaceae.

VERBENA PERUVIANA (L. Sp. Pl. 879, 1763) as Erinus : comb. nov., vice *V. chamaedryfolia* Juss. The Linnean name is cited in DC. *Prod.* xi., 527. Verbenaceae. Amer. trop.

Vernonia brasiliana (L. Sp. Pl. 1205, 1763) as Baccharis : comb. nov., not of Less. nor Mart., vice *V. scabra* Persoon, who in *Syn.* ii., 404, cites the Linnean name. Compositae. Amer. trop.

Wissadula periplocifolia (L. Sp. Pl. 684, 1753) as Sida, not of Griseb. or Thwaites (teste *Ind. Kew.*) ? vice *W. rostrata* Planchon. Malvaceae. Zeylon. In *Fl. Ceylon* i., 146, *W. periplocifolia* Thwaites is cited as a synonym of *W. zeylandica* and *Sida periplocifolia* L.

Zeuxine strateumatica (L. Sp. Pl. 943, 1753) as Orchis : comb. nov., vice *Zeuxine sulcata* Lindley. Orchidaceae. Zeylon. In *Fl. Ceylon* iv., 215, *Orchis strateumatica* L. is cited for *Z. sulcata* Lindley.

PART II.

THE ABRIDGEMENT OF MILLER'S GARDENER'S DICTIONARY OF 1754.

Two important systematic works issued very shortly after the publication of Linnaeus' *Species Plantarum* in 1753, a date which is now adopted by practically every botanist as the starting point of specific citation, have escaped the notice of almost all botanical writers, namely the *Abridgement* from *The Gardener's Dictionary* by Phillip Miller, F.R.S., Member of the Botanic Academy at Florence, and Gardener to the Apothecaries' Company at their celebrated Chelsea Garden. This, the fourth edition, was abridged from the folio edition of 1752. A few details respecting Miller's important works may be given. In 1724 appeared in two octavo volumes *The Gardener's & Florist's Dictionary*, which was dedicated to Sir Hans Sloane. The first folio edition entitled *The Gardener's Dictionary* is dated 1731, the second 1733 (of this a corrected edition was also issued, but with few, if any alterations), the third with a *Kalendar* in 1737, a second volume dedicated to the Earl of Burlington in 1739, the fourth in 1741 (teste Martyn, 1743), the fifth in 1747 (Martyn, 1748), the sixth, the first complete edition, 1752, the seventh, published in numbers and without the *Kalendar*, dedicated to the Earl of Northumberland, is dated 1759, the eight in 2 volumes in 1768, this being the first edition in which the binomial system is consistently used. It states that the number of plants cultivated in England is more than double those known in 1731. Of the *Abridgements* that dated 1735 is alone

quoted by Pritzel. It appeared in 2 octavo volumes, a second (teste Martyn) in 3 volumes in 1741, a third in 1748, the fourth, which is referred to above, in 3 volumes in 1754. This being published after the *Species Plantarum* of 1753, is available for generic citation. The fifth in 1763 was a quarto volume, and so too was the sixth edition of 1771, being abridged from the 1768 binomial edition, shortly before his death in December of that year. It also contains some articles omitted from the folio edition. A ninth edition folio in 2 volumes, 1797 and 1804, was published after Miller's death by Thomas Martyn, Prof. of Botany at Cambridge There are also editions or copies dated 1807, in 4 volumes. Scattered references are made in continental works to the edition of 1768, and in the *Index Kewensis* also to the editions of 1752 and 1759, although perhaps not always consistently. Since the starting point for both genera and species is 1753, the folio edition of Miller's Dictionary 1752, is invalid. The *Abridgement* of 1754, which is a valid publication, is, so far as I am aware, not anywhere referred to, but as will be seen, it is the earliest publication of a large number of genera, some, it is true, now sunk in synonymy, but others available, and in a large number of cases Miller as an authority must replace Adanson, Moench, and other subsequent authors. Linnaeus undoubtedly in the *Species Plantarum* omitted, or wrongly united many genera which Tournefort, who in so many cases, showed that he had clearer ideas of generic distinctions, had properly established, and Miller and Sir John Hill were followers of Tournefort. It must also be borne in mind that this work of Miller's was an important botanical contribution, and in matter, printing, and paper, contrasts very favourably with the *Species Plantarum* itself. The genera in Miller's work are properly defined under definite names and with correct citation from earlier authors, so that they cannot be ignored. We may take two at random. *Alyssoides.* The characters are : It hath a Flower in the form of a cross, consisting of four leaves, out of whose Flower-cup rises the Pointal, which afterwards becomes an elliptical thick Fruit, divided into two Cells by an intermediate Partition, which is paralell to the demi-elliptical turgid Valves, and filled with round flat Seeds, having Borders round them. The species are :—1, *Alyssoides* fruticosum, leucoii folio viridi. Tourn. 218 Shrubby Alyssoides, with a green Stockgilly flower-leaf. Then follow the three other species with a more popular description of each. 2, *Elichrysum*, Eternal-flower. The characters are : The Disk of the flower

