THE

BOTANICAL EXCHANGE CLUB AND SOCIETY OF THE BRITISH ISLES.

BALANCE SHEET; SECRETARY'S REPORT FOR 1912.

REPORT FOR 1912

BY THE

SECRETARY.

VOL. III. PART. III.

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I. To collect and collate information as to areas of land in the United Kingdom, which retain their primitive conditions and contain rare and local species liable to extinction owing to building, drainage and disafforestation, or in consequenee of the cupidity of collectors.

All such information to be treated as strictly confidential.

II. To prepare a scheme showing which areas should be secured.

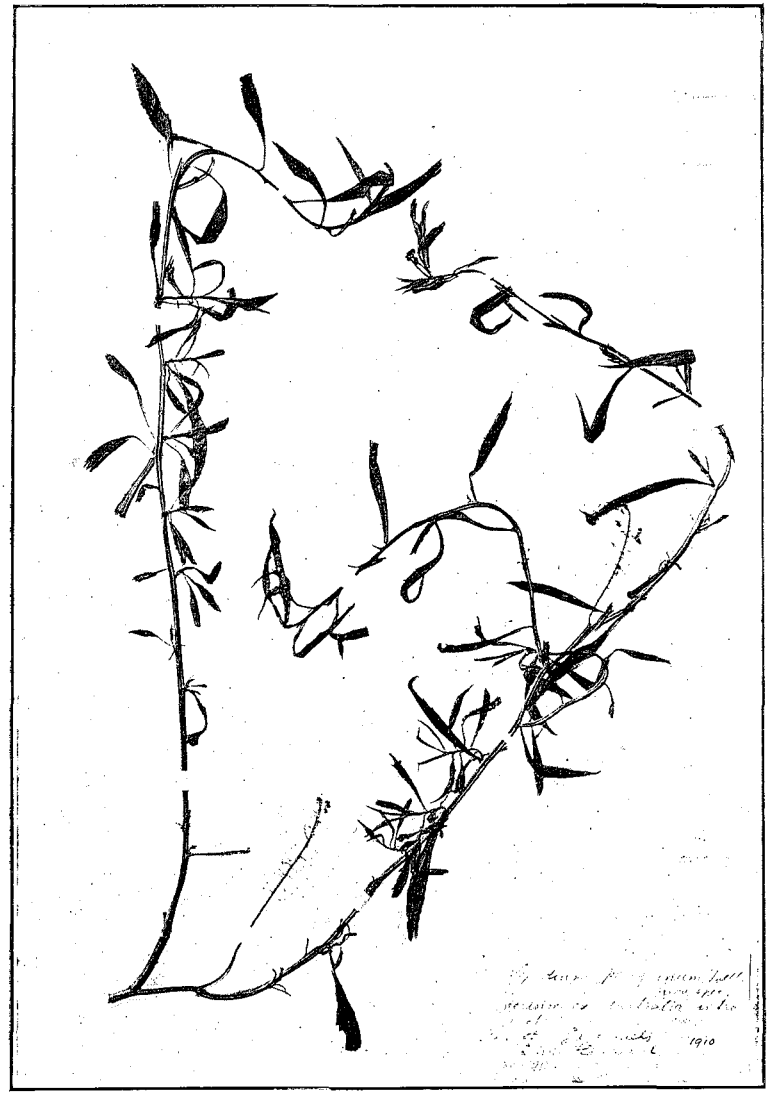
III. To obtain these areas and hand them over to the National Trust under such conditions as may be necessary.

IV. To preserve for posterity as a national possession some part at least of our native land, its fauna, flora, and geological features.

V. To encourage the love of Nature and to educate public opinion to a better knowledge of the value of Nature Study.

These objects are to be attained by means of the Press, by personal efforts, and by correspondence with local Societies and individuals.

The Society exacts no subscription from its members, who are elected by invitation of the Executive Committee. All interested in the objects here outlined are invited to communicate with the Secretaries at the above address, and those who are anxious to forward the aims of the Society can do so, not only by supplying the Executive Committee with information, but also, if asked to do so, by offering financial assistance, however slight, towards the purchase of any desired area, and by inducing their friends to do likewise. It may be pointed out that in the past the National Trust has been greatly assisted by such voluntary contributions.



LEPIDIUM PEREGRINUM, THELL. COLL., I. M. HAYWARD. GALASHIELS, 1910.

THE

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VOL. III. PART III.

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The Subscription, 7s 6d per annum, and Non-Contributing Members' Subscription of 5s per annum, should be paid to the Treasurer and Secretary,

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June 1913.

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THE BOTANICAL EXCHANGE CLUB AND SOCIETY OF THE BRITISH ISLES.

THE REPORT OF THE TREASURER & SECRETARY,

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FOR 1912.

BALANCE SHEET FOR 1911.

By Subscriptions received	£38	13	0	Balance	£12	2	9
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PLANT NOTES FOR 1912, ETC.

19. RANUNCULUS REPENS, L., var. PROSTRATUS, Gaudin, *Fl. Helv.*, iii., p. 547. See *Fl. Berks.*, 1897, p. 20, and *Report*, 1911, p. 66. This is treated as the type in my *List*; if distinguished as a separate variety it may be put as var. *a*. The plant distributed last year (see p. 66) with a query as *reptabundus*, Jord., does not agree with the figure of that plant in Jordan & Fourreau's *Icones*.

77 *c*. CASTALIA (vel NYMPHAEA) ALBA, Link, var. OCCIDENTALIS, Ostenfeld, in *New Phyt.* 1912, p. 116, vice *C. candida*, *Report*, 1911, p. 8. Near Dunkeld 89, C. H. OSTENFELD; Moor of Rannoch 88; Carnarvon 49, 1912, DRUCE.

80 *e*. PAPAVER RHOEAS, L., var CHELIDONIOIDES, O. Kuntze, *Tasch. Fl. Leipsic*, 1867, p. 171. Gedney, Lincoln. First recorded (in *Linc. Nat. Union Trans.*, 1911, p. 295) as var. *Reynoldsii*, Woodruffe-Peacock. It is a variety of *Rhoeas* with yellow sap.

MR PUGSLEY'S MONOGRAPH OF THE GENUS FUMARIA IN BRITAIN (London—West, Newman, 54 Hatton Garden; price 3s), 1912, p. 76, contains the following newly-described plants :—

104. FUMARIA [*capreolata*], L.

Var. BABINGTONII, Pugsl.; *l.c.*, p. 9. This is the common British form, the type not being given for Britain.

Var. *c*. DEVONIENSIS, Pugsl. North Devon; *l.c.*, p. 10.

106. *F. purpurea*, Pugsl., var. BREVISEPALA, Pugsl.; *l.c.*, p. 13.

107. *F. Boraei*, Jord., as a sub-species, Pugsl.; *l.c.*, p. 25.

Var. GRACILIS, Pugsl., var. *muraliformis*, Pugsl., not of Clavaud; *l.c.*, p. 26.

Var. BRITANNICA, Pugsl., var. *serotina*, Pugsl., not of Clavaud; *l.c.*, p. 27.

Var. *verna*, Clavaud, is now = forma *rubens*, Pugsl.

F. OFFICINALIS × BORAEI = F. PAINTERI, Pugsl.; *l.c.*, p. 30.

108. *F. muralis*, Sond., var. DECIPIENS, Pugsl. Hants, Kent, Salop; *l.c.*, p. 23.

108 (2). F. NEGLECTA, Pugsl., as a sub-species. Gilly Tresamble, near Penrhyn, Cornwall W.; *l.c.*, p. 24.

108 (3). F. PARADOXA, Pugsl. = *F. major*. *Report*, 1910, p. 535, not of Badarro.

109. *F. Bastardi*, Bor., var. *b*. GUSSONEI, Pugsl. Jersey; *l.c.*, p. 40.

111. *F. officinalis*, L.

Var. *b*. ELEGANS, Pugsl. Chiefly in S. England; *l.c.*, p. 52.

Var. *c*. MINOR, Hausskn., in *Flora*, 1873, p. 409. S. England; *l.c.*, p. 52.

Var. *d*. WIRTGENI, Hausskn., in *Flora*, 1873, p. 404. Somerset, Kent, Wilts, Surrey, Jersey; *l.c.*, p. 52.

113. *F. Vaillantii*, Lois., var. CHAVINI, Rouy & Fouc. in *Fl. Fr.*, 1893, i., p. 181. Cambridge, N. Essex; *l.c.*, p. 70.

114. *F. parviflora*, Lam.

Var. *b*. ACUMINATA, Clavaud, in *Fl. Gironde*, 1882, p. 53. Sussex, Kent, Surrey, Berks, Bucks, &c.; *l.c.*, p. 64.

Var. *c*. SYMEI, Pugsl. Cambridge; *l.c.*, p. 65.

Several new forms are also described.

133 *d*. ARABIS HIRSUTA, Scop., var. GERARDI, Bess. Mr C. E. Salmon, *Journ. Bot.*, p. 377, records the above plant from near Headley, Surrey, as *A. hirsuta*, Scop., var. *Gerardi*, Besser, described in Corbière's *Nouv. Fl. de Normandie*, 1894, p. 46, "diffère seulement de *A. hirsuta* par ses feuilles caulinaires auriculées—*sagittées* à la base; siliques plus grêles, atteignant jusqu'à 5—6 cm.; graines plus visiblement ponctuées." It was described as a species by Koch, *Syn. Fl. Germ.*, 1837, p. 38.

191 (3). SISYMBRIUM PINNATUM, Greene. Alien, Chili. Par Dockyards, Cornwall, in some quantity, July 1911, G. C. DRUCE.

247 (6). LEPIDIUM PAPILLOSUM, F. v. Muell. Alien, Australia. Galashiels, Selkirk, Miss IDA HAYWARD and G. C. DRUCE, August 1909. See *Monograph Lepid.* by Dr Thellung in *Bull. Herb. Boiss.*, 1904, iv., p. 695.

247 (7). L. LINOIDES, Thunb, *Prod. Fl. Cap.*, 1800, ii., p. 107. Alien, Africa. Galashiels, Miss IDA HAYWARD, 1909.

247 (8). L. ECKLONI, Schrader, *Ind. Sem. Hort. Gott.*, 1830, p. 3, var. HIRTELLUM, Sonder, in *Fl. Cap.*, 1859-60, i., p. 30. Alien, Africa. Galashiels, Miss IDA HAYWARD, 1910.

The two last species are placed as sub-species of *L. divaricatum*, Schrader, ex *Ait. Hort. Kew.*, 1789, ii., p. 441, by Thellung in his valuable paper *Die Afrikanischen Lepidium-Arten* in *Mitt. aus dem Botan. Museum der Univers. Zurich*, 1906, xxvii., pp. 144-192.

Dr Thellung kindly named these specimens of *Lepidium*.

247 (9). L. PEREGRINUM, Thellung, spec. nov. (sect. *Dileptium*, sub-sect. *Eudileptium*, grex *Pseudo-Ruderalia*, Thell.).

Perenne? *Caulis* suberectus, elatus, fere cylindricus (leviter anguloso-striatus), glaberrimus, subnitidus, foliosus (foliis inferioribus saepe fasciculatis), ramosus. *Folia* caulina lanceolata, utrinque attenuato-acuta, acute serrata serraturis adpressis, margine (praesertim basi) pilis gracilibus cylindris acutis minute ciliata, ceterum glabra. *Racemi* sparsi, in ramis laterales, folio oppositi, satis multiflori. *Flores* minuti; sepala anguste ovato-elliptica, albo-marginata, dorso pilis longiusculis villosula, satis diu persistentia; petala rudimentaria setacea, calyce breviora; stamina 2 (—4) mediana; glandulae 4 (—6) triangulari lanceolatae, calycis ca. $\frac{1}{3}$ longitudine aequantes. *Racemis fructiferi* satis breves, axi glaberrimo vel apicem versus minute et remotissime puberulo, leviter anguloso-striato, pedicellis gracillimis subcapillaribus, latere interiore pilis brevissimis (diametro pedicellorum brevioribus) puberulis, leviter extrorsum arcuatis, fere horizontalibus vel subdeclinatis, silicula $1\frac{1}{2}$—2 plo longioribus. *Silicula* ovata, modice compressa, basi obtusiuscula, apice circumferentia anguloso-acuta, distoncte et satis acute emarginata marginibus emarginaturae angulum fere rectum formantibus, dentibus alaribus in utroque latere triangulari-acutis porrectis; stylus brevissimus, stigma in fundo emarginaturae subsessile; valvulae carinatae, apicem versus anguste alatae; septum oblanceolatum (1 : 4—5), stylo brevissimo cum stigmate apiculatum. *Semina* minutissima, anguste ovoidea (1 : 2), anguste compressa, fulvo-fusca, fere laevia (leviter scrobiculata) immarginata; embryo notorrhizus.

Rami (tantum suppetentes) ea. 40 cm. longi. Folia 3—4 cm. : 3—7 mm. Sepala $\frac{1}{2}$—$\frac{2}{3}$ mm. longa. Silicula 2 : $1\frac{1}{3}$ mm. Semen 1 : $\frac{1}{2}$ mm.

Patria ignota; planta peregrina, verisimillime, ex *Australia* oriunda, in Angliam introducta.

England: Galafoot, 1910, leg. IDA M. HAYWARD. Species affinis nonnullis speciebus australiensibus, ex grege *Pseudo-Ruderalium*, praesertim *L. hyssopifolio*, Desv. em DC., quod tamen differt racemis terminalibus nec lateralibus, pedicellis glaberrimis, floribus et fructibus majoribus, silicula distincte rhombica multo majore, quam pedicellus haud conspicue breviore; *L. pseudo-ruderale*, Thell., dignoscitur caule et foliis pubescentibus, racemis terminalibus, foliis ± oblongo-obovatis obtusiusculis, pedicellis brevioribus, silicula elliptica obtusiuscula levius emarginata; *L. Merralli*, F. v. Mueller (mihi ex descr. tantum notum) differre videtur statura pumila (7—12 cm.), foliis linearibus integris vel in lobos paucos angustos productis, silicula rhomboideo-orbiculari levissime emarginata obtusiore. *L. divaricatum*, Soland (spec. africana) quodammodo simile (praesertim subsp. *linoides* [Thunb.], Thell.), distinguitur pedicellis brevibus (siliculae subaequilongis) e basi suberecta extrorsum curvatis et silicula angustiore obtusa levius emarginata. A. THELLUNG, in *lit.*, December 1912.

294. VIOLA RIVINIANA, Reichb., var. PSEUDO-MIRABILIS (Coste, in *Bull. Soc. Bot. Fr.*, 1893, xl., p. 115), Greg. = *V. silvestris*, var. *pseudo-mirabilis* Rübel, in *New Phyt.*, 1912, xi., p. 55. Killarney. Gathered in company with Drs Graebner and Rübel in 1911. Treated by Becker, *Mon. Viol.* 1910, p. 12, as a hybrid, *V. mirabilis* × *Riviniana*, but more correctly by Mrs Gregory in *British Violets*, 1912, p. 54, under the above name. Devon S. and N., Somerset N., and Kerry.