contains many Hermaphrodite Florets; in the Centre of each of these arises the Ovary, which is crown'd with Hairs, and is supported by a naked Placenta; these are all contained in a scaly Cup, which consists of dry Membranes, and is, for the most part of a splendid Colour. The species are :—1, *Elichrysum*, seu stoechas citrina angustifolia, C. B. Goldylocks, or Cassidony. Then follow 36 other species. It is the *Helichrysum* of Gaertner of 1791. If the example of Dr A. Thellung, who chooses the hap-hazard binomials used in Garsault's work on Materia Medica of 1764, of which he has made so complete and masterly examination be followed, some names attributed to Garsault must give place to those used some years earlier by Miller and Hill, and some additional ones in their works come into the area of citation, but it seems undesirable to cite accidental binomials from works in which that principle of nomenclature was not consistently adopted. Fortunately so far as alteration of generic names is involved, in adopting Miller's work of 1754, there are but few which are needed. In some cases these are already barred by the *Actes* which conserves the later names, thus being inconsistent with the law of priority. The following names, *inter alia*, appear to have been first definitely applied and characterised by Miller (*l.c.*). *Alyssoides*, *Asteriscus*, *Bulbocastanum*, *Cannabina*, *Capnorchis*, *Capnoides*, *Citrullus*, *Elephas* and *Guidonia*. *Elichrysum* and *Silaum* are but variations in spelling of *Helichrysum* and *Silaus*.

Abies [Tourn. Fl. Lapp. 1737] Link 1841 = Miller 1754, ABIES Miller.

Abrotanum [L. 1753] Gilibert, do., ARTEMISIA L.

Absinthium [Tourn. L. 1735], do., ARTEMISIA L.

Abutilon Adans. Fam. ii., 398 (1763), do., ABUTILON Miller.

Acacia [L. Fl. Zeyl. 217, 1737] Willd. Sp. Pl. 1805, do., ACACIA Miller.

Acajou [Tourn.] Adans. Fam. 1763, do., ANACARDIUM L.

Acetosa [Tourn. Mill. Gard. Dict. 1752], do., RUMEX L.

Acinos [Rupp. 1745] Moench Meth. 1794, do., SATUREIA L.

Acriviola [Boerh.], not in *Ind. Kew.*, do., TROPAEOLUM L.

Adhatoda [Tourn.] Medic. 1790, do., ADHATODA Miller.

Agrimonoides [Col.], not in *Ind. Kew.*, do., AGRIMONIA L.

Ahouai [Tourn.] Adans. Fam. 1763, do., THEVETIA L.

Alaternus [Tourn. Mill. 1752], do., RHAMNUS L.

Alcea Hill. Hort. Kew. 1768, do., ALTHAEA L.

Alkekengi [Tourn. Haller 1742] Moench 1794 = Miller 1754, PHYSALIS L.

Alnus [Tourn. L. 1735], do., ALNUS Miller.

Alyssoides [Tourn.] Adans. Fam. 1763, do., ALYSSOIDES Miller. Given as *Vesicaria* Lamarck in *Ind. Kew.*

Amaranyhoides [Tourn.], not in *Ind. Kew.*

Anacampseros [Tourn.] Adans. Fam. 1763, Haworth 1812, do., SEDUM L.

Ananas [Tourn.] Adans. Fam. 1763, do., ANANAS Miller.

Anapodophyllon [Tourn.] Moench 1794, do., PODOPHYLLUM L.

Androsaemum [Tourn.] Adans. Fam. 1763, do., HYPERICUM L.

Anemonoides [Boerh.], not in *Ind. Kew.*, do., ANEMONE L. partim.

Anil, not in *Ind. Kew.*, do., INDIGOFERA L.

Aphaca [Tourn. L. 1737] Presl 1837, do., LATHYRUS L.

Aquifolium [Tourn. Haller 1742], do., ILEX L.

Arisarum [Tourn.] Targ.-Toz. 1810, do., ARISARUM Miller.

Artaphaxis, not in *Ind. Kew.*, do.

Asteriscus, Moench Meth. 592 (1794), do., ASTERISCUS Miller.

(The *Index Kewensis* adopts the much later *Odontospermum* Necker Elem. i., 20, 1790).

Asteroides, not in *Ind. Kew.*, do., BUPHTHALMUM L. partim.

Aurantium [Tourn. Mill. 1752], do., CITRUS L.

Azedarach [Tourn. L. 1737], do., MELIA L.

Balsamina [Tourn.] Scop. 1772, do., IMPATIENS L.

Balsamita Desf. 1792, do., CHRYSANTHEMUM L.

Barba jovis Adans. Fam. 1763, do., ANTHYLLIS L.

Belladonna [Rupp. 1745] Scop. 1772, do., ATROPA L.

Bermudiana [Tourn. L. 1735], do., SISYRINCHIUM L.