295. VIOLA RUPESTRIS, Schmidt, the typical, more glabrous plant = *V. rupestris*. Teesdale, *Herb. Druce* and *Herb. H. S. Thomson*. The var. *arenaria* is the plant originally found by the Backhouses. It is interesting to have in Britain both forms. See Gregory, *Brit. Violets*, 1912, p. 73.

296. var. *e.* VIOLA CANINA, L., var. PUSILLA, *Bab. Man.*, 1843, p. 34. Gullane, M'TAGGART COWAN; Mildenhall, Miss IDA HAYWARD ex. Gregory, *l.c.*, p. 78.

Var. *f.* SABULOSA, Reichb. Codicote, High Heath, Herts., J. LITTLE ex. Gregory, *l.c.*, p. 79.

Var. *g*. Var. LUCORUM, Reichb. Woodwalton, Hunts, Gregory, *l.c.*, p. 86.

297. VIOLA LACTEA, Sm., var. PUMILIFORMIS, Rouy & Fouc. Chailey Common, Sussex; Great Yarmouth; sandhill, Norfolk. Gregory, *l.c.*, p. 95.

298. VIOLA ODORATA, L., var. PRAECOX, Greg. Devon, Somerset and Wilts. Gregory, *l.c.*, p. 2.

299. VIOLA HIRTA, L., var. *i.* VARIEGATA, Greg. Wychwood, Oxon., G. C. DRUCE. Gregory, *l.c.*, p. 24.

In addition to these, Mrs Gregory has also described some new hybrids and numerous forms in her *Monograph*. At the same time, several plants hitherto called varieties have been reduced to forms.

349 (2). SILENE INAPERTA, L. Alien, Eur. mer. Musselburgh, Midlothian. J. FRASER, in *Scot. Bot. Rev.*, 1912, p. 39.

356 (2). SILENE FIMBRIATA, Sims. Alien, Caucasus. South bank of Crinan Canal, an outcast at Auchendarroch Lodge, Argyll. J. M'ANDREW, in *Scot. Bot. Rev.*, 1912, p. 47.

413 *d*. SPERGULARIA SALINA, Presl., var URBICA (Nyman). *S. urbica*, Nym. *Consp. Fl. Europ.*, p. 122 nomen, ex Rouy in *Bull. Herb. Boiss.*, 1895, iii., p. 223, et Rouy & Fouc. *Fl. Fr.*, p. 304, as a sub-species; *Lepigonum caninum*, var. *urbicum*, Loefft., ex Hartm. *Handb.*, ed. x.

This interesting *Spergularia* differs from type *salina* by the smaller flowers, which are condensed into dense, short cymes, the pedicels of which are shorter than the capsule. It occurred as a form with the upper part extremely glandular at Littlestone-on-Sea, Kent, where I gathered it in 1902. G. C. DRUCE.

415. SPERGULARIA RUBRA, Presl., var. STIPULARIS, Boiss., *Fl. Orient*, 1867, i., p. 732. Stipulae elongatae, argenteae. *S. rubra*, sub-var. *stipularis*, Druce. Guernsey, W. C. BARTON, 1912; St Heliers, Jersey, G. C. DRUCE, 1906.

452. MALVA SYLVESTRIS, L., var. ANGUSTILOBA, Celak., *Prod. Fl. Boehm.*, 1867, p. 515. Stem and leaves of a palish green, pubescent or hairy, the pubescence appressed; leaves small, with narrow lobes and deep sinuses; carpels glabrous. Twyford, Berks., 1892; Par, Cornwall, 1910, G. C. DRUCE and C. C. VIGURS, 1912.

Gen. 111 (2). ABUTILON, Hill, *Herb. Brit.*, 1756, p. 49.

460 (4). A. AVICENNAE, Gaertn. Alien, Eur. See *Fl. Bristol*, 1912, p. 203.

Gen. 111 (3). MODIOLA, Moench, *Meth.*, 1794, p. 619.

460 (6). M. MULTIFIDA, Moench (*M. caroliniana*, G. Don). Alien, S. America. Galashiels, Selkirk, Miss IDA HAYWARD, 1912.

505 *b*. OXALIS CORNICULATA, L., var. PURPUREA, Parl, *It.*, 1872, v., p. 271 (var. *tropaeoloides*, *Hort. ex Vilm. Fl. Plein. Terre*, 1865, p. 584, as a species. Alien, Europe (?). Guernsey, G. C. DRUCE.

514 (3). RUTA TUBERCULATA, Forsk., *Fl. Aegypt-Arab.*, 1775, p. 86. Named at Kew. Alien, Oriens. Northampton, 1911, J. LEACH. Vide spec.

650 (3). LOTUS JACOBAEUS, Willd. Alien, Cape de Verde. Among corn, Greenbank, near Liverpool, H. S. FISHER in *Trans. Lanc. and Chesh. Hist. Soc.*, vii., n.s., circa 1867, ex W. G. TRAVIS in *lit.*

669 (2). ORNITHOPUS SATIVUS, Brot., *Fl. Lusit.*, i., p. 160. Alien, Eur. occ. See *Fl. Bristol*, 1912, p. 256.

686 (2). VICIA AMOENA, Fisch., ex DC., *Prod.*, ii., p. 355. Root from Fyfield, Essex S. *Report*, 1911, p. 80. G. C. DRUCE.

698 *e*. VICIA ANGUSTIFOLIA, Reich., var. ACUTA, Pers. Leguminibus subsolitariis, foliolis linearibus longis acuminatis; inferioribus sublatioribus, truncatis glabris, Pers., *Syn.*, 1807, ii., p. 307. Cothill, Berks., with South European aliens. Kindly determined for me by Dr Thellung. G. C. DRUCE.

702 (2). VICIA HYRCANICA, Fisch. and Meyer, *Ind. Sem. Hort. Pet.*, ii., p. 53. Alien, Reg. Caucasus. See *Fl. Bristol*, p. 250.

740 (2). ROSA ROTHSCHILDII, Druce. Sect. *Caninae*, sub sect. *Eu-caninae*, group *Tomentella*, (Borreri.) 2—3 m. Rami aculeis falcatis horrentes. Caules floriferi aciculati, aciculis infra inflorescentiam numerosis. Foliola 2—4 × 1·2—2·2 cm. ovalia, irregulariter sed plurimus alternatim duplicato-serrata, solum costa vel costa nervisque secondariis parce pilosis, alioquin glabra: serraturae margine glandulosae, glandulis subfoliaribus sat numerosis: Petioli glandulosi, aciculis paucis et glandulis immixtis: Pedunculi 3—10 mm., glanduloso-aciculati: Calyx appendicibus lateralibus prominentibus munitus: Sepala patentia margine glandulosa, intus saepe villosa. Corolla 5—5 cm.: petala emarginata, pallide rosea. Stylus subglaber, columna haud prominente. Tori fructiferi ovoideo-globosi glabri. Odor foliorum ei gregis *Mollissimae* similis, et odor florum ei gregis *Caninae* similis. *Habitat:* Northamptonshire—Dane's Camp, 1878, 1896; Farthinghoe; Ashton, near Oundle, 1910, G. C. DRUCE; Geddington Chase, Wadenhoe, LEY teste Wolley-Dod; Hunts.—Catsworth, Ellington, LEY teste Wolley-Dod; Surrey—Coombe (No. 786); Malden (No. 838), C. E. BRITTON, 1912. The Surrey plants have fruits slightly more spherical and leaflets somewhat shorter and broader, but the acicular branches and glandular foliage bring them under *Rothschildii*. Synonyms: *Rosa verticillacantha*, Mérat, p.p. Druce in *Journ. Northam. Nat. Hist. Soc.*, 1881, p. 273. *R. rubiginosa*, L., var. *Montini*, Crép., vel *affinis*, Sudre in *lit.* *R. tomentella*, Léman, var. *anonyma*, Dingler inedit. in *lit.* *R. permixta*, Sudre in *lit.* *R. caryophyllacea*, Christ, forma, Dingler in *lit.* *R. caryophyllacea*, Wolley-Dod *List of British Roses*, 1911 pro parte, p. 37. The rose from Hanwell, Oxfordshire (see Wolley-Dod, *l.c.*, p. 37) I leave under *R. verticillacantha* on account of the absence or practical absence of the subfoliar glands.

This Rose has been a thorny subject to the student of this variable and difficult genus, and I am very greatly indebted to our valued expert Major Wolley-Dod for the world of trouble he has taken in order to assist in elucidating the matter. I was very anxious that he should name and describe it, especially as I felt that it could not be kept under *Rosa caryophyllacea*, Christ (not of Besser), itself apparently an untenable name, still less could it be left under the other names, which continental botanists, who had not seen it growing, had given

it, while the more recent suggestion of Herr Dingler's is at present apparently unpublished, even if the specimens on which it is based are identical with the Ashton Rose. Major Wolley-Dod moreover kindly wished me to name and describe it, since it is spread over a considerable area of Northamptonshire and presents features sufficiently marked to make it worthy of distinction; although from the curious mingling of characters, which are typical of several groups, it may very well be found hereafter to have greater affinities with another than the one with which it has been provisionally associated. The history is briefly this. In the seventies I found a Rose on Hunsbury Hill—the Dane's Camp—near Northampton (See *Journ. North. Nat. Hist. Soc.*, 1881, p. 273), which working with Mr. Baker's useful arrangement, I ran down to *R. verticillacantha*. More recently I again gathered it in the vicinity and referred it to *R. latebrosa*. However, in August 1910 when staying at Ashton, I saw a Rose in the very luxuriant hedgerows bordering the road leading to the Hon. N. Charles Rothschild's house, which at once reminded me of the Hunsbury Hill plant, and after comparison, on my return I sent specimens to Major Wolley-Dod (Ref. no. 4821). These although the leaves were densely covered with subfoliar glands had the odour of the *Mollissimæ* group. He at once detected it as a new form, and gave reasons why it could not be a *tomentosa* form because of the small hooked prickles, nor *coriifolia* on account of the styles, while *dumetorum* forms rarely had biserrate leaflets nor, unless exceptionally, subfoliar glands, the latter character usually going with the *Borreri* section, of which he knew no form like this. Neither [at that time] did he think it could be a member of the *Eglanteriae* group, and the possibility of its being a hybrid of *gallica* was lessened by the size and shape of the leaflets. Although analogous to *R. latebrosa* in the nearly glabrous leaves, that species is without subfoliar glands. Specimens were sent to M. Sudre who, I think, misled by the copious glands and acicles, suggested that it was *R. rubiginosa* var. *Montini* vel. *affinis*, a suggestion which appears outside the range of possibility: it has no sweet-briar odour, and the fruit is devoid of prickles. Afterwards he referred it to *R. permixta*, from which it differs in fruit, and in smell, etc. In June 1911 I went to Ashton again in order to obtain flowering specimens when I found the Rose in several places in the vicinity. Fresh and dried specimens (the latter no. 2782) were sent to Major Wolley-Dod, and by him submitted to

Herr Dingler who named it *R. caryophyllacea*, Christ, forma, but he says he has given it the name *R. tomentella* var. *anonyma* ined. in his herbarium, and that he believes it to be an *Eglanteria* × *canina* hybrid, and he thinks it must go with Ley's Catsworth, and the Geddington and Wadenhoe plants. One of the Hunts specimens, Major Wolley-Dod says, "seems to agree exactly with *R. Friedlanderiana*, Besser, and Dingler agreed to this, 'though more glabrous.'" Major Wolley-Dod remarks, 'It is a very interesting addition to our flora.' I ventured to challenge the determination, and sent specimens to the Bot. Exch. Club (See *Report*, 1911, p. 87). On these Mr Barclay said, 'It has no connection with the true *caryophyllacea* which is a mountain form, closely allied to *R. glauca* and *coriifolia* which is confined to the Lower Engadine and Western Tyrol.' He says that 'Dingler separates one variety of Christ's species . . . and along with that a number of closely allied forms . . . which he provisionally calls *anonyma*. It was to this he joined the Catsworth plant.' I remarked I quite agreed with Mr. Barclay in refusing to accept the name *R. caryophyllacea* for this distinct Rose which I believed to belong to the *Borreri* group. Later on Major Wolley-Dod wrote me that he found a difficulty in associating it with Christ's plant or indeed a form of it, and "as it occurs over a considerable tract of country you may as well give it a name and a description."

As will be seen this Rose offers points of exceptional interest, for, although a plant which superficially reminds one of the *dumetorum* series, it has, on closer examination, affinities with the *Borreri* group, from which it differs chiefly by its almost glabrous foliage. Then the leaf odour is that of the *Mollissimæ* while in the strongly glandular foliage, and in the presence of acicles on the branches the group *Eglanteriae* is recalled. One might theorise and suggest that it is a fixed hybrid (the fruit being fertile) of *sarmentacea* (*dumalis*) and *Eglanteria*: but the intermediates are not necessarily hybrids and the geographical range and fertility are adverse factors. The plant forms tall handsome bushes with conspicuous flowers of a brighter pink than normal *canina*, while the acicular branches, naked fruit, the very glandular, nearly glabrous leaves, and the acicular petioles and peduncles are distinguishing characters which separate it from its allies. I have associated the plant with the name of my friend on whose estate it grows: and who had done so much to forward the study of Natural Science. G. CLARIDGE DRUCE.

746. SPIRAEA ULMARIA, var. DENUDATA, Boenn. In reporting on some experiments in a valuable paper on the Problem of Xeromorphy in Marsh Plants, *Ann. Bot.*, xxvi., n. ciii., pp. 815-870, Prof. Yapp says "*denudata* has never been induced to become really hairy, even when grown in dry, sunny, exposed situations."

844 (2). RUBUS GLAREOSUS, Rogers, nova species. Oxford, Surrey, Sussex W., Kent W. See *Jour. Bot.*, 1912, pp. 309 and 374. W. MOYLE ROGERS.

966. CRATAEGUS MONOGYNA, Jacq. vel C. OXYACANTHA, L., var. PARVIFOLIA, mihi. Foliis parvis 10—20 cm. longis 10—18 latis, glabris, profunda, incisis, stylo unico, erecto; fructu (ut in typo) 8—10 cm. longo. In hedges on limestone, growing with the type in some plenty near Sturdys Castle, Woodstock, Oxon., Sept. 1912, G. CLARIDGE DRUCE.

966. CRATAEGUS MONOGYNA, Jacq. var. GLABRATA, Sonder, Newbattle, Edinburgh. *Report*, 1911, p. 91, M'TAGGART COWAN. This was published in *Flora Hamburg*, 1851, p. 265, "calycibus glabris laciniis plerumque reflexis." It is equivalent to and earlier than my *leiocalyx*.

1000. PARNASSIA PALUSTRIS, L., var. CONDENSATA, W. G. Travis and J. A. Wheldon in *Journ. Bot.*, 1912, p. 254. In *New Phyt.*, 1911, p. 312, I drew attention to the plant with very large flowers and fruit in the damp slacks of the sand dunes, and Dr Graebner and I independently came to the conclusion that it was a good variety. It is pleasing that our members who have known the plant for some years should have now described it. This year 1912 I gathered it on sea cliffs at White Park Bay, Antrim, and on the sands of Barry, at Carnoustie, and I have seen the same form at the Braunton Burrows, N. Devon, and in Holy Island, Cheshire. G. C. DRUCE.

1015 (2). SEDUM [EU-SEDUM] DRUCEI, Graebner, nova species. Glabrum, laxe caespitosum. Caules longe repentes vel penduli, sparse ramosi, tenues, subirregulariter foliati. Folia distincte remota nec dense imbricata, *distantia*, carnosa, *mitriformia* vel subsubulata, 5 mm.

longa et 2—5 mm. lata, plerumque extrorsum curvata basi gibba obtusa sessilia, apicem versus sensim acutata, marginibus suberectis, apice obtusa, sapore valde acri. Cymae 2-fidae, ramis plerumque 3—8 floris. Flores subsessiles, lutei. Sepala ovata, obtusa. Petala triplo longiore, oblongi-obovata, obtusa, mucronata. Carpidia oblique ovata, acuminata. *Habitat.* England et Ireland late divulgatum.

Syn. *S. acre*, Auct. Brit., nec aliorum.

This species beyond doubt is related to *S. acre*, but would seem to be different in all its parts. The lax habit of the plant often hanging down in long trails and the laxer and more flabby peduncles at once attract attention. The form of the leaves of *S. Drucei* resemble those of the montane *S. repens (rubens)*. It is at once distinguished from *S. acre* by the loosely placed, narrow, divergent leaves, which call to mind *S. boloniense*.

Sedum Drucei belongs to quite a large number of forms endemic in Britain, which last year were observed on the International Phytogeographical Excursion through the British Isles, and which took quite the foremost place of interest. This group proves beyond a doubt that the flora of the British Isles, in consequence of the early separation from the Continent, possesses a far larger geographical individuality, and has received a less disturbed development than is found in the floras of other parts of Europe. P. P. GRAEBNER in *lit.*

One may add to the foregoing description which has been made by my distinguished friend Professor Graebner, the joint author with Prof. Ascherson, of the erudite *Synopsis der Mittel-Europ. Flora*, that so far as my observations go this form is the common native British species. Professor Graebner has cultivated it in the Berlin Botanical Garden side by side with the continental *acre*, and finds it keeps quite distinct, and that he cannot find a similar plant described before. Mr Ogilvy and Mr Wilmot also assure me that the ordinary German *acre* has quite a different facies. It inhabits in Britain a wide series of situations from the sand dunes by the coast, sandy banks, heaths, and chalk and limestone downs. It has yet to be demonstrated that the restricted *acre* occurs in Britain, but it has by no means been proved that this plant does not occur in France, &c. Hab., Torquay, Braunton, N. and S. Devon; Portland, Dorset; East Meon, S. Hants.; High Clere, N. Hants.; Hassocks, Arundel, Sussex, E. and W.; Pyrford, Surrey; Lydd, E. Kent; Uxbridge, Middlesex;

Tubney, Berks.; Chinnor, Oxon.; Wendover, Bucks.; Dunstable, Beds.; Tring, Herts.; Lavenham, Aldborough, E. and W. Suffolk; Cromer, Brandon, Norfolk E. and W.; Oundle, Northants; Bartlow, Essex; Chippenham, Cambridge; Skegness, Lincoln, N.; Matlock, Derby; Malvern, Worcester; Stanner, Radnor; Fairford, Clifton, Gloster E. and W.; Uphill, Somerset; Stonehenge, Marlborough, Wilts. N. and S.; Porthcawl, Glamorgan; Ludlow, Hereford; Church Stretton, Salop; Craig Breidden, Montgomery; Harlech, Merioneth; Pentre, Denbigh; Llandudno, Carnarvon; Aberfraw, Anglesey; New Brighton, Chester; Southport, Isle of Walney, Grange, Lancashire; North Berwick, Haddington; Brodick, Arran; Barry, Forfar; Roundstone, Galway; White Park Bay, Antrim, Wicklow; Raven's Point, Wexford; Black Head, Co. Clare; Derrynane, Kerry.

1041 *b*. CALLITRICHE TRUNCATA, var. OCCIDENTALIS (Rouy *Fl. Fr.*, xii., p. 186), as a race. Differs from the type of Gussone by its more robust habit, and by the fruits being subsessile or only slightly stalked. L'Ancresse, Guernsey; Kent; Ireland; and to it doubtless belong all the recorded *truncata* from the British Isles.

1057. EPILOBIUM PALUSTRE, L., var. PUBESCENS, Coss. & Germ. Stem simple, covered with a short pubescence of patent hairs. Near Omagh, Tyrone, July, 1912, G. C. DRUCE.

1060 (2). CLARKIA ELEGANS, Dougl. in *Lindl. Bot. Reg. t.* 1575. Alien, North America. Roadside, Edgewarebury, Herts. Mr W. MAGENIS, ex W. H. GRIFFIN, 1912.

1070 (3). OENOTHERA LONGIFLORA, Jacq. Alien, South America. Near Galashiels, Selkirk, 1912; Miss IDA M. HAYWARD.

Gen. 208 (2). TETRAGONIA, L., *Sp. Pl.*, 1753, p. 480.

1077 (10). TETRAGONIA EXPANSA, Thunb. Alien, Japan. Marazion Beach, Cornwall, W. C. BARTON, 1911; Marston Brickyards, Oxon, 1910, H. C. NAPIER and G. C. DRUCE.

1172 *b*. HEDERA HELIX, L., var. BOREALIS, Druce. When in Skye in 1909 I was struck with the Ivy which I saw in the river gullies at Glen Brittle, Sligachan, etc., which attracted attention by

its small and narrow leaves and by its paler tint. In 1911 the same form was noticed in Silverdale, and I have seen it also in several places in Scotland. It may be worth distinguishing as var. *borealis*. Folia ramorum repentium sterilium valde angulata, haud transverse latiora. Rami floriferi breves. Folia ramorum fructiferorum 5.5—6 × 2.5—3—5 cm. late lanceolata sensim acuminata. Inflorescentia stellato-pilosa, pilis 5—7 radiatis. *Habitat.* Skye—Glen Brittle, Sligachan; Sutherland—Inchnadamph; Haddington—Yester; Lancashire—Silverdale.

1172 *c.* HEDERA HELIX, L., var. SARNIENSIS, Druce. The Ivy of Petit Bo, Guernsey which Mr Hunnybun kindly sent me last year is quite opposite to the northern plant in having very broad, scarcely angled leaves, even of the young plants, and in the deep green of the foliage. It may be distinguished as var. *sarniensis*. Folia ramorum scandentium sterilium late ovata transverse latiora, leviter angulata; caulinia inferiora interdum transverse latiora, obtusa angulata vel subsimplicia, 10 × 8 cm., intermedia, 6—7 cm., subrhombea, superiora, 6.5. × 4 cm.; ramorum fructiferorum ovalia, breviter acuminata. Inflorescentia stellato-pilosa, pilis 5—7 radiatis. *Habitat.* Petit Bo, Guernsey. G. C. DRUCE.

1213 (2). CRUCIANELLA PATULA, L. Alien, Eur. mer. Musselburgh, Midlothian, J. FRASER in *Scot. Bot. Rev.*, 1912, p. 40.

1237 *d.* SCABIOSA SUCCISA, L., var HISPIDULA, Peterm. *Fl. Lips. Exc.*, 1838, p. 119. Under the name *Succisa praemorsa*, Gil., var. *hispidula*, Peterm., Dr Ostenfeld, *New Phyt.*, 1912, p. 120, records the strongly hairy plant from Kynance, Cornwall. The var. *glabrata*, Schultes, I have from Loch Ness, 96 and Tar Wood, Oxon, etc. G. C. DRUCE.

1238. SCABIOSA ARVENSIS, L., var. PINNATISECTA, Coss. & Germ. DRUCE, see *Fl. Berks*, 1897, p. 272.

1244 (3). SOLIDAGO SEROTINA, Ait. *Hort., Kew*, (1789, p. 211). Alien, North America. Gala side, Selkirk, Aug. 1909, Miss IDA HAYWARD and G. C. DRUCE.

1260. ERIGERON BOREALIS, (Vierhapper) Simmons, = *Trimorpha borealis*, Vierhapper, *Beih. Bot. Centralbl.* 19, 2 abt., 1906, p. 447. This name Dr Ostenfeld, *New Phyt*, 1912, p. 120, states applies to our British *E. alpinus*, which differs from the true *E. alpinus* "in the obtuse basal leaves, the rather sparingly hairy base of the stem, and the strongly hairy, often purple, phyllaries."

1267. FILAGO GERMANICA, L., var. AXILLARIS, Druce. Differt a typo quod in foliorum caulinorum axillis anthodia sessilia habet. Caules plerumque simplices, sed interdum ad apicem prolifere ramosi sunt; in quâ conditione unusquisque caulis ascendens foliatus est et anthodia in foliorum axillis sessilia sunt, cum tamen utrumque caulium ascendentium par plerumque anthodium quoque terminale habeat.

When I first gathered this form on the Boar's Hill range, Berkshire, I thought it might be a hybrid of *F. minima* and *germanica*, and I submitted specimens to Dr Focke who considered the plant to be curious, and an anomalous form. (See *Fl. Berks*, p. 277, and *Report*, 1894, p. 451). Further study has not supported the hybrid theory, and I have found it many years in the same place, and also on similar soil near Stow Wood, Oxford, where, as in Berks, it grows with typical plants; so that soil and habitat are not the factors which produce this form. Neither is it as I once thought due to accidental injury by sheep or rabbit nibbling The plants appear quite healthy. Berks—Boar's Hill; Oxon—Stow Wood, Shotover. G. CLARIDGE DRUCE.

1303 (3). HELIANTHUS DEBILIS, Nuttall, (*H. cucumerifolius*, Torr. and Gray.) Alien, North America. Waste ground, Iffley Road, Oxford, 23rd Sep. 1909, G. C. DRUCE.

1308 (2). COREOPSIS GRANDIFLORA, Nutt. ex. Chapman, *Fl.S.U.S.*, 1865, p. 335. Alien, Amer. bor. Rubbish heap, Timberley, Cheshire. Rev. T. STEPHENSON ex. W. H. GRIFFIN, 1912.

1330 (2). ACHILLEA PECTINATA, Willd. Alien, Eur. or. Roadside, Edgewarebury, Herts. Mr W. MAGENIS ex. W. H. GRIFFIN.

1356 (5). CHRYSANTHEMUM LACUSTRE, Brot. *Fl. Lusit.* i., p. 379 *(C. latifolium DC.)* Alien, Eur. Penrose, Cornwall, G. C. DRUCE.

1356 (6). C. ULIGINOSUM, Pers. *Syn.*, ii., p. 460. Alien, Hungary. Stanmore, Middlesex, *Herb. Loydell;* Waste ground, Oxford; near Frilford, Berks.; near the Stanner Rocks, Radnor, G. C. DRUCE.

1412 (7). ECHINOPS RITRO, L. Alien, Europe. Forge Valley, York, N.E. Aug. 1912, G. C. DRUCE.

1430. CIRSIUM ANGLICUM, DC., vel C. BRITANNICUM, Scop., var. POLYCEPHALUM (Druce), as sub-var. of *Cnicus pratensis* in *Flora Berks*, 1897, p. 301 (*Pseudo-Forsteri* H. C. Wats., as a var. of *Carduus pratensis*). Leaves more or less pinnatifid-lobed or incised, the lobes themselves sometimes two or three-cleft. It appears to me that the first year's plants of *Cirsium anglicum* have usually nearly entire leaves and single anthodes, while the perennial plants tend to have more deeply cut leaves and with two or more heads of flowers. But there may be differences between the two forms in all stages which comparative culture may reveal. This variety is more plentiful in Ireland, and in its extreme form looks a distinct species; it has often been recorded as *heterophyllum*, and also for the hybrid with *palustris (C. Forsteri)*. But on the Continent also there is a great range in variation, for instance Brébisson *(Fl. Normandie)* says of *C. anglicum* 'quelquefois les feuilles sont pinnatifides.'

Polycephalum is represented in my Herbarium from Stoke Trester, Somerset, *C. E. Palmer*, 1884; Esher, Surrey, as *C. pratensis* var. *Pseudo-Forsteri*, H. C. Wats, 1866; New Forest, S. Hants, 1882; Hook Common, N. Hants, Miss C. E. PALMER, 1884; Wittering, Northants, 1884; Headington Wick, Oxon (as *C. heterophyllus*) F. T. RICHARDS, *ms.*; Cothill, Berks; Feenagh, C. Clare a dwarf spinous form with very cottony under leaf-surface, 1909; and also as a coarse many headed form, cult. by S. H. Bickham (No. 322) (see *Report*, 1911, p. 99). For other references see *Report*, 1885, p. 131, and 1894, p. 452, The Lintons cultivated it from seed. G. C. DRUCE.

1471 (2). CENTAUREA MOSCHATA, L., Alien, Oriens. Slateford, Mid Lothian, *Scot. Bot. Rev.* 1912, p. 40, J. FRASER.

1642. LEONTODON HISPIDUS, L. var. GLABRATUS, Gren. and Godr. Involucre and upper part of scape glabrous. Plentiful near Worcester,

37, and near Ledbury, Hereford, 36. It is the *L. hastilis* of the Rev. W. Moyle Rogers, but not Linn. R. F. TOWNDROW in *lit.* Grenier and Godron give *glabratus* as a var. of *proteiformis*, Vill., and quote as a synomym *L. hastilis*, L. Is the Malvern plant really distinct from *hispidus*? Dr Thellung names it var. *vulgaris*, Bisch.

1646 (3) TARAXACUM BALTICUM, Dahlsted, *Om. Skandin. Tarax.* in *Bot. Notiser* 1905. *Radix* crassa, fusco-castanea, in rhizoma sat validum abiens. *Folia* extima parva, linearia, integra, sub anthesi vulgo emarcida, exteriora sparsim dentata — linearilobata, intermedia, angusta, linearia—lineari-lanceolata, remote et profunde laciniata, inter lacinias integra v. subulato-dentata —subulato-laciniata, laciniis linearibus, patentibus, integris v. in margine superiore ± subulato-dentatis, v. magis approximatis, anguste —late deltoideis, in margine superiore subulato-dentatis, lobo terminali elongato, sagittato—hastato, integro v. inferne parce denticulato, mediano valde angusto, lineari v. apicem versus ± dilatato, haud raro magno, ovato—hastato-triangulari, interiora intermediis simillima, petiolis et nervo mediano praesertim inferne lucide purpureis v. fusco-purpureis. *Pedunculi* crassi, folia aequantes v. iis paullo longiores, vulgo ± decumbentes, rarius erecti ± cupreo-colorati, glabri. *Involucrum* crassum ± obscure-dilute fuscovirens, basi lata ovata—subtruncata. *Squamae* exteriores adpressae, late ovatae, in margine praesertim apicem versus ± albido v. roseo-scariosae, caeterum saepius ± obscure v. vivide fusco-purpureae, acuminatae, apice ipso obtuso ± roseo-purpureae, interiores sat angustae, in apicem angustum obtiusculum ± purpurascentem etciliolatum attenuatae. *Calathium* sat laete luteum, 35—40mm. diametro, subplenum—plenum. *Ligulae* latiusculae, marginales dorso stria obscure olivaceo-purpurea notatae. *Antherae* pallide ochraceo-luteae, polline carentes. *Stylus* luteus, stigmatibus paullum livescentibus. *Achaenium* ± obscure olivaceo-stramineum superne verruculosum-brevissime spinulosum, ceterum laeve, pappo albo. *Habitat.* Sweden, Denmark, Northern Germany, Russia, Finland. Discovered in Britain in 1912 in very marshy meadows at Menmarsh in Oxfordshire, G. C. DRUCE. See also Handel Mazzetti *Monog. Tarax.* p. 87.