Bernardia [Houston] ex P. Brown Hist. Jam. 361, 1756, do., BERNARDIA Miller.

Bihai [Plumier], not in *Ind. Kew.*, do., MUSA L.

Bistorta [Tourn. L. 1735], do., POLYGONUM L.

Blattaria [Tourn. Rupp. 1745], do., VERBASCUM L.

Bonduc Adans. Fam. 1763, do., CAESALPINIA L.

Buglossum [Tourn.] Adans. 1763, do., ANCHUSA L.

Bugula [Tourn. Miller 1752], do., AJUGA L.

Bulbocastanum Lag. Amoen. Acad. Mad. 99 (1821), do., BULBOCASTANUM Miller. (The much later *Conopodium* Koch of 1824 is adopted in *Ind. Kew.*).

Caapeba [Plumier] Adans. 1763 = Miller 1754, Cissampelos L.
Cacao [Tourn. Miller 1752], do., Theobroma L.
Cakile [L. 1735] Scopoli 1772, do., Cakile Miller.
Calaba [Plumier], not in *Ind. Kew.*
Calamintha [Tourn.] Lam. Fl. Fr. 1778, do., Satureia L. (If kept distinct from *Satureia* L. it must stand as Calamintha Mill.).
Calceolus [Tourn.] Adans. 1763, do., Cypripedium L.
Camphorata Crantz Inst. 1766, do., Camphorosma L.
Cannabina [Tourn.] Medic. Phil. Bot. i., 53, 1789, do., Cannabina Miller. (The much later *Datisca* Gaertn. is retained in *Ind. Kew.*).
Cannacorus [Tourn.] Medic. 1790, do., Canna L.
Capnoides [Tourn.] Adans. 1763, do., Capnoides Miller. (*Corydalis*, although established long after Moench had published his species under *Capnoides* is adopted in *Ind. Kew.*, and is a Nomen Conservandum by the *Actes.*
Capnorchis Borck. in Roem. Arch. 1797 = *Bikukulla* Adans. 1763, do., Capnorchis Miller. (The *Index Kewensis* chooses the much later name *Dicentra* Bernh.).
Caprifolium [Tourn. L. 1735], do., Lonicera L.
Cardiaca [Tourn. L. 1735], do., Leonurus L.
Caryophyllata [Tourn.] Scop. 1772, do., Geum L.
Caryophyllus [Tourn.] Moench Meth. 1794, do., Dianthus L.
Castanea [Tourn. L. 1735], do., Castanea Miller.
Carui Miller 1754, not in *Ind. Kew.*, do., Carum L.
Castorea [Plumier], not in *Ind. Kew.*, do., Duranta L.
Cataria Adans. Fam. 1763, do., Nepeta L.
Ceiba Medic. 1797, do., Eriodendron L.
Cepa [Tourn. L. 1735], do., Allium L.
Cerasus [Tourn. L. 1735], do., Prunus L.
Cereus Mill. 1768, do., Cereus Miller.
Chamaedrys Moench Meth. 1794, do., Teucrium L.
Chamaemelum [Tourn.] Adans. Fam. 1763, do., Anthemis L., etc.
Chamaerhododendron [Tourn. Rupp. 1745], do., Rhododendron L.
Christophoriana [Tourn. Rupp. 1745], do., Actaea L.
Cirsium [Tourn.] Adans. Fam. 1763, do., Cirsium Miller. *C. anglicum* Miller (*Carduus pratensis* Huds.).
Clymenum [Tourn. L. 1735], do., Lathyrus L.
Citreum [Tourn. Miller 1752], do., Citrus L.
Coa [Plumier] Adans. Fam. 1763, do., Hippocratea L.

Colocynthis [Tourn.] Schrad. 1833 = Miller 1754, COLOCYNTHIS Miller. (The later name *Citrullus* Forskal of 1775 is used in *Ind. Kew.* for *C. Battich* Forsk., *C. Naudinianus* Hook. f., and *C. vulgaris* Schrad.).

Copaiba Adans. Fam. 1763, do., COPAIFERA L.

Corallodendron [Tourn. Rupp. 1745], do., ERYTHRINA L.

Corindum [Tourn.] Medic. Malv. 1787, do., CARDIOSPERUM L.

Coronopus Reichb. Handb. 202 (1837), do., PLANTAGO L.

Cotinus [Tourn. L. 1735], do., RHUS L.

Courbaril [Plumier], not in *Ind. Kew.*, do., HYMENAEA L.

Cruciata [Tourn.] Adans. Fam. 1763, do., GALIUM L.

Cuiete Adans. Fam. 1763, do., CRESCENTIA L.

Cururu [Plumier] not in *Ind. Kew.*, do., PAULLINIA L.

Cyanus [Tourn. L. 1735], do., CENTAUREA L.

Cydonia [Tourn. Mill. 1752], do., PYRUS L.

Cysticapnos [Boerh.] Gaertn. 1791, do. CAPNOIDES Miller. (Retained as *Corydalis* in *Ind. Kew.*).