1658 (var. *g.*) SONCHUS OLERACEUS, L. var., ALBESCENS, Neuman. (Sundsvalls, *Alm. Lärov. aarsed.*, 1889, and Neum. *Sveriges*

Flora, 1901, p. 57). The corollas are really white, with a grey lilac stripe on the underside, but the pollen is orange-yellow, giving a pale yellow tint to the whole capitulum. Galway City. *New Phyt.*, 1912, p. 120. C. H. OSTENFELD.

1694 ERICA CINEREA, L., var. SCHIZOPETALA. Floribus majoribus; corollis profunde quadripartitis; sepalis lineari-acuminatis, atro-purpureis, pellucide marginatis. Ringwood, in com., Hanton. D. Hazelby invenit. G. S. BOULGER in *Journ. Bot.*, 1912, p. 315. Mr Hazelby kindly sent me a specimen which I found was identical with a plant which had been sent me by Mr Francis Dickinson from the Common at Crockham Hill, near Edenbridge, Kent, in 1897, but as I thought it was a teratological modification rather than a true variety, when I recorded it in *Journ. Bot.* 1902, p. 352, I gave it no special name. G. C. DRUCE.

1696. ERICA MACKAYI × TETRALIX = × E. PRAEGERI, Ostenf., *New Phyt.*, 1912, p. 120. Craigga More, Galway, with both parents. Ovary glabrous with the exception of some hairs on the ridges; leaves broader than *Tetralix*, but much more revolute than in *Mackayi*, nearly glabrous above; the tomentum on the upper part of the stems and on the flower stalks is not dense as in *Tetralix*; the outer side of the sepals are only very faintly hairy. Plant presumably sterile. C. H. OSTENFELD *l.c.*

1780 (3). PHACELIA CIRCINATA, Jacq. f. Eclog. Am., i., p. 135, t. 91. Alien, North Amer.; Chili. Tweedside, 1912, Miss IDA M. HAYWARD.

1792. SYMPHYTUM PEREGRINUM, Ledeb. In the *Journ. Bot.*, 1912, p. 332, Dr Cedric Bucknall has described three new hybrids of this species with *S. officinale*, i.e.

× S. DISCOLOR (S. OFFICINALE type × < PEREGRINUM), Somerset and Gloster.

× S. LILACINUM (S. OFFIC. × var. PURP. × < PEREGRINUM), Land Yeo, Wraxhall.

× S. DENSIFLORIUM (S. OFFIC. var. PURP. × < PEREGRINUM), Somerset and Gloster. He also describes

× S. CAERULEUM Petitm. (S. OFFIC. type × PEREGRINUM), Telford, Surrey, E. S. MARSHALL; Selkirk, G. C. DRUCE.

1855. (2) DATURA LAEVIS, L., fil. (*D. inermis*, Jacq., teste Ind. Kew.) See Nyman *Conspect.*, p. 524. Alien, Ital., adventiv. Acton Green, Middlesex, Sep. 1900, *Herb. Druce*, A. LOYDELL.

1859 (3). NICOTIANA TABACUM, L., *Sp. Pl.*, 1753, p. 180.

1859 (4). N. ACUMINATA, Hook. *Bot. Mag.*, t. 2919.

1859 (5). N. ALATA, Link and Otto *Ic. Pl. Rar.*, 1828-31, i., p. 63, t. 32. Rubbish heap, Timberley, Cheshire. Rev. T. STEPHENSON ex W. H. GRIFFIN, 1912. All S. American aliens.

1864 (2). VERBASCUM BOERHAVI, L. Alien, Reg. Medit. See *Fl. Bristol*, p. 451.

1864 (3). V. SINUATUM, L. Alien, Eur. mer. See *Fl. Bristol. l.c.*

1864 (4). V. SPECIOSUM, Schrad. Alien, Eur. or. See *Fl. Bristol, l.c.*

1873 (2). LINARIA ITALICA, Trev. Alien, Eur. mer. See *Fl. Bristol*, p. 455.

1877. LINARIA PURPUREA × REPENS = × *L. Dominii*, mihi. Foliis anguste lanceolatis vel linearibus, inferioribus, verticillatis, superioribus sparsis, racemis densis, longis; Calycis laciniis linearo-lanceolatis, acutis, 3—5 mm. longis; Capsula brevioribus; Corolla violaceo-lilacina, cum striis purpureis; Calcare obtuso, curvato, 5mm. longo.

These plants came up where *L. purpurea* and *repens* grew together and were distinctly intermediate in character. The evidence of *purpurea* is seen in the more upright and stronger growth, in the longer and denser raceme, in the darker colour of the flowers, in their shape, in having a less prominent orange spot on the palate, and in the size and shape of the spur, which is longer and thinner than in *repens*. The presence of *repens* is shewn by the striations on the corolla, which is longer and more open, the lip slightly larger, and by the shorter and blunter spur, while the raceme is shorter and less crowded than in *purpurea*. The capsules had a certain number of infertile seeds.

Dr Domin and Dr Stapf saw the plants in my garden, and I believe were convinced they were hybrids. *Habitat*, Oxford, 1912. Ref. No. 4910. G. CLARIDGE DRUCE.

1931. EUPHRASIA SUECICA, Murbeck and Wettstein in Wetts *Monog. der Gatt. Euphrasia*, 1896, p. 297. Sie ist eine frühblühende Parallelform zu *E. stricta*" and "unterscheidet sich von dieser durch die unverzweigten oder, in oberen Teile, verzweigten Stengel, durch die verlängerten Internodien, die weniger spitzen Blattzähne und die frühere Blüte-zeit (Mai bis Juli). Sie sieht der *E. tenuis* Brenn. habituell ausserordentlich, ähnlich, unterscheidet sich aber von ihr durch den Mangel der Stieldrüsen." This interesting early-flowering Euphrasia I gathered in turfy places above Grass Wood, Grassington, Yorkshire, and Dr Lindman suggested to me that it might be this species, a name which Dr R. von Wettstein has confirmed. G. C. DRUCE.

1933 (2). EUPHRASIA FENNICA, Kihlman. This Euphrasia I gathered many years ago on Exmoor, Somerset, and more recently near Clifden, Connemara, Ireland. Dr Lindman first suggested the name, which has been corroborated by Dr R. von Wettstein. It is a small flowered form, with long glandular hairs. G. C. DRUCE.

1960. MELAMPYRUM PRATENSE, L. Under this comes M. VULGATUM, Pers. var. HIANS, Druce, which is the plant with deep yellow-coloured flowers, and nearly simple bracts, which was thought by some of the members of the International Excursion of Phyto-Geographers to be the same as *M. paradoxum*, Roniger. But so far as the Scottish and North Country plants are concerned M. Beauverd agrees with me in keeping them distinct. Neither is *hians* identical with *M. vulgatum* var. *chrysanthum*, Beauv, which has a hairy style (it is glabrous in *hians*), and the interior of the corolla which is papillate in *chrysanthum* is scabrous in *hians*. I had already come to the conclusion that the plants from the South of Ireland and Devonshire must be separated from my *hians*, since the bracts are usually more or less cut, the calyx teeth are longer, and the habit of the plant is somewhat different. These Southern plants belong to an undescribed form near *M. paradoxum*, Roniger, which awaits further study. As I have elsewhere (*New Phyt.*, 1912, p. 360,) said that while the division

into two species of *M. pratense* may be justified, yet it appears untenable to use the name *M. vulgatum*, Pers., since Persoon, *Syn.* 1807, ii., p. 151, merely changed the name *pratense* to *vulgatum*, because as in the case of *sylvaticum*, the name was unsuitable. It is true he cites *Eng. Bot. t.* 113 for *vulgatum*, and as that plate represents a different plant from that of more Northern Europe, Continental botanists are using *vulgatum* to represent the split from restricted *M. pratense* L., of which as yet we have no certain British record, although it may be that some of our mountain plants from Scotland may be found to belong to the restricted species. The vars. *latifolium* and *ericetorum* certainly I think belong to *vulgatum*.

1994 *h.* MENTHA AQUATICA, L., var. DENTICULATA, H. Braun. Much less hairy than type. Leaves broadly oval, remarkably blunt, all subcordate at base, feebly toothed. See *Fl. Bristol*, 1912, p. 468.

1999. MENTHA RUBRA, var. RARIPILA, Briquet in *Bull. Herb. Boiss.*, 1896, iv., p. 782. Near Perranwell, Cornwall. I. P. E., 1911. Named by M. Briquet. G. C. DRUCE.

2035 (2). NEPETA GRANDIFLORA, Bieb. Alien, Caucasus. Uxbridge, Middlesex, *Hb. Druce*, A. LOYDELL.

2088 *b.* PLANTAGO PSYLLIUM, L., var. AGRESTIS, Salzm., ex Steud. *Nom.* ed. 2, ii, p. 347 as a species. Alien, Spain. Galashiels, Miss I. M. HAYWARD.

2091 (2). PLANTAGO HUDSONIANA, mihi. Hudson (*Fl. Ang.* 1762, p. 53) bases his *P. montana* on the plant described in Ray's *Synopsis*, 1690, p. 126, as "*Plantago an Alpina angustifolia* J. B.? Narrow-leaved Mountain Plantain. In rupibus Trigvylchau supra lacum Llyn Bochlyn . . . D. Lloyd," and it is represented in the Dillenian Herbarium by a specimen gathered by Samuel Brewer from that Carnarvonshire locality; which shows that it is a mountain Plantain allied to, and by recent authors merged into *P. maritima*. Hudson, however, in his description of *P. montana*, unfortunately confused it with a form of *P. lanceolata* as is seen by his words, "foliis lineari-lanceolatis basi lanatis, spica subrotunda, scapo tereti" which evidently refer to the variety which

I identified with *P. lanceolata*, var. *sphaerostachya*, Rohl. (see *Journ. Bot.*, 1907, p. 21), but which does not apply to any form of the British *P. maritima*. This view is supported by Dr Richardson, who in a letter to Sherard, dated 1st April, 1726 (*Richardson Correspondence*, p. 239), says "At the top of the Glyder are Trigvulcaugh rocks; on the north side of which growing out of the clifts of the steep rocks, you'll find the *Plantago minor angustifolia*, J.B.: this seems to me a distinct plant from the marine one; the leaves are shorter, narrower, and more rigid; the spikes are shorter. I have kept it in my garden ever since I was in Wales with Mr Lloyd, and it never varies: that from the bishoprick of Durham, and also from Northumberland is no other than the marine one. I have this also in my garden." Moreover, in the third edition of Ray's *Synopsis*, p. 315, Dillenius adds to the original name "Plantam hanc e rupibus Trigvylcaugh orientem spectantibus in hortum nostrum intuli, ubi jam viret; D. Richardson. Plantagini marinae Ger. tam similis est ut distingui nequeat. Spica saltem gracilior est, quod loci conditioni procul dubio debetur." In a letter dated Oct. 25th, 1726, Richardson says he wishes Dillenius had been on the high rock Trigvylchy, which is at the very top of the Glydyr, "that you might have gathered *an Plantago alpina angustifolia*? J. B. of Mr Lhwyd then in flower"; he repeats the observations about it which he made to Sherard, and adds that it has remained constant to its characters in his garden. Therefore there is no doubt about the plant which Ray described and which Dillenius had in view, both from the description and from the herbarium specimen.

Buddle, (see *Herb. Sloane*, cxxiii, *Herb. Brit.*, x, *fol.* 33) has two specimens, one of which is the foregoing, but the other is a form of *lanceolata* which he wrongly says is the *Plantago vero*, D. Lhwyd, and this error is also made by Hudson in his description (not in the synonym) and by Sir Joseph Banks and other more recent authorities. Hudson, however, in 1778, in the second edition of the *Flora Anglica*, found that his description of *P. montana* was wrong, and puts the plant of Ray under *P. maritima*, as var. γ giving no Latin, but only the English name—the Mountain Plantain, uniting as a variety under the same species the erroneously named *P. Loeflingii* of the preceding edition. This arrangement is also adopted by Stokes in his edition of Withering of 1787, while Smith, in *Flora Britannica*, 1800, vol. i., p. 184, makes *P. montana* simply synonymous with *P. maritima*, as he does also in the *English Flora*, 1824, i., p. 216, adding a note that

Hudson mistook the slightly toothed specimens of *P. maritima* for *P. Loeflingii*, L., "owing to the figure of Petiver . . . . being erroneously cited by Linnaeus. On the other hand, Ray himself took mountain specimens of our *P. maritima* for an exotic species of Bauhin the *Plantain noirâtre (P. nigricans)* of Reynier's herbarium, which Haller confounds with *lanceolata*, and which others have referred as inaccurately to *alpina*. Dillenius, between brackets, in the *Synopsis* corrects Ray's mistake." In 1856 Babington, (*Manual*, p. 272) says this "Mountain Plantain is apparently *P. serpentina*, Vill., . . . It is probably a distinct species," but in 1874 (*Manual*, p. 289) says it may be *P. serpentina*, Vill., or *P. alpina*, L., whereas Syme (*Eng. Bot.*, vii., p. 173), was unable to distinguish the mountain from the shore plant even as a variety.

Williams (*Prod.*, 1909, pars. 6, p. 361) definitely identifies Durham and Carnarvon plants as *P. maritima* var. *alpina*, L., characterised as "Rhizoma subterraneum rectum nec ramosum nec tortuoso-rugosum, pivotans, profunde prolongatum. Folia plana [?] nec coriacea, nec margine ciliata, integerrima vel 1—2 denticulis utrinque instructa trinervia, nervis haud equidistantibus, 2 lateralibus quidem fere juxta marginem currentibus. Scapi 4—15 cm., adpresse pilescentes vel hirsuti, rarius glabri. Bracteae minus obvie carinatae, plerumque paullo breviores. Corollae lobi lanceolatae acuti. Semina $1\frac{1}{2}$ mm, magis oblonga nigricantia." I have also gathered plants answering to this description on Widdybank, Durham, on Sgurr Alaster, Skye, and on the Glydyr, Carnarvon, but I hesitate to identify them with *P. alpina*, L.—a plant of the Central and Eastern Alps—and consider them a distinct race for which I suggest the name PLANTAGO HUDSONIANA. On the standard of Bentham's *Handbook* or Hayward's *Pocket Book* it would stand as *P. maritima* var. *Hudsoniana*. *P. montana*, Huds., has recently been used incorrectly in Dalla Torre's and Sarnthein's *Flora Tyrol*. As will have been gathered, the description of that plant refers to a form of *P. lanceolata*, while the synonym cited is Ray's plant which I call *Hudsoniana*, and neither are identical with the Tyrolean species G. C. DRUCE.

2092. PLANTAGO LANCEOLATA, L., var. DUBIA (L. *Fl. Suec.*, 1755, p. 46, as a species) Lilj. *Svensk Fl.*, ed. 2, 1816. Silverdale, J. A. Wheldon, see *Report* 1911, p. 116, and from Roundstone, Galway, G. C. DRUCE.

2098. (6) PLANTAGO MEDIA, L., var. LANCEOLATIFORMIS, mihi. Foliis erectis, pubescentibus, cum longis capillis articulatis, late lanceolatis (16 × 4 cm.), recurvis, 5—6 nervosis, apicem versus contractis, et paullatim contractis in longos petiolos canaliculatos, qui paullum alati sunt ad basim : Scapo ad basim paullum curvato, dense piloso, non sulcato, foliis longiore, cum capillis adpressis articulatis : Spicâ terete, paullum fastigatâ, 4—5 cm. longâ Bracteae margines manifeste argenteos habent.

Syme (vide *Engl. Bot.*) no doubt knew this form, whose appearance is so intermediate between *media* and *lanceolata* as to suggest that the plant is a hybrid of these species, but since the inflorescence appears quite that of normal *media*, it seems wiser, with our present knowledge, to keep it as a variety of that species. Clevedon, Somerset, 1885; Kingsthorp, Northants, 1873. G. C. DRUCE.

Gen. 506. CHENOPODIUM, L.

My friend, Dr Murr, the well known expert on this genus, has been examining recently my set of the *album* group. The plants which he names include the following which have not previously been reported from Britain.

2123. CHENOPODIUM OPULIFOLIUM × ALBUM, (sub-sp. *striatum*)= × C. WHELDONI, Murr. Aintree, S. Lancas., Sep. 1901 (See *Report* 1906, p. 240), J. A. Wheldon. Locum obtinet inter × *C. Ludwigianum (C. opulifolium* × *striatum* f. *intermedia)* et × C. *Preismanni (C. opulifolium* × *album)* folia majora fere condensae in *C. Preismanni*, folia minore (axillaria) striatiformia, viridia, ovata obtusa, obtusiloba ut in *C. Ludwigiano*. Quamquam *C. opulifolio* valde propinquum, etiam ego inclino ad hybriditatem hujus plantae imprimis proter folia p.p. laete viridia et formam foliorum axillariam. Omnino congruens planta inter multa mea specimina *C. albi* × *opulifolii* non existit. Potius ponam serie *C. opulifolium* × sub. sp. *striatum*. In *C. Wheldoni* folia imprimis inferiora magis glaucescentia omnia perspicue subtriloba, ceterum omnia minora, *C opulifolia* pumiliora quam in *C. Ludwigiano*, glomeruli magis farinosi nervatura in fol. axillaribus anastomosa ut in *C. striato* et *Ludwigiano*. J. MURR, in *lit.*

2124. C. ALBUM, L., var. d. SERRATIFOLIUM, Murr. Sewage Works, Northants, 1877; Arnley, Leeds, J. CRYER, 1905; Par, Corn-

wall; Bournemouth, S. Hants; Odiham, N. Hants, C. E. PALMER, 1894; Ham, Dorset, B. KING, 1878; Hessle, York, C. WATERFALL, 1899; Dorchester, Oxon, 1882.

2124. Var. e. PAUCIDENS, (Murr, as sub-species.) Near The Grange, North Hants, 1911; West Drayton, Middlesex; Port Meadow, Oxford, 1893; Odiham, N. Hants, C. E. PALMER, 1899; Chobham and Pyrford, Surrey (4920); Northampton, 1877; Symond's Yat (Ref. No. 1620), Gloster W. A form closely allied to *C. viride*, L.

2124. Var. f. C. SUBFICIFOLIUM, (Murr, as sub species.) Par, Cornwall, 1909; Botley, Oxon, 1890 "ad *paucidens* vergens"; Waste ground, Oxford, 1896; Par, Cornwall, 1900; Slough, Bucks; Ware, Herts, 1912; Galashiels, Miss I. M. HAYWARD, 1912.

2124 (2). C. PSEUDOPULIFOLIUM, J. B. Scholz, Osney, Oxford, 1884. Dr Murr says "haec pl. foliis crassioribus minus argute dentatis obtusioribus inflor. ut typo *pseudopulifolii* rubiginosa." This is, according to Dr Murr, a species quite distinct both morphologically and geographically. A plant probably belonging here was sent from Galashiels by Miss Hayward in 1912.

2124 (3). C. PSEUDOSTRIATUM, Zschacke, as sub-species. Slough, Bucks, 1907, "*striatum* > *album* J. Murr; glomeruli parvi flavescentis ut *C. striatum* sub. sp. *pseudostriatum* etiam locis provenit, ubi *C. striatum* typo ex aliquo causa hodie non invenitur." Leicester ad *pseudostriatum* vergens foliis *C. striatum* revocantibis. Sewage Works, Northampton "*striatum* > *album* foliis minus laete viridibus qua *C. striato*, acutioribus, marginibus minus parallelis," &c.

2124. (4). C. BERNBURGENSE, Murr, as sub-species. High Wycombe, Bucks, July 1899, ref. no. 1007; not *C. glomerulosum* (glomeruli non evoluto), which Herr Freyn had named it.

2124 (5). C. LANCEOLATUM, Muhl. in Willd. *En. Hort. Berol.*, p. 291, Thames side, Oxford, Sep. 1906, ref. no. 1996; Taplow, Bucks, 1904; Acton, Middlesex; Sark, 1906.

2124 (6). CHENOPODIUM BORBASIFORME, Murr, as a sub-species. Near Pyrford, Surrey, 1912, G. C. DRUCE.

2124 (7). C. LANCEOLATIFORME, Murr, in Ascherson *Festschrift*, 1904, p. 216. Alien, Asia orient. "Fol. super. acutissime mucronulatis, glomerulis parvis olivaceis; fol. laetius viridibus, &c." J. Murr. Roedean, Sussex, 1907, G. C. DRUCE.

2131 (2). C. STRIATUM, Kras. (see Murr *Deutsch Monats* xiv., p. 32). Twerton, Somerset N., 1897, J. W. WHITE, as *C. glomerulosum* Reichb, and so named by Prof. Sagorski (see *Report* 1897, p. 562, and *Fl. Bristol*, p. 506). The late Herr Freyn, however, disputed its identity with the plant of Reichenbach, and suggested it belonged to the group *spicatum* of Koch. Dr Domin thought it approached *striatum*, which it will be seen Dr Murr now names it. Alien of E. Indian origin which has spread into Hungary and many places in the South of Europe. It is probably derived from the Indian *C. rubricaule* Schrad., which, teste Murr, is probably the true *C. serotinum*, L.

2131 (3). C. HIRCINUM, Schrad., *Ind. Sem. Hort. Gott.*, 1833, p. 21= *C. Ducrerianum* Murr, cf. *Allg. Bot.*, 1903, pp. 109-112, cum iconibus, fig. 11, 12. Alien, Amer. austral. Exeter, 1908; Milverton, Warwick (as *opulifolium*, BROMWICH in *Report* 1898); Galashiels, Selkirk, 1909, Miss IDA HAYWARD and G. C. DRUCE; Par, Cornwall, Aug. 1908; Bayswater, Oxford, 1912, G. C. DRUCE.

2131 (4). C. BERLANDIERII, Moquin, *Chen. Enum.*, p. 23. Alien, America. Par, Cornwall, G. C. DRUCE, Aug. 1909. Here the plant showed considerable variation, some specimens suggesting a cross with *album*, the × *C. texanum* Murr. Galashiels, Miss I. M. HAYWARD, 1912.

2131 (5). C. ZSCHACKEI, Murr, as sub. sp. Alien, America. Par, Cornwall, Aug. 1908.

2131 (6). C. AMBIGUUM, R. Br., *Prod. Fl. Nov. Holl.*, i, p. 407. Alien, Australia. Galashiels, Selkirk, 1911, Miss I. M. HAYWARD.

2131 (7). C. CARINATUM, R. Br., *Prod. Fl. Nov. Holl.*, i, p. 407. *Blitum carinatum*, Moq. in DC. *Prod.*, 1849, xiii (2), p. 82. Alien, Australia. Galashiels, Selkirk, 1911. Miss I. M. HAYWARD.

Dr Murr remarks that the question of *Chenopodium paganum* Reichb. is still undecided. "According to the older authors it is identi-

cal with the plant I call *C. paucidens* (= *C. album* > *viride*), but considering all points, I prefer to assign it to *C. viridescens*, St. Aman., but these two varieties are sufficiently near and are united by a continuous series of forms. *C glomerulosum* of many botanists, not of Reichb. = *C. microphyllum*, Coss. and Germ. = sub. sp. *C. striatifolium*, mihi; it is closely related to *C. striatum*, both in origin and characters, e.g., the small olive-coloured glomerules, and the leaves green above and glaucous below. According to authentic examples, *C. glomerulosum*, Reichb. is nothing more than an insignificant form of *C. album-viride* (*C. paucidens*, mihi) with smaller glomerules."

2166. DONDIA [SUAEDA] MARITIMA, Druce var. MACROCARPA, Moquin. See *Report* 1911, p 118. Isle of Wight; Havant, S. Hants; Crouch, Essex S.; Gravesend, Kent; Yarmouth, Norfolk E. G. C. DRUCE.

2147 *b*. ATRIPLEX HASTATA, L., var. OPPOSITIFOLIA, DC. Moquin in DC. *Prod.*, xiii (2) p. 95. Caule ascendente vel prostrato, foliis saepius oppositis deltoideis vel subhastatis integerrimis vel subintegris, bracteis triangularibus vel subrhombeis margine denticulatis aut integris convexis dorso muriculatis vel inappendiculatis, seminibus minutis. Wigton, Scotia, G. C. DRUCE. Named by Dr O. Paulsen.

2179. POLYGONUM MINUS, Huds. var. DUBIUM, Braun. See *Report* 1911, p. 119, Hurst, Berks; Amberley, Sussex, etc. M. Rouy *Fl. Fr.* xi., p. 100, refers *dubium*, Braun, to *P. mite*. G. C. DRUCE.

2184 (3). POLYGONUM CALCATUM, Lindman. On the road side Arthur's Seat, Edinburgh. Closely allied to "*P. aviculare* L.," but distinguished from all forms of that by its fruit which is subtrigonous to sub-bifacial not trigonous and the sides of which are convex not concave. A small prostrate plant, growing amongst and almost hidden by grass. Professor Lindman agrees that the plant is his *P. calcatum*. C. E. Moss in *lit.*

I found a hybrid of this plant with *aequale* in Bucks last July which assumes the presence of *calcatum* in that county. G. C. DRUCE.

2184. POLYGONUM AVICULARE L. Dr Carl Lindman has in an erudite paper (*Svensk Botanisk Tidskrift* 1912 pp. 673-696 tt. 4.) dis-

cussed the forms of this polymorphic species, and names, describes, and figures two :—

(1) P. HETEROPHYLLUM Lindm. n. sp.

Caulis erectus rigidus ramis ramalisque suberectis vel paulum divaricatis, rarius procumbens ramis humifusis, long 2—6 dm ; internodia infima c. 3—5 cm. longa. *Folia* polymorpha, caulina majora late lanceolata v. obovato-lanceolata v. anguste lanceolata v. sublinearia, c. 2—4 cm. longa, ramorum dimidio breviora lanceolata v. oblonga, ramulorum minima et multo angustiora, lineari-oblonga v. lineari-lanceolata ; omnia distincte acutiuscula, colore laete viridia. *Cymulae* aut *flores* solitarii, secundum ramulos saepe productos racemosi vel subspicati, foliis minimis fulti. *Perigonium* e podio brevi patelliformi choritepalum, lobis podium longitudine pluries superantibus, dorso laete viridibus, marginibus albis roseis purpureisve perlatis, fructum saepissime superantibus occultantibus. *Nux* trigona, ovata vel subelliptica, 2—3 mm. longa, faciebus canaliculatis v. subplanis, minute longitudinaliter striatis, opaca v parum nitens, facie maxima late ovata vulgo symmetrica marginibus concinne arcuatis apice in apiculum excurrentibus ; colore hepatica v. castanea rarius nigrescens.

Syn. *P. aviculare* L. *Sp. Pl.* pro parte, sec spec. in *Herb. Cliff. (H. Br. Mus.)* and *Herb. Linn. P. av.* var *erectum*, Roth *Tent. Fl. Germ. P. monspeliense*, Thieb. in Pers. *Syn.* I., p. 439 ex p. *P. av.* var. *vegetum* (Led.) Meissn. in DC. *Prod.* 14, p. 97 ex p. *P. av.* var. *erectum* ibid. et Lange, *Haand.* ed. 4, p. 297. *P agrestinum*, *P. denudatum*, *P. humifusum*, Bor. *Fl. Fr.* ed. 3 ex p.

Var. EXIMIUM, Lindm. vulgo-elatum, caule firmo, basi ad 3 mm. diam. ; foliis infimis obovato-lanceolatis ad 4 cm. ; *modif.* foliis anguste lanceolatis acutissimis.

Var. ANGUSTISSIMUM (Meissn. in DC. *Prod.* 14, p. 98), caule ramisque longissimis tenerrimis, foliis lineari-lanceolatis longe attenuatis, ochreis ad 13 mm. elongatis perspicue candidis, fructu saepe angustiore, lanceolato. Syn. *P. flagellare*, Spr. *Syst.?* *P. neglectum*, Bess. *P. polycnemiforme*, Bor. [Perranwell, Cornwall (4942), 1912. G. C. DRUCE.]

Var. CAESPITOSUM, Lindm. differt a typo statura humili, robusta, decumbente, implexe ramosa, saepius brevifolia, an proles hybrida, habitu a *P. aequale* recepto? *Syn. P. av.* var. *depressum*, Meissn. *l.c.* ex. p.

Var. LITORALE (Link, in Pers. *Syn. l.c.*) non Meissn. differt a typo foliis late spathulatis, apice rotundatis, carnosulis, modifacio halophila. Syn. *P. av.* var. *crassifolium* Lange, *Haand.* ed. 3 vide *Bot. Not.* 1896, p. 75. [Drummore, Wigton, 1909, G. C. DRUCE.]

Var. BOREALE (Lange, *Emend.*) forma borealis, subsimplex, subhomophylla, foliis saepe obtusis carnosulis; praecox jam ab ipsa basi abunde florens, a var. *littorali* haud satis diversum. [Loch Leven, Fife, 1912, G. C. DRUCE.]

Sub. sp. RURIVAGUM, Boreau. [Henfield, Sussex, 1911, T. HILTON.] Syn. *P. microspermum* (Jord.) Bor.

(2) P. AEQUALE, Lindm. n sp.

Caulis vel erectus vel ascendens ramis saepe longis subsimplicibus divaricatis cum caule laxis, vel prostratus ramos terrae adpressos undique emittens, long 1—4 dm.; internodia basalia 1—3 cm. longa. *Folia* caulis ramorumque magnitudine aequalia vel diversa, omnia vulgo eadem forma, nunc late spathulata v. late elliptica, nunc obovato-oblonga v. lingulata rarius anguste oblonga v. sublinearia, obtusa, colore triste viridia v. glaucescentia v. canescentia. *Flores* vel *cymulae* axillares, nec distincte racemosi. *Perigonium* e podio turbinato choritepalum, lobis podium aequantibus vel duplo longioribus, dorso triste viridibus marginibus angustis albidis, fructum aequantibus v. paullo brevioribus. *Nux* trigona c. 2—3 mm. longa, e basi ovata lanceolatave nunc breviter pyramidalis, nunc rostrata, marginibus recta linea rostrum vel apicem pyramidalem obtusum vel acutiusculum non apiculatum formantibus, colore rarius hepatica, vulgo nigra, faciebus subtiliter v. indistincte striatula v. punctulata subnitens.