Dalea, not in *Ind. Kew.*, do., BROWALLIA L. (B. AMERICANA L. 1753, vice *B. demissa* L. Syst.).

Damasonium [Mill. 1752], do., DAMASONIUM Miller.

Diervilla [Tourn. L. 1735], do., DIERVILLA Miller.

Dodonaea [L. 1737], do., DODONAEA Miller.

Doryenium [L. 1735] Vill. 1789, do., DORYCNIUM Miller.

Douglassia [Houston] = *Volkameria* L., do., CLERODENDRON L.

Dracunculus [Tourn.] Adans. Fam. 1763, do., DRACUNCULUS Miller.

Elephas [Tourn.] Adans. Fam. 1763, do., ELEPHAS Miller. (*Rhynchocorys* Griseb. 1844 is adopted in *Ind. Kew.* for *Elephas maxima* Richter, *E. orientalis* Guss., and *E. columnae* Guss.).

Elichrysum [Tourn. L. Gen. 1737], do., [H]ELICHRYSUM Miller. (Gaertner in *Fruct.* ii., 404, 1791, revived Vaillant's genus and spelled it *Helichrysum*. Miller's is the earliest authority).

Emerus [Tourn. Miller 1752], do., CORONILLA L.

Ephemerum [Tourn.] Moench Meth. 1794, do., TRADESCANTIA L.

Eruca [Tourn.] Adans. Fam. 1763, do., ERUCA Miller.

Erucago [Tourn.] Adans. Fam. 1763, do., BUNIAS L.

Eupatoriophalacron [Vaill.], not in *Ind. Kew.*, do., VERBESINA L.

Fabago [Tourn.] Adans. Fam. 1763, do., ZYGOPHYLLUM L.

Fagopyrum [Tourn. Hall. 1742], do., FAGOPYRUM Miller.

Ficoides [Tourn. Ruppius 1745], do., MESEMBRYANTHEMUM L.

Filipendula [Tourn. L. 1737] = Miller 1754, SPIRAEA L. (If a distinct species the genus is FILIPENDULA Miller).

Foeniculum [Tourn. L. 1735], do., FOENICULUM Miller. (*F. dulce* C.B., *F. sylvestre* C.B.).

Frangula [Tourn. Haller 1742], do., RHAMNUS L. (If a distinct genus FRANGULA Miller).

Fraxinella [Tourn. Ruppius 1745], do., DICTAMNUS L.

Glaucium [Tourn. Hall. 1742], do., GLAUCIUM Miller.

Gnaphalodes [Tourn.] Adans. Fam. 1763, not of A. Gray, do., MICROPUS L.

Granadilla [Tourn. Ruppius 1745], do., PASSIFLORA L.

Grossularia [Tourn. Ruppius 1745], do., RIBES L.

Guaiabara [Plumier], do., COCCOLOBA L.

Guajava [Tourn.] Adans. Fam. 1763 (as Guaiava), do., PSIDIUM L

Guanabanus [Plumier], not in *Ind. Kew.*, do., ANONA L.

Guidonia [Plumier] Adans. Fam. 1763, do., GUIDONIA Miller. (This is the CASEARIA Jacq. En. Pl. Carib. 4, 1760. The *Guidonia* of Patrick Browne 1756 is referred in *Ind. Kew.* to the later *Laetia* of Adanson.

Harmala [Tourn.] Adans. Fam. 1763, do., PEGANUM L

Hedypnois [Tourn.] Scop. 1772, do., LEONTODON L.

Helianthemum [Tourn. Hall. 1742] do., HELIANTHEMUM Miller.

Helleborine Tourn. (as Epipactis Adans. Fam. 1763, in *Ind. Kew.*) do., HELLEBORINE Miller.

Hepatica [Dill. L. 1735], do., ANEMONE L.

Hermodactylus [Tourn. Mill. 1752], do., HERMODACTYLUS Miller.

Hippocastanum [Tourn. Rupp. 1745], do., AESCULUS L.

Hippocistis [Tourn.] Adans. Fam. 1763, do., CYTINUS L.

Jacea [Tourn.] Adans. Fam. 1763, do., CENTAUREA L.

Jacobaea [Tourn.] Thunberg 1800, do., SENECIO L.

Jalapa [Tourn.] Adans. Fam. 1763, do., MIRABILIS L.

Inga Scopoli 1777, do., INGA Miller.

Johnsonia [Dale ex Mill. 1752], do., CALLICARPA L.

Isora [Plumier] Adans. Fam. 1763, do., HELICTERES L.

Kali [Tourn.] Adans. Fam. 1763, do., SALSOLA L.

Karatas [Plumier Mill. 1752], do., KARATAS Miller.

Ketmia [Tourn. Burm. 1737], do., HIBISCUS L.

Kleinia [L. 1735], do., SENECIO L.

Lapathum [Tourn.] Adans. Fam. 1763, do., RUMEX L.

Larix [Tourn.] Adans. Fam. 1763 = Miller 1754, LARIX Miller.
Lens [Tourn.] Moench Meth. 1794, do., LENS Miller.
Lentiscus [Tourn. L. 1735], do., PISTACHIA L.
Leontopetalon [Tourn.] Adans. Fam. 1763, do., LEONTICE L.
Leucanthemum [Tourn. L. 1735], do., CHRYSANTHEMUM L. (If made a distinct genus = LEUCANTHEMUM Miller, *L. vulgare* Mill.
Leucojum [Tourn.] Adans. Fam. 1763, do., MATHIOLA Br.
Lilac [Tourn.] Adans. Fam. 1763, do., SYRINGA L.
Limon [Tourn. Miller 1752], do., CITRUS L.
Limonium [Tourn. Miller 1752], do., LIMONIUM Miller.
Linaria [Tourn. Miller 1752], do., LINARIA Miller.
Lonchitis [Ger.], do., BLECHNUM L.
Luffa [Tourn.] Cavanilles 1791, do., LUFFA Miller. (*L. arabum*).
Lupulus [Tourn. Miller 1752], do., HUMULUS L.
Luteola Tourn. [Ruppius 1745], do., RESEDA L.
Lycopersicon Hill Veg. Syst. 1765, do., LYCOPERSICON Miller.
Majorana [Tourn. Ruppius 1745], do., ORIGANUM L.
Malus [Tourn. Miller 1752], do., PYRUS L.
Mamei (not in *Ind. Kew.*), do., MAMMEA L.
Mancanilla [Plumier] Adans. Fam. 1763, do., HIPPOMANE L.
Manihot [Tourn.] Adans. Fam. 1763, do., MANIHOT Miller.
Marum (not in *Ind. Kew.*), do., ? ORIGANUM L.
Mastichina Adans. Fam. 1763, do., THYMUS L.
Mays [Tourn.] Gaertn. 1788, do., ZEA L.
Meadia [Catesby Miller 1752], do., DODACATHEON L.
Medica [Tourn. L. 1737], do., MEDICAGO L.
Melilotus [Tourn. Hall. 1742], do., MELILOTUS Miller.
Melo [Tourn. L. 1735], do., CUCUMIS L.
Melongena [Tourn. Miller 1752] 1754, do., SOLANUM L.
Melopepo [Tourn.] Miller 1754, not in *Ind. Kew.*, do., CUCURBITA L.
Meum [Tourn.] Adans. Fam. 1763, do., MEUM Miller.
Molle [Tourn.] Adans. Fam. 1763, do., SCHINUS L.
Mollucca, not in *Ind. Kew.*, do., MOLUCCELLA L.
Moly [Tourn.] Moench Meth. 1794., do., ALLIUM L.
Moschatellina [Tourn. Hall. 1742], do., ADOXA L.
Murucuia [Tourn.] Medic. 1787, do., PASSIFLORA L.
Muscari [Tourn. Miller 1752], do., MUSCARI Miller.
Myrrhis [Tourn.] Scop. 1772, do., MYRRHIS Miller.
Napus [Tourn.] Schimp. & Spenn. 1829, do., BRASSICA L.

Nasturtium (including *Coronopus*), not in *Ind. Kew.* = Miller 1754, Lepidium L.
Nissolia [Tourn. L. 1735], *N. vulgaris* Mill., do., Lathyrus L.
Ochrus [Tourn.] Adans. Fam. 1763, do., Lathyrus L.
Omphalodes [Tourn.] Moench Meth. 1794, do., Omphalodes Miller.
Onagra [Tourn.] Adans. Fam. 1763, do., Oenothera L.
Onobrychis [Tourn.] Adans. Fam. 1763, do., Onobrychis Miller.
Ophris (not *Ophrys* L., not in *Ind. Kew.*), do., Listera Br.
Opulus [Tourn. L. 1735], *O. Ruelli* Mill., do., Viburnum L.
Opuntia [Tourn. Miller 1752], do., Opuntia Miller.
Oreoselinum [Tourn.] Adans. Fam. 1763, do., Peucedanum L.
Ornithopodium [Tourn. L. 1735], do., Ornithopus L.
Oxys [Tourn.] Adans. 1763, do., Oxalis L.
Padus [Tourn. L. 1735], do., Prunus L.
Palma [Plumier], Palms, do.
Papaya [Tourn. L. 1735], do., Carica L.
Paronychia [Tourn.] Adans. Fam. 1763, do., Paronychia Miller. (Not the *Paronychia* of *Hill Brit. Herbal* = *Erophila* DC.)
Pavia [Boerh. Mill. 1752], do., Aesculus L.
Pelecinus [Tourn.] Medic. 1787, do., Biserrula L.
Pepo [Tourn. L. 1735], do., Cucurbita L.
Pereskia [Plumier Miller 1752], do., Pereskia Miller.
Periclymenum [Tourn. Miller 1752], do., Lonicera L.
Persicaria [Tourn. L. 1735], do., Polygonum L.
Pervinca [Tourn.] Adans. Fam. 1763, do., Vinca L.
Petasitis [Tourn.] Gaertn. 1791 (*Petasites*), do., Petasitis Miller.
Phalangium [Tourn.] Adans. Fam. 1763, do., Anthericum L.
Pittonia [Plumier] Adans. Fam. 1763, do., Tournfortia L.
Polium [Tourn. L. 1735], do., Teucrium L.
Polygonatum [Tourn.] Adans. Fam. 1763, do., Polygonatum Miller.
Populago [Tourn. Haller 1742], do., Caltha L.
Porrum [Tourn.] Moench Meth. 1794, do., Allium L.
Psyllium [Tourn.] Jussieu 1789, do., Plantago L.
Ptarmica [Tourn.] Necker 1790, do., Achillea L. (If kept distinct Ptarmica Mill.)
Pulegium [Tourn. Miller 1752], do., Mentha L.
Pulsatilla [Tourn. L. 1735], do., Anemone L. (Pulsatilla Miller if separated.)
Quamoclit [Tourn. Mill. 1752], do., Ipomoea L.