Syn. *P. aviculare*, L. *Sp. Pl.* ex. p., sec spec. in *Herb. Cliff.* and *Herb. Linn. P. monspeliense* Thieb. in Pers. ex. p. *P. av.* var *vegetum* (Led.) Meissn. *P. agrestinum*, *P. arenastrum*, *P. humifusum*, Bor. ex. p. *P. litorale*, Heldr. non Link.

Variae aliquanto minus quam *P. heterophyllum* sed aequo modo formas diversas producit.

Sub. sp. OEDOCARPUM, Lindm. distincte heterophyllum quoad magnitudinem foliorum, grande, robustum, fructu majore ad 3 mm. l., latiore incrassato; herba nunc erecta nunc ascendens. Forsan *aequale* × *heterophyllum*?

P. AEQUALE × HETEROPHYLLUM? Growing with both species near Stow Wood, Oxford. I now prefer to say "P. HETEROPHYLLUM paulo cum *P. aequali* mixtum." C. Lindman, in *lit.*

P. AEQUALE × CALCATUM, Lindm. Lacey Green, Bucks., G. C. DRUCE. So named by Prof. Lindman.

2256. BETULA PUBESCENS, Ehrh., var. PARVIFOLIA, Regel, and var. FRIESII, Regel, near Dalwhinnie, East Inverness. *Report*, 1911, p. 123, Marshall and Shoolbred. But Regel made them varieties of the subspecies *pubescens*.

2258 *c* and *d*. ALNUS GLUTINOSA, Gaertn., var. MACROCARPA, Requien, *Ann. Sc. Nat.* 1825. p. 381. Asch. and Graebn., *Syn.* 1911, p. 419. Female Catkins, 3 cm. long, Berks. Var. MICROCARPA, Uechtr., A. and G. *l.c.* 1911, p. 419. Female Catkins, 1—1·5 cm. long and 0·5 cm. broad, Northants, Oxford, Berks, Hants., G. C. DRUCE.

2266. FAGUS SYLVATICA, L., var. HETEROPHYLLA, Loudon. *Report* 1911, p. 124. Minchinhampton, Gloster, F. L. FOORD KELCEY.

2327. ORCHIS MACULATA × HABENARIA VIRIDIS, nov. hybr. Winchester Downs, Hants, R. QUIRK, in *lit.*

2405 (2). ALLIUM DIOSCORIDIS, Sibth. and Sm.=*A. siculum* Ucria. Alien, Eur. or. St. Vincent Rocks, *Fl. Bristol*, p. 594.

2465. SPARGANIUM NATANS, L., vel S. AFFINE, Schniz. var. c. DIMINUTUM, Neum. Loch na Criche, Moidart, S. MACVICAR ex ARTH. BENNETT, *Scot. Bot. Rev.*, 1912, p. 95.

2466. S. MINIMUM, Fr., var. b. FLACCIDUM, (Meinh.) Mél. Biol. 1893. xviii., 3, p. 393. Isle of Gigha, 101, A. SOMERVILLE; Colonsay, M. MCNEILL, 102; var. c. ROSTRATA (Larrs), Islay, 102, A. SOMERVILLE ex AR. BENNETT, *Scot. Bot. Rev.* 1912, p. 95.

2482. TRIGLOCHIN MARITIMUM, L., var. a. SEXANGULARE. Capsulae acuato sexangulares, quasi in collum constrictae, planta minor, gracilior. Reichb. *Ic. Fl. Germ.* vii, pp. 28—51. Ic. a.b.c., Below Wisbeach, Cambridge; Portsmouth, S. Hants; Babbicombe, S. Devon; Brodick, Arran. Var. b. EXANGULARE: Capsulae exangulaıes, nec in collum constrictae, planta robustior et magis succulenta *l.c. Ic. d. e. f. Hook. Fl. Lond. t.* 99.

2538. SCIRPUS CAESPITOSUS, L.

Var. GERMANICUS (Palla) A. & G.	Var. AUSTRIACUS (Palla) A. & G.
A rather slender plant.	A coarser plant.
Mouth of uppermost sheath rather deeply cut, mostly up to more than 3 mm., with rather broad mostly red-coloured and loosely appressed membranous margins.	Uppermost sheath with mouth not deeply cut mostly not more than 1 mm. with narrow whitish or pale brownish closely appressed membranous margins.
Spikes rather large, many flowered.	Spikes rather small, few flowered.
Bristles of the perigonium papillose on the top.	Bristles mostly not papillose at the top.
Older sheaths covering the bases of the shoots, hardly shining, pale brownish, often dark from decaying matter.	Older sheaths larger and more loosely arranged, bright pale brown shining.
Habitat. New Forest, Hants; Hebrides, O. PAULSEN; Craigga More Galway.	*Habitat.* Meachop Moss, N. Lancas; Ben Lawers, M. Perth.

See C. H. Ostenfeld in *New Phyt.*, 1912, p. 125. These varieties were originally described by Palla *Ber. Deutsch. Bot. Ges.* 1897, xv, pp. 467-471, as respectively *Trichophorum germanicum* and *T. austriacum*. The former is confined to the North German Plain, the German 'Mittelgebirge,' the French Plain, Scotland, and the South Scandinavian Plain: the latter is a northern and alpine species found in Greenland, North America, the Himalaya, Northern Europe, and the Central European Mountains, and Ostenfield, *(l.c.)* believes it is probably confined to the deep *Eriophorum* moors of North England and Scotland. Ascherson and Graebner, *(Syn. Fl. Mittel. Eur.*, 1903, ii, 2, p. 300*)*, unite Palla's species as varieties of *Scirpus caespitosus* a course which, notwithstanding the alleged extensive differences in anatomical structure, will doubtless commend itself to our readers. *Germanicus* is the common British plant. Omagh, Tyrone; Glenarm, Antrim; Clova, Forfar; Moor of Rannoch, Argyll, etc.

2650 (2). PHALARIS TRUNCATA, Guss. Alien, Eur. mer. Leith Docks, one plant, *Scot. Bot. Rev.* 1912, p. 40, J. FRASER.

2669 (3). ORYZOPSIS MULTIFLORA, (Beauv)., comb. nov. Alien, Eur. Recorded from Musselburgh, Mid Lothian, by J. FRASER in *Scot. Bot. Rev.* 1912, p. 40, as *Piptatherum multiflorum*, Beauv.

2718 (2). AVENA STERILIS, L., var. LUDOVICIANA, Gillet. Alien, Eur. mer. Galashiels, Selkirk, Miss IDA M. HAYWARD, 1911, vide spec. Named by Prof. Hackel.

2759 (2). POA IRRIGATA, Lindman in *Botaniska Notiser*, 1905, p. 87. Diagnos: Poa ex affinitate *Poae pratensis*, herba uliginosa, rarius sylvatica umbrosa, glabra, pallida vel glaucescens; Culmi 3(—2—4) dm. alti, rigidiusculi, erecti, stricti, solitarii, singuli e stolonibus laxis orti, innovationibus iisdem laxe dispositis, singulis vel paucis ex apice stolonis natis; Folia innovationis angusta rarius latiuscula, conduplicata vel planiuscula, vulga brevia, circa 1 dm. longa, saepius incurva, pagina superiore glaucescenti; folia culmi perbrevia, indole *P. pratensis*, summum longe a panicula distans; Ligula brevis truncata, 1—2 mm. longa; Panicula parva, laxa, ramis vulgo binis rarissime ternis, horizontaliter patentibus pyramidalis, nunc ovata, nunc oblonga, post anthesin non contracta vel ramis insigniter deflexis; Spiculae paucae vel perpaucae, majusculae, 5—6, 5 mm. longae, breviter pedunculatae, pedunculo saepius scaberrimo, forma anguste obovatae basi subcuneatae, 2—3 florae; Glumae longae subaequales (gluma 1 long. 4—5 mm.) valvulas aequantes vel subaequantes, lanceolatae cuspidatae; saepe incurvae, glaucescentes vel violascentes vel intense purpureo-violacae, pruinosae, dorso scaberrimo, lateribus planis laevibus, textura mox firma et colore albescente demum eburneo; Valvula anguste ovata vel lanceolata, leviter tomentosa, long. 3, 5—4, 5 mm.; Antheræ flavidae vel subviolascentes, magnitudine *Poae pratensis* long. 1, 5 mm. Caryopsis brunnea vel subcastanea, major, long. 2—2, 3 mm. diam. 0,5—0,6 mm.

Hab. in uliginosis, pratis et viarum marginibus irrigatis, fossis graminosis solo abiegnorum muscoso humido, haud raro in pratis litoralibus, hinc inde in pascuis solo duriore turfoso. In Oeland, Gotland, Ostrogothia, Sudermannia, Uplandia, Vestmannia, Dalecarlia, Lapponia. CARL LINDMAN, *l.c.*

The history of *Poa irrigata* as a British plant is not without interest, and offers many suggestive points. I first recorded it as *Poa humilis* in the *Annals of Scottish Natural History* for 1895, pp. 37 and 128, from the Cnochan Rocks, in West Ross, and W. Sutherland, where I gathered it in the preceding year. But subsequently, in July 1894 and 1896, I found a striking form in very small quantity (my ref. no. 2512) which grew in grassy places 2500-3500 feet on

Ben Lawers. One of these was sent to Professor Hackel, who, in a letter dated March 13, 1898, named it *Poa cenisia* var. *flexuosa*, Wahl., new to the British flora, and as such I briefly recorded it in the *Ann. Scot. Nat. Hist.*, 1898, p. 122. Prof. Hackel remarked that the specimen, which was a weak one, differed from the *cenisia* of the Alps, but he found no difference between it and some Norwegian specimens of *flexuosa* from the Dovrefeld. I may here add that the specimens, although evidently closely related, were not identical with those previously gathered at Cnochan (and which a good British botanist named *glauca)* and those from Ben Lawers of 1894. When I compared (2512) more closely with authentic specimens of *P. flexuosa* Wahl. I became convinced that they were distinct. Therefore in July 1898 I again visited Ben Lawers and brought back a considerable gathering, but only a plant or two identical with my No. 2512. I then submitted the whole gathering to Mr H. Fisher, who was then studying this genus, and he also (August 5, 1898) determined it to be a form of *Poa cenisia* nearest to *arctica*, R. Br. and considered it was worth a distinctive name, suggesting if I gave it a description it might be called *P. cenisia* All. var. *arctica*, R. Br., forma *scotica*, as he had found an interesting difference in the leaves. On November 16, 1898, he wrote me that *scotica* was a form peculiar to Scotland, the leaf being different from any other *Poa*, and adds "very likely you also would find a character which would enable you to refer your plant with more confidence to either *P. cenisia* or *pratensis*, or may be you could satisfy yourself that it ought to take much higher rank than a form of either." Unfortunately the original gatherings 2512 which he retained, in order to prepare lantern slides, were lost or mislaid, and I have never had them back, so that it is now badly represented in my herbarium. But I may say that the suggested name of *arctica* seemed to me quite inapplicable, so I sent all my gatherings except those retained by Mr Fisher to Prof. Hackel, who, on March 22, 1899, reported that he thought all my specimens of 1898 must be referred to *P. pratensis* var. *humilis*, Ehrh., and the 2512 as a form which indeed comes close to *cenisia*, and remarked, "surely you are right in observing that what I called *P. cenisia* is not identical with the *flexuosa* of Norway or *P. arctica* . . . perhaps it would be better to say that it is a race of *pratensis*." In the *Ann. Scot. Nat. Hist.*, 1900, p. 235, I definitely withdrew the name *P. cenisia* var. *flexuosa*, Wahl. In a letter from Mr Fisher dated 1901 he speaks of

the Lawers Poa 2512 as "one of the most interesting of the whole lot. I have examined plants from all parts of the North. I should say after three years to think about it that it is a very local species, subspecies or variety, whatever you choose to call it, just about half-way between *cenisia* and the montane form of *pratensis*, but the curious thing is the length of the hairs on the ribs of the leaf, 0.5 mm. long." But still earlier than my record of *P. humilis* in 1895 I had noticed a narrow glumed form of *Poa pratensis* and one with more glaucous foliage which I gathered near Padworth in 1889. I recorded it as forma *umbrosa* in my *Flora of Berks*, 1897, p. 580. When travelling last year with Prof. Lindman he described to me his *Poa irrigata*, which we did not notice on our journey through the British Isles, the heat and drought of that year had been very inimical to grass vegetation. I then felt it might possibly be a key to a vexed question. On his recent visit to me he examined my collection, when he unhesitatingly identified my Lawers and Cnochan specimens as his *P. irrigata*, which itself has a considerable range of variation. In fact, he describes five forms—*i.e.*,

1 f. EHRHARTI, spiculis glaucis *P. humilis*, Ehrh. (nomen) secundum specimen mancum *Herb. Haun.* inscriptum "115 *Poa humilis*, Ehrh. Upsaliae."

2 f. BREVIOR, culmo humili 10—15 cm. alto. foliis brevibus vel brevissimis rigidis . . . panicula minore, spiculis minoribus long. 5 mm. vel infra, etc. Forma vulgata, Scania, Hallandia, Suecia media Saltholmen, Daniæ, = *P. humilis* Fries, *Herb. Norm.* 9, 93 B, ex max. parte.

3 f. AUCTA, major, culmo 50—60 cm. alto. . . . panic. glauca majore, ramis saepius ternis vel quaternis. Sueciae mediae. Padworth, Berks.

4 f. RIGENS, forma gracilior panicula parva, spiculis griseo-violaceis sub lente punctulato pictis. Lapponia. = *P. rigens* Hartm. *Skand. Fl.*, 1820.

5 f. PRAETEXTA, planta aliquanto robustior, panicula pluriflora, colore saepius intense coeruleo-purpurascente. In litor. balticis Sueciae. Norvegiae, Daniae, Finmarckiae (Laestad. 1838 sub nom. "var. *rigorosa*." *Herb. Stock*). = *P. pratensis* f. *costata*, Aschers. & Graebn., *Fl. Mitt. Eur.*, 1900, ex parte. Probably this from Corrie Ardran, M. Perth, 3300 feet.

As will be seen by Professor Lindman's description *P. irrigata* is closely allied to *P. pratensis*, the chief points of distinction being in the shape of the spike, etc., the length and shape of the glumes and in the size of the fruit. The glumes of *pratensis* are relatively shorter and broader, and narrow more abruptly than in *irrigata*, in which the glumes are as long or nearly as long as the lower flowers, and taper more gradually to the apex; so that the spikelets look longer and more graceful; in *pratensis* the spikelets are more ovate in outline, the spikelets are glaucous or pale-purple pruinose; the branches of the inflorescence 2 and 2 not 3—5; the basal shoots are very distant and spreading and not densely tufted. The fruit of *irrigata* as figured by Lindman is larger and considerably longer than in *pratensis*. In Britain it inhabits sea shores, wet and shady places, and grows mixed with *pratensis* on wet alpine slopes ascending to 3500 feet.