Rapa [Tourn. L. 1735] = Miller 1754, BRASSICA L.
Raphanistrum [Tourn.] Adans. Fam. 1763., do., RAPHANUS L.
Rapunculus [Tourn. Miller 1752], do., PHYTEUMA L.
Rapuntium [Tourn.] Miller 1768, do., LOBELIA L.
Rhamnoides [Tourn.] Moench Meth. 1794, do., HIPPOPHAE L.
Ricinoides [Tourn.] Moench Meth. 1794, do., CHROZOPHORA L.
Rubeola [Tourn.] Adans. Fam. 1763, do., CRUCIANELLA L.
Ruyschiana [Boerh. Mill. 1759], do., DRACOCEPHALUM L.
Sabina [Haller Rupp. 1745], do., JUNIPERUS L.
Salicaria [Tourn. Mill. 1752], do., LYTHRUM L.
Sapota [Plumier Mill. 1752], do., ACHRAS L.
Sclarea [Tourn. Mill. 1752], do., SALVIA L.
Scordium [Tourn.] Gilib. 1781, do., TEUCRIUM L.
Senna [Tourn.] Miller 1768, do., CASSIA L.
Serjania [Plumier] Schum. 1794, do., SERJANIA Miller.
Serpyllum [Tourn. Rupp. 1745], do., THYMUS L.
Sicyoides [Tourn. Rupp. 1745], do., SICYOS L.
Silaum (*Silaus* Bernh. in *Ind. Kew.*, but Miller's name is 36 years earlier), do., SILAUM Miller.
Siler Crantz 1767, do., SILER Miller.
Sinapistrum [Tourn. Rupp. 1745], do., CLEOME L.
Sisarum [Tourn.] Adans. Fam. 1763, do., PIMPINELLA L.
Solanoides [Tourn.] Moench Meth. 1794, do., RIVINA L.
Sphondylium [Tourn.] Adans. Fam. 1763, do., HERACLEUM L.
Staphylodendron [Haller 1742], do., STAPHYLEA L.
Stoechas [Tourn. L. 1735], do., LAVANDULA L.
Stramonium [Tourn. Haller 1742], do., DATURA L.
Suber (not in *Ind. Kew.*), do., QUERCUS L.
Tamariscus [Tourn. Haller 1742], do., TAMARIX L.
Terebinthus [Tourn.] P. Browne 1756, do., PISTACHIA L.
Ternatea [Tourn] H. B. K. 1823, do., CLITORIA L.
Tetragonocarpos (not in *Ind. Kew.*), do., TETRAGONIA L.
Thlaspidium [Tourn.] Adans. Fam. 1763, do., BISCURELLA L.
Thymelaea [Tourn.] Scop. 1772, do., THYMELAEA Miller.
Tinus [Tourn. L. 1735], do., VIBURNUM L.
Tulipfera [Herm. Mill. 1752], do., LIRIODENDRON L.
Tithymalus [Tourn. Haller 1742], do., EUPHORBIA L.
Toxicodendron [Tourn. L. 1735], do., RHUS L.
Tragacantha [Tourn. L. 1735], do., ASTRAGALUS L.

Tragoselinum [Tourn. Haller 1742] = Miller 1754, PIMPINELLA L.
Triosteospermum (not in *Ind. Kew.*), do., TRIOSTEUM L.
Valerianella [Tourn.] Moench Meth. 1794, do., VALERIANELLA Miller.
Vanilla [Plumier Miller 1752], do., VANILLA Miller.
Vishaga Gaertn. 1788, do., AMMI L.
Ulmaria [Tourn.] Hill 1768, do., SPIRAEA L. (If distinct, ULMARIA Miller.)
Vulneraria [Tourn. Haller 1742], do., ANTHYLLIS L.
Xiphion [Tourn. Mill. 1752], do., IRIS L.
Xylon [Tourn.] Medic. 1787, do., GOSSYPIUM L.
Xylosteon [Tourn.] Adans. Fam. 1763, do., LONICERA L.
Zacintha [Tourn.] Gaertn. 1763, do., ZACINTHA Miller.
Ziziphus [Tourn.] Adans. Fam. 1763, do., ZIZYPHUS Miller.
Zinziber (Zingiber Adans. Fam. 1763), do., ZINZIBER Miller.