In my herbarium *Poa irrigata* is represented by specimens definitely determined by Dr Lindman from Hants N., Odiham, C. E. PALMER, 1880: Berks, Padworth, 1889, as *P. pratensis, f. umbrosa*; in *Fl. Berks*; Blackwater: Oxon, Bretch, T. BEESLEY, 1850, but the specimen is very dubious: Cheshire N., Shore of Dee, W. KIRBY, 1876: York, N.E., Tees-side near Winch Bridge, 1909: Durham, Winch Bridge, 1909: Perth, Mid., 2500-3500 feet in Ben Lawers, 1896, 1898, ref. No. 2512, and forma 1908; Ben Laiogh 3500 feet, 1896; Ben Heasgarnich, forma 1890; Corrie Ardran 3300 feet, f. *praetexta*: Argyll, Ben Laiogh, 1896: Aberdeen S., Corrie Ceanmor, 2800 feet, ref. No. 2514, 1899: Ross West, Cnochan rocks as P. *humilis*, 1894, See *Ann. Scot. N. H.*, 1895, pp. 37 and 128: Sutherland W., Cnochan, l.c.: Caithness, by the river at Thurso, 1902: Shetland, Unst, W. H. BEEBY as *subcaerulea*, 1886: George Don's *P. humilis* in *Herb. Brit. Mus.* is also I believe *irrigata* as is the plant collected at Tregayau and Tybry by the Rev. H. Davies in Anglesey, in 1799, which is the earliest specimen I have seen. It is labelled "*P. humilis, Fl. Brit.*; *P. glauca*, With.; *P. pratensis, f. alpina*, Huds. It is distinct from *P. alpina, Fl. Brit.* The 'flores' in my plant are 'villo complicato convexi' but not setose, in *alpina* they are 'libera.'" The glaucous colouring of *irrigata* evidently attracted his attention as it did mine when I first saw it on the Cnochan rocks, indeed it was so pronounced as to lead one of our best British botanists to think it was *P. glauca*, and as Prof. Lindman says, the plant has been much confounded with *P. humilis* and *P. subcaerulea*. G. C. DRUCE.

2761. POA TRIVIALIS, L. var. SUBALPINA, Beck, *Fl. Nied. Ostr.*, 1890, p. 86, Crossfell, Cumberland; Ben Lawers, M. Perth, *New Phyt.*, 1912, p. 126, C. H. OSTENFELD. I sent specimens of this plant to Prof. Hackel, but he did not separate them from type.

2769. POA ANNUA, L., var. REPTANS, Hausskn. in *Thur. Bot. Ver.*, 1891, ix., p. 7. Cold Knap, Glamorgan, as *G. distans* var. *prostrata*, H. J. RIDDELSDELL, *Report*, 1911, p. 140.

Gen. 689 (2). CUTANDIA, Willk. in *Bot. Zeit.* 1860, xviii., p. 130.

2778 (4). C. DIVARICATA, Benth. Alien, Eur. Near Edinburgh, J. FRASER in *Scot. Bot. Rev.*, 1912, p. 41.

2778 (5). C. INCRASSATA, Benth. Alien, Eur. Near Edinburgh, J. FRASER *l.c.*

2789 (2). FESTUCA GENICULATA, Willd.? (as *F. clavata*, Moench) = *Vulpia geniculata*, Link. Alien, Eur. Edinburgh, J. FRASER in *Scot. Bot. Rev.*, 1912, p. 41. Richter, *Pl. Europ.*, p. 108, says *F. clavata*, Moench = *F. stipoides*, Desf. and *Vulpia geniculata*, Link. = *F. geniculata*, Willd.

2820 (2). BRACHYPODIUM RAMOSUM, R. and S. Alien, Europe. Musselburgh, Mid-Lothian, J. FRASER *l.c.* 1912, p. 41.

2876. *b*. PTERIS AQUILINA, L., var. LANUGINOSA (Bory ex Willd. *Sp. Pl.* v. p. 403), Hook. Under side of pinnae lanuginose. Pointed out to me by Dr Domin in Oct. 1912. It is probably the common British form. Bodmin, The Lizard, Cornwall; Dartmoor, Devon; Poole, Dorset; Arundel, Crowborough, Sussex; New Forest, Silchester, Hants; Greenwich, Tunbridge, Kent; Exmoor, Somerset; Savernake, Wilts; Forest of Dean, Gloucester; Tilehurst, Berks; Stow Wood, Oxon.; Burnham Beeches, Bucks; near Hampstead, Middlesex; Pyrford, Surrey; Ashbridge, Herts; Woodham Ferris, Essex; Lowestoft, Lakenheath, Suffolk; Sandringham, Norfolk; Harleston, Northants; Woburn, Beds; Sherwood, Notts; Wybonbury, Cheshire; Ludlow, Salop; Malvern, Worcester; Teesdale, Durham; Keswick, Crossfell, Cumberland; Silverdale, Lancas.; Grasmere, Westmoreland; Peebles; Dryburgh; Roxburgh; Ettrick, Selkirk; Moffat, Dumfries; Glen

Luce, Wigton; St Mary's Isle, Kirkcudbright; Dunbar, Haddington; Duns, Berwick; Glenfarg, Lawers, Trossachs, Perth; Dalmally, Argyll; Glen Roy, Aviemore, Inverness; Callater, Aberdeen; Clova, Forfar; Kinlochewe, Strathpeffer, Ross; Bettyhill, Golspie, Sutherland.

2883. ASPLENIUM LANCEOLATUM, Huds. var. SINELII. Differs from the type in the broadly ovate and serrate pinnae, by the rounded rachis, and the sori being in the centre of the pinnules. Old walls near Bagot, Jersey, found by Mr Sinel, J. F. ROBINSON in *Science Gossip*, 1880, p. 148. Through the kindness of Mr Marquand I have seen a letter from Mr Sinel, dated Jan. 1913, saying the article on the fern was written without his knowledge. He found a single plant near Boulay Bay, but although he searched repeatedly for many years he never saw another specimen. It was identified for him by Fraser and Moore. It was a pretty and remarkable little fern with fronds about four inches long, and grew more like an *Aspidium* than an *Asplenium*.

2923 (2). AZOLLA FILICULOIDES, Lam. Woodbastwick, Norfolk E., detected by DR OSTENFELD (see *New Phyt.*, 1912, p. 127, and *Report* 1911, p. 56). In brackish water near Queenstown Junction, Co. Cork, having spread from the beautiful garden of Mr Beamish, who kindly sent me fresh specimens which Mr N. E. Brown has identified.

Appended are the distinguishing features of the two species, which have been abstracted from an interesting paper by M. C. Bernard in *Recueil der Trans. Bot. Naerland* 1904, i., pp. 1-14.

A. FILICULOIDES, Lam.	A. CAROLINIANA, Willd.
Plant growing in dense, vigorous tufts (2—1½ cm.)	Plant small, rarely more than 1½ cm. The ramifications delicate and *appressed* to the surface of the water.
The upper lobes of frond turned upwards (2½—2 mm.), and not closely appressed to the surface of the water, with a *considerable* margin, and having unicellular hairs.	Upper lobes (⅝—1½ mm.) with *no, or only slight*, margin, and with bicellular hairs.
The glochidia are *without septa*, or rarely *(var. rubra)* with one or two septa at the summit.	Glochidia *septate* throughout.

BOTANICAL PUBLICATIONS, 1912.

PRODROMUS FLORÆ BRITANNICÆ, by F. N. WILLIAMS. Part 9, March 1912. pp. 477-532. 2s 9d. Rhamnaceæ—Euphorbia. Among the novelties included are *Geranium sylvaticum*, var. *eglandulosum*, Celak., Salop, Radnor: *Callitriche platycarpa*, vars. *uliginosa* and *paludosa*, Kütz: *C. stagnalis*, var. *rivularis*, Kütz: *C. intermedia*, var. *lacustris*, Will. Part 10. Sept. 1912. pp. 533-604, 3s 4d. Euphorbiaceæ—Droseraceæ. On page 551 it is stated that *Tilia europaea* cannot be raised from seed. Prof. Somerville, of Oxford, showed me some seedlings which had come up in his garden in 1910. Under *Hypericum quadrangulum* both *H. dubium* and *H. undulatum* are put down as varieties, the type being *H. acutum*—a Benthamian treatment. The Holyhead Rock-rose is described as *Tuberaria Breweri*, Willk., the Jersey plant being *T. annua*, Spach. *Viola montana, L.*, is put as a variety *(Kützingiana*, R. & F.*)* of *V. stagnina*. *V. lutea*, var. *sudetica*, Koch, is given. The *Viola banatica* of Miss C. E. Palmer is described as a var. of "Grex *V. arvensis*," under the name *vectensis*, Will.

THE TREES OF GREAT BRITAIN AND IRELAND, by H. J. ELWES, F.R.S., and A. HENRY, M.A. Vol. VI. Edinburgh, 1912. Privately printed. It includes 16 species of *Picea*, 20 of Junipers, 16 Magnolias, 2 *Halesias*, 3 species of *Morus*, and 12 of Eucalyptus. In this handsome volume a large number of exotic trees are described: there is also a description of *Juniperus communis*, under which *J. sibirica*, Burgsdorf, is reduced to the var. *nana*, Loudon, 2489, 1838. But the earlier combination according to the citation given is that of var. *saxatilis*, Pallas, *Flor. Ross.*, of 1788. The authors state that seeds of *nana* sown at Berlin produced seedlings resembling the common Juniper in all respects. Similarly, plants of the common Juniper from Fontainebleau which were cultivated by Bonnier on Mont Blanc at an elevation of 6800 feet assumed the habit of *nana* in three years. Two teratological varieties are alluded to: one, *thiocarpus*, Asch. and Graeb., in which the three scales at the apex of the fruit do not close but gape, showing the seeds inside: the other, *coronata*, Sanio, in which the points of the scales unite together and form a projection at the summit of the fruit. The semi-naturalised *Robinia* and *Laburnum* are included. Of the genus *Prunus* our native species *P. avium*, *P. Cerasus*, and *P. Padus* are described, and also *Pyrus communis*, of

which *P. cordata* is made a variety. We also have descriptions of *P. Malus* and its var. *mitis*, Wallr. under a new name, *pumila*, Henry, and *P. aucuparia*, but we find no mention of the Irish yellow-berried plant, var. *flava*.

THE FLORA OF BRISTOL, being an account of all the Flowering Plants, Ferns and their Allies, that have at any time been found in the district of the Bristol Coalfields: with introductory sketches of the Topography . . . . and biographical notices of botanists connected with Bristol during the past 350 years. JAMES WALLER WHITE, F.L.S, 3 plates, Map, pp. viii, 722. Price 12/6. Wright & Sons, Bristol. Our valued member is to be warmly congratulated upon producing so complete and useful a Flora. It contains a mass of information of great interest and value not only to the local botanist, but to the general worker and student of field botany. One point requires explanation. In my communication to Mr Linton I did not say that *all Epilobium* hybrids are fertile, but that *some* of them are. With regard to the status of *Spiraea Ulmaria* var. *denudata*, it would appear quite evident that some observers have not really mastered the distinction between the two plants, and that certain criticisms apply rather to forms of *S. Ulmaria* than to the variety.

A SHORT FLORA of CAMBRIDGESHIRE, chiefly from an ecological standpoint, with a history of its chief Botanists. A. H. EVANS, M.A., etc. *Proc. of Camb. Phil. Soc.* xvi. part iii. pp. 197-284. Camb. Univ. Press, Dec. 1911. A concise and excellent work. Fryer's record for *Rosa villosa* had better be deleted.

The vars. *longibracteata* of *Carex disticha*, *chlorostachya* of *C. Goodenovii*, and *hirtiformis* of *C. hirta* are in Fryer's Herbarium from Chatteris, as well as *Equisetum palustre* var. *polystachion*.

THE GENUS IRIS. W. RICKATSON DYKES. Demy folio, 246: with 47 coloured drawings by F. H. Round, one coloured plate of seeds by Miss Cardew. Camb. Univ. Press, 1912. Six guineas nett. The coloured plates of this handsome volume are very good. The varieties of *Iris Pseudacorus* the author considers to be "various combinations of unit characters which might be proved to behave in accordance with Mendelian principles." The var. *Bastardi* he mentions as having been found in a field near Llanfairfechan. He says a certain

proportion of seedlings of the golden-yellow type are pale yellow flowered forms. No reference is made to the var. *citrina* of *Iris foetidissima*, nor to the English habitat of *I. spuria*, for as such he named the Lincoln *Iris* I sent him last June: but the figure does not well represent the English form, and the treatment of *spuria* as a whole does not commend itself. The book is an important addition to the literature of a beautiful and popular genus.

THE SCOTTISH BOTANICAL REVIEW. Quarterly. Edited by McTAGGART COWAN, JUN. Neill & Co., Edinburgh. 7/6 per annum. Vol. I. 1912.

British Aquatic Plants. *Carex helvola.* Scottish forms of *Sparganium.* Recent additions to the Caithness Flora. *Saxifraga Hirculus*, etc., in Caithness. Arthur Bennett.

Linnaeus Flora Anglica. G. Claridge Druce questions the validity of citations from this work to supersede the names in the *Species Plantarum*, and doubts the wisdom of bringing it into the arena of botanical citation, since it is ignored by Linnaeus in any of his works. pp. 154-161.

Kenfig Burrows. An Ecological Study. M. Y. O. H. Orr, p. 209.

This Journal, we regret to hear, is to be discontinued.

BRITISH TREES, including the finer Shrubs for Garden and Woodland. By the late Rev. C. A. JOHNS, B.A. Edited by E. T. Cook and W. Dallimore. Routledge [1912] 7/6 net.

FLORA OF BANFFSHIRE. By W. G. CRAIB. In the Transactions of the Banff Field Club. 1911.

SUMMIT FLORA OF BREADALBANE RANGE. A valuable paper by our member PATRICK EWING, *Journ. Nat. Hist. Soc. of Glasgow* 1912, p. 48.

FLORA OF THE CULBIN SANDS. P. EWING. *l.c.* Nov. 1912.

PLANT ASSOCIATIONS OF FLAMBOROUGH HEAD. T. W. WOODHEAD, Ph.D. *Naturalist* 1912, p. 219.

THE NEW PHYTOLOGIST. Polymorphism in the flowers of *Silene maritima*, E. J. Salisbury 1912, p. 7.

International Phyto-geographical Excursion in the British Isles, p. 25. Prof. H. C. Cowles. Prof. Jean Massart. Prof. C. A. M. Lindman. Prof. E. A. Rübel, *Viola silvestris*, var. *pseudo-mirabilis*. The Shingle Beach as a Plant habitat, Prof. Oliver, pp. 73-79. C. H. Ostenfeld, *Nymphaea alba* var. *occidentalis*, Ost. (vice *N. candida*); *Erica Mackayi* × *Tetralix* = *E. Praegeri*, Ost.; *Scirpus caespitosus* var. *germanicus* and var. *austriacus*; *Azolla filiculoides*. Prof. P. Graebner. Prof. F. E. Clements, pp. 114-127.

Sir Joseph Hooker and Charles Darwin: the history of a forty years' friendship, Prof. A. C. Seward.