PART III.

HILL'S BRITISH HERBAL, 1756.

Allusion has already been made to the citation in the last *Supplement* to the *Index Kewensis* of names taken by Dr Thellung from Garsault's *Materia Medica* of 1768, in which binomials occur accidentally, and in which the Linnean binomial method is not consistently adopted.

In Hill's *Herbal* the genera taken from Tournefort are well defined, the plants are usually well diagnosed, and they are often accompanied by plates; therefore the accidental binomials in this work are themselves equally eligible for citation. Hill evidently was groping his way to the binomial system, for reference to his work shows that in a large number of cases he had reduced the old unwieldy descriptive names to two or three words. In fact, there are about 450 binomials given, but as the trivials are in most cases superseded by those given by Linnaeus in the *Species Plantarum* of 1753, it has not been thought necessary to cite here these still-born names. Therefore it is chiefly the valid generic and trivial names which are included in the following list. Some generic names which are avail-

able for Engler's genera (merged into others in Bentham and Hooker *Gen. Pl.*) are also cited. When Hill supersedes later writers such as Moench and Gilibert his name is printed in capitals.

p. 5. Pentaphyllum HILL, vice Gaertn. Fruct. i., 249, 1788 = Potentilla L.

p. 6. Argentina HILL, vice Lamarck, 1778 = Potentilla L.

p. 23. Ulmaria vulgaris Hill = Spiraea Ulmaria L., vice Ulmaria palustris Moench Meth. 1794, and U. pentapetala Gilib. Fl. Lituan.

p. 24. FILIPENDULA VULGARIS Hill = S. Filipendula L., vice F. hexapetala Gilib. Fl. Lituan. ii., 237.

p. 29. Thora HILL, vice Fourreau, 1868 = Ranunculus L.

p. 32. Helleboraster Hill, vice Moench, 1794 = Helleborus L.

p. 49. Abutilon album Hill, with a citation of *A. indicum* J. Bauhin, but this is probably the A indicum Mill. Gard. Dict., 1754.

p. 62. Genus CENTAURIUM Hill, vice Erythraea, Borck. in Roemer Arch. i., i., 28, 1796.

p. 68. Paralysis Hill = Primula L.

p. 77. Genus NYMPHOIDES Hill, vice Limnanthemum Gmelin, 1770.

p. 77. NYMPHOIDES FLAVA Hill, with a good description, vice Nymphodes peltatum O. Kuntze.

p. 94 Beccabunga HILL, vice Fourreau, 1869 = Veronica L.

p. 96 Stramonium vulgare HILL, vice Moench Meth., 1794.

p. 98. Auricula HILL, vice Spach, 1840 = Primula L.

p. 105. Cannacorus HILL, vice Medik., 1790 = Canna L.

p. 109. Linaria vulgaris HILL, vice Miller, 1768.

p. 113. Elatine Hill, non L. = Linaria Miller.

p. 113. Cymbalaria HILL, vice Medik., 1791 = Linaria Mill.

p. 121. RHINANTHUS VULGARIS Hill, with good description, vice R. minor Ehrh. = R. Crista-galli L. p.p.

p. 124. MELAMPYRUM VULGARE Hill, sens. strict., vice M. vulgatum Pers.

p. 125. Lentibularia HILL, vice Adans. Fam., 1763 = Utricularia L.

p. 126. Dortmanna HILL, vice G. Don Gen Syst. = Lobelia L.

p. 128. Anblatum HILL, vice Adans. Fam., 1763 = Lathraea L.