Prof. O. Drude, a paper of great interest treating *inter alia* of the origin of British Flora, pp. 354-363.

Origin of species in *Hieracium*, C. H. Ostenfeld.

Additional Floristic notes, including *Euphrasia fennica*, Kil.; *Mentha rubra*, var. *raripila*, Briq., &c., G. C. Druce.

ON THE INHERITANCE OF CERTAIN CHARACTERS IN THE COMMON GROUNDSEL *(Senecio vulgaris)* AND ITS SEGREGATES. By A. H. TROW, D.Sc., F.L.S. *Journal of Genetics* ii., 1912, pp. 239-276, with 24 figures. This is an extremely interesting and valuable paper, in which is shown the permanence of the characters which mark what the author terms the elementary species *praecox* (6 generations), *latifolius* (5 generations), and *multicaulis* (5 generations), all of these forms being non-radiate. These he crossed with the rayed form *(erectus)* and about 25 per cent. of hybrids were obtained, thus demonstrating to some extent that the permanence of these forms under culture is not due to apogamy. The rayed form *lanuginosus (S. vulgaris*, var. *lanuginosus*, Trow) Druce in *Report* 1910, p. 569 keeps true to its characters through four generations, and crossed readily with *praecox*, *erectus*, and *multicaulis*, as many as 45 per cent. of hybrids being obtained. In addition to the foregoing, Prof. Trow says five other forms maintained their characters in cultures. These results go to prove the fixity of certain characters, and the existence of elementary or micro-species which a certain section of writers reject with scorn, simply because they lack the critical acumen required to discriminate them.

JOURNAL OF THE LINNEAN SOCIETY. An Ecological study of a Cambridgeshire Woodland, p. 339. R. S. ADAMSON.

JOURNAL OF BOTANY. West, Newman & Co., 1912. The following are some of the papers which will be found of interest to British field botanists:

Shepherd's Purse and Cultivation, p. 23. *Malva sylvestris*, p. 92. Change of Climate and Woodland Succession, p. 247, Rev. E. A. Woodruffe-Peacock.

Notes on *Plantago*, p. 55, R. M. Cardew and E. G. Baker.

Flora of London Building-Sites, p. 117, J. C. Shenstone.

Utricularia ochroleuca, p. 132. South Kerry Plants. *Saxifraga Geum* var. *serrata* × *umbrosa* var. *serratifolia*, p. 197. Somerset Plants, p. 213, E. S. Marshall.

Polygala vulgaris var. *grandiflora*, p. 229, Ar. Bennett.

Montia, pp. 230, 316. East Gloucester Records, p. 315, H. J. Riddelsdell.

A New Variety of *Parnassia palustris*—var. *condensata*, W. G. Travis and J. A. Wheldon, p. 254.

Notes on Flora of Shetland, W. West, pp. 265, 297.

Note on *Rubi suberecti*, E. G. Gilbert, p. 280.

Jersey Plants, S. Gasking, p. 316.

WAS OENOTHERA LAMARCKIANA, Ser. A FORM OF OEN. GRANDIFLORA, Sol.? By B. M. DAVIS. *Bull. Torrey Bot. Club*, 39, pp. 519-533, 1912. An affirmative reply is given to this question, the name *Oen. Lamarckiana* being cited as of De Vries, and that plant being considered a hybrid by the author.

FURTHER HYBRIDS OF OENOTHERA . . . . THAT RESEMBLE O. LAMARCKIANA. B. M. DAVIS in American Naturalist, 1912, 377-428.

PROCEEDINGS OF THE LINNEAN SOCIETY for 1912. In this number will be found an excellent memoir of the late Sir Joseph D. Hooker by Prof. Oliver, and a very valuable Index to the Linnean Herbarium, pp. 152, by B. Daydon Jackson. Also an account of the distribution of *Elodea canadensis*, Mich., in the British Isles in 1909, by A. O. WALKER, pp. 71.

ANNALS OF BOTANY, vol. XXV., January 1912. Weeds of Arable Land in Relation to the Soils on which they Grow, by W. E. Brackley,

D.Sc., July 1912, vol. xxvi. *Spiraea Ulmaria* and its bearing on the Problem of Xeromorphy in Marsh Plants, Prof. R. H. Yapp.

GARDENERS' CHRONICLE. Irish Orchids, *Gymnadenia densiflora*, by G. C. Druce, October 19, p. 296. A Gloucestershire Wild Garden, p. 309.

CONTRIBUTIONS TO A FLORA OF PORTLAND, with Special Reference to *Limonium recurvum*. By W. BOWLES BARRETT. *Proc. Dorset Nat. Hist. and Antiq. Field Club*, xxxiii., p. 96, 1912. Is the *Festuca ovina* var. *glauca*, Hackel, correctly named? Probably it is var. *pruinosa*.

SYNOPSIS DER MITTEL-EUROPAEISCHEN FLORA. P. ASCHERSON and P. GRAEBNER. Lieferung 75 and 76. Bogen 41-50. Sept. 3, 1912, pp. 641-800. Santalaceae, Loranthaceae, Aristolochiaceae, Rafflesiaceae, and Polygonaceae. This classic work still keeps up its reputation. The *Rumices*, although arranged in a different sequence are, so far as this country's representatives are concerned, practically identical with the names in the *List of British Plants*. *R. limosus* is treated as a hybrid of *R. maritimus* and *R. conglomeratus*, as it figures in the *List*, although its hybrid origin has been doubted by one or two British botanists. The authority for the British *R. conspersus* should be Areschoug. Hartman's *conspersus* is the closely allied *obtusifolius* × *aquaticus*. An older name for *R. Acetosella* var. *angustifolius*, Koch is given in the *Synopsis*, viz., var. *tenuifolius*, Wallroth *Sched* 1822, p. 186. It is gratifying to learn that as all the copies of the first edition have been exhausted, the authors are already at work preparing a second one.

FLORE DE FRANCE. GEORGES ROUY. Tome xiii., pp. viii. 548. May 1912, Deyrolle, Paris, 10 francs. Alismaceae—Cyperaceae. In this cheap and comprehensive work M. Rouy presents us with many new ways of looking at things, and not a few interesting problems. He considers *Narcissus incomparabilis* to be a hybrid of *N. major* with *poeticus*. Under *Orchis maculatus*, what he calls *genuinus*, Reichb. with " épi grêle, subcylindrique : labelle faiblement 3-lobé, le lobe médian plus petit que les latéraux," seems to suggest the *O. ericetorum*, Lint., and to this is related the *O. helodes*, Griseb., while his *trilobatus*, Bréb., appears very much like the common British

plant. An earlier name is given for *Juncus acutus* var. *effusus*, Buch., namely, *decompositus*, Guss. *Enum. Pl. Ins. Inarime*, 1854, p. 345. *Triglochin maritimum* has two varieties—one, *sexangularis*, Reichb., "tige grêle : capsule hexagonale, à 6 angles separés par autant de sillons," and *exangularis*, Reichb., "tige robuste, capsule ni anguleuse ni sillonée." My plants from Babbicombe, Devon, and Wisbeach, Cambridge, appear to be *sexangularis*. *Carex muricata*, L., has three races—*C. fumosa*, Rouy ; *C. Lumnitzeri*, Rouy ; and *C. Leersiana*, Rouy, and a sub-species *C. Pairaei* (F. Schultz). The names *C. stricta*, Good., *C. acuta*, L., and *C. glauca*, Scop., are still allowed to stand.

WILD FLOWERS AS THEY GROW. G. C. NUTTALL. Cassell, London, 1911, 5s.

WONDERS OF PLANT LIFE. S. L. BASTIN, 8vo. Cassell, London, 1911, 3s 6d.

A POPULAR DICTIONARY OF BOTANICAL TERMS. G. F. ZIMMER, 8vo., 122 pp. Routledge, 2s 6d.

STUDIES IN SEEDS AND FRUITS. H. B. GUPPY, 8vo. 528 pp. Williams & Norgate, 15s.

FLEURS DES CHAMPS ET DES BOIS, DES HAIES ET DES MURS. H. CORREVON, 8vo., 225 pp., with 100 coloured plates. Kündig, Geneva, 25 francs.

DEUTSCHE FLORA. H. COSSMAN, 8vo. F. Hirt, Breslau, 7s 6d.

MAKERS OF BRITISH BOTANY. Edited by F. W. OLIVER. Demy 8vo., pp. viii. 332 and 28 illustrations, 9s nett. Cambridge University Press, 1913. Includes, among others, biographies of Ray, Morison, John Hill, Robert Brown, Sir William Hooker, Lindley, Berkeley, Balfour, and Sir Joseph D. Hooker.

HERBALS, THEIR ORIGIN AND EVOLUTION, 1470-1670. AGNES ARBER. Royal 8vo. pp. xviii. 254, 21 plates, 113 fig. in text. 10s 6d nett. Cambridge University Press, 1912.

DAS PFLANZENREICH. A. ENGLER. Engelmann, Leipsic, 1912.
52 Heft. *Euphorbiaceae, Geloniеae*, and *Hippomaneae.* 18m.30, pp. 319.
57 Heft. *Euphorbiaceae, Acalypheae, Chrozophorinae.* F. Pax. 1912, 7m.20, pp. 143.
53 Heft. *Geraniaceae.* R. Knuth, 32 marks, pp. 640.
54 Heft. *Goodeniaceae, Brunoniaceae.* K. Krause, 10m.80. pp. 206, et 6.
55 Heft. *Araceae, Philodendroideae, Philodendreae.* 6m.80. A. Engler and K. Krause, pp. 134.
56 Heft. *Cannaceae.* Fr. Kränzlin, 4m. pp. 77.

In the *Geraniaceae* the varieties of *G. Robertianum* are taken from Rouy and Foucaud's *Flore de France.* The *Vienna Actes* do not seem to be very closely followed. For instance, under *Geranium sanguineum*, L., the Isle of Walney plant is called var. *prostratum* (Cav.) *Pers. Syn.* 1807, ii., p. 234, while the oldest combination cited is *G. sanguineum* var. *haematodes*, Burm. f. *Sp. Geran.* 16, 759. The author says it is the *G. prostratum*, Cav. *Diss.* 1787, iv. p. 196. It is the *G. lancastriense*, Mill. *Gard. Dict.* 1768, n. p. 4. The var. *haematodes* is the oldest combination and *lancastriense* the earliest trivial name. *G. pusillum* is attributed to Burman fil., but Linnaeus gave it that name in the earlier edition of the *Systema. G. lucidum* is said to be glabrous, but we have plants in Britain with long hairs. *G. sylvaticum* var. *Wanneri*, Briq., is said to have the habit of *aconitifolia*, but is a tall plant with large pale green leaves, which suggests that the Scottish plant, with pale rose-coloured flowers recorded as that variety, has not been correctly identified. A form *sublilacinum*, G. G. Westerlund (*Bot. Not.* 1906, p. 23) is described in the same pages.

BULLETIN GEOG. SOC. PHILADELPHIA, 1912, vol. x. p. 37. South Florida. J. W. Harshberger.

ARKIV. FÖR. BOTANIK, Stockholm. Band, 12. No. 7. Nomenclature of some North European Species of *Draba.* Elis. Ekman.

BEIHEFTE ZUM BOTANISCHEN CENTRALBLATT, xxix. p. 16. Anthyllis-studien. W. Becker. In this paper the author deals with the various forms of this polymorphic genus, and gives details of distribution, which are, however, very meagre for England. A plant from the Isle of Wight he says come near to *A. Spruneri.*

DIE FARN- UND BLUTEN-PFLANZEN (Pteridophyta et Siphonogama) von Tirol, Vorarlberg und Liechtenstein. Prof. K. W. v. DALLA TORRE & LUDWIG GRAFEN v. SARNTHEIN. Innsbruck, vol. vi., in 3 parts, 1912. Teil i., pp. 563; Teil ii., pp. 964; Teil iii., pp. 956.

The two forms of *Monotropa* are treated as distinct species, *i.e.*, *M. glabra* and *M. multiflora*. *Loiseleuria* is retained vice *Azalea*. *Arctostaphylos alpina* is placed in a distinct genus under the name of *Arctous alpina*, Niedenzu. The white-fruited *Vaccinium Myrtillus* is var. *leucocarpum*, Dumort. *Lappula* is rightly used instead of *Echinospermum*, and *Satureia* is made to include *Calamintha* and *Clinopodium*. As contrasting with the brevity of the treatment recently accorded to the British Mints, the authors of the *Flora of the Tirol* recognise no less than 127 species. *Solanum miniatum* is regarded as a full species, = *S. alatum*, Moench, and it appears to be *S. nigrum* var. *rubrum*, Miller. *Melampyrum pratense* is split into two species, viz., *M. pratense*, L., and *M. vulgatum*, Pers., the latter indeed a valid name, being our common British plant. Under it I put my var. *hians*. To *vulgatum* also belongs the vars. *latifolium* and *ericetorum*. *Plantago sphaerostachya* is made a species, and there is also *P. montana*, Huds. *Fl. Angl.* 1762, p. 52, = *P. atrata*, Hoppe, which is surely incorrect. *Galium palustre*, *elongatum*, and *maximum* are ranked as distinct species. *Erigeron alpinum* becomes *Trimorpha alpina*. *Arctium nemorosum* and *A. intermedium*, Lange, are united under the name of *A. macrospermum*, Dalla Torre and Sarnt., but according to Thellung this is not a valid name because *nemorosum*, Lej., is earlier than *macrospermum*. The *Hieracia* number 727 species! The authors appear to ignore Miller's *Gard. Dict.* and Hill's *Brit. Herb.*, and they cite Adanson for many of the genera which were established previously by those British authors. The whole volume is well and clearly printed, and a very full list of localities is given.

ILLUSTRIERTE FLORA VON MITTELEUROPA. G. HEGI, Lief. 15-21, J. F. Schmanns Verlag, Munchen, 1912.

OBITUARIES.

ALFRED FRYER, born at Chatteris, Cambridgeshire, on Christmas Day, 1826, died at Chatteris, on February 26, and was buried at Doddington, in the same county, on February 29, 1912; one daughter by his first wife, and six children of his second marriage surviving him. He was educated at Leicester, where he made the acquaintance of

Bates, who afterwards became the celebrated naturalist of the Amazon, and Bates introduced him to A. R. Wallace. Fryer's father was a wealthy gentleman farmer, besides being partner in a brewery, and unluckily in the latter business he lost his fortune. His mother, Elizabeth Fortescue, was a native of Huntingdonshire. A rich aunt settled upon Alfred a house and large garden, and made a will in his favour; but subsequently, after she was eighty years of age, she bequeathed her property to another branch of the family. The consequence was that Fryer, who had received no special professional training, but had followed his own tastes, which from a very early age had been directed towards Natural History, was left practically stranded. As a boy he preferred collecting fossils to doing school work, to which he had a marked aversion, though he was fond of reading, and even at the age of five he could read French stories. On one occasion, during a children's party which was given on his account, he suddenly disappeared, and after some searching he was discovered in one of the bedrooms with a large pile of books beside him. And so he grew up an unpractical man, very fond of poetry and general literature, with considerable artistic taste, able to read French, German, Latin, and Dutch, besides being a keen student of ornithology, conchology, and entomology. His