p. 128. Clandestina Hill, vice Adans. Fam., 1763 = Lathraea L.
p. 128. C. purpurea Hill, vice C. penduliflora Lam. = L. Clandestina L.
p. 137. Stellaria longifolia Hill = Callitriche longifolia (Hill), comb. nov., vice C. intermedia Hoffm.
p. 148. Epilobium repens Hill = E. alpinum L. p.p., vice E. anagallidifolium Lam.
p. 185. Spergula maritima Hill (who distinguishes it from the species with winged seeds, which is his *S. maritima minima* = Spergularia maritima (Hill), comb. nov., vice *S. media* Presl (a somewhat ambiguous name).
p. 187. Rorella Hill, vice Allione, 1785 = Drosera L.
p. 191. Geum Hill, vice Moench, 1794 [et Haller, 1742] = Saxifraga L.
p. 221. Hypopitys Hill, vice Adans., 1763.
p. 226. Alsinella [Dill.] Hill, vice L., 1737 = Sagina L.
p. 227. Radiola Hill, vice Roth, 1788.
p. 238. Eruca sativa Hill, vice Mill., 1768.
p. 259. Paronychia Hill (not of Miller) = Erophila DC.
p. 260. Bursa pastoris vulgaris, Hill.
p. 264. Radicula [Dill.] Hill, vice Nasturtium Br.
p. 293. Onobrychis vulgaris Hill, vice O. viciifolia Scop.
p. 307. Lagopus Hill, vice Bernhardi, 1800 = Trifolium L.
p. 309. Foenum graecum Hill, vice Ruppius, 1745, et Moench, 1794 = Trigonella L.
p. 324. Moschatellina Hill = Adoxa L.
p. 324. Oxycoccus Hill, vice Adans., 1763.
p. 324. O. vulgaris Hill, vice O. quadripetala Gilib.
p. 326. Dulcamara Hill, vice Moench, 1794 = Solanum L.
p. 332. Chamaemorus Hill = Rubus L.
p. 336. Arisarum latifolium Hill, vice A. vulgare Targ.-Tozz.
p. 338. Hippoglossum Hill (not in *Ind. Kew.*) = Ruscus L.
p. 343. Limonium vulgare Hill, vice Mill.
p. 344. Thesium vulgare Hill, vice T. humifusum DC.
p. 345. Statice vulgaris Hill, vice S. maritima Mill.
p. 370. Cassida Hill, vice Adans., 1763 = Scutellaria L.
p. 371. Chamaepitys Hill, vice Ruppius, 1745, et Schur, 1853, = Teucrium L

p. 371. C. vulgaris Hill = A. Chamaepitys Schreber.
p. 372. Scorodonia HILL, vice Adans., 1763 = Teucrium L.
p. 380. Chamaedrys HILL, vice Moench, 1794 = Teucrium L.
p. 381. Amaracus HILL, Gleditsch, 1764 = Origanum L.
p. 389. Molucca HILL, vice Moench, 1794 = Molucella L.
p. 392. Pentapterophyllon Hill [not in *Ind. Kew.*] = Myriophyllum L.
p. 398. Aparine HILL = Galium L.
p. 404. Meum MILL., vice Adans., 1713.
p. 404. M. VULGARE Hill, vice M. Athamanticum Jacq.
p. 406. Podagraria HILL, vice Moench, 1794 = Ægopodium L.
p. 414. FŒNICULUM VULGARE Hill = F. dulce Mill, 1754.
p. 422. Cyminum HILL, vice Cyminon St Lag., 1880 = Cuminum L.
p. 423. Levisticum HILL, vice Koch, 1824.
p. 423. L. VULGARE Hill, vice L. officinale Koch.
p. 424. Petroselinum HILL, vice Hoffman, 1814 = Carum L.
p. 424. P. vulgare Hill, vice Carum Petroselinum Benth. & Hook. = CARUM VULGARE Hill, comb. nov.
p. 447. Conyza HILL, non L. = Pulicaria Gaertn.
p. 447. C. minor Hill = PULICARIA MINOR (Hill) comb. nov., vice P. prostrata Asch. & P.
p. 452. PETASITES VULGARIS Hill, vice P. ovatus Hill & P. hybridus (L.).
p. 457. Ptarmica vulgaris Hill = Achillea Ptarmica L.
p. 458. Millefolium HILL, vice Adans., 1763 = Achillea.
p. 473. Iris pallidior Hill = I. Pseudacorus L., var. Bastardi (Bor.) = var. pallidior (Hill).
p. 473. Phalangium minimum Hill = TOFIELDIA MINIMA (Hill), comb. nov., vice Tofieldia palustris Huds.
p. 478. Helleborine palustris HILL, vice Schrank.
p. 482. SALICORNIA FRUTICOSA Hill, S. perennis Miller, 1768, S. fruticosa L., 1762, and S. radicans Sm.
p. 483. Cynocrambe Hill (not in *Ind. Kew.*) = Mercurialis L.
p. 486. FAGOPYRUM VULGARE Hill, vice F. sagittatum Gilib.
p. 491. PARIETARIA VULGARIS Hill, vice P. ramiflora Moench.
p. 506. Linagrostis HILL, vice Scop. 1772 = Eriophorum L.
p. 506. L. vulgaris Hill = Eriophorum angustifolium Roth = ERIOPHORUM VULGARE (Hill) comb. nov.

p. 507. Sparganium minimum Hill, vice Fries.
p. 510. Alnus vulgaris Hill, vice A. glutinosa Gaertn.
p. 511. Juniperus alpina Hill, vice J. nana Willd.
p. 518. Laureola Hill, vice Fourreau 1869 = Daphne L.
p. 519. Frangula vulgaris Hill = Rhamnus Frangula L.
p. 523. Tilia vulgaris Hill = T. europaea L. p.p.
p. 525. Phyllitis Hill, vice Scolopendrium.
p. 525. P. vulgaris Hill, vice P. Scolopendrium Newman.
p. 516. Asplenium vulgare = Ceterach officinarum Willd. = C. vulgare (Hill), comb. nov.

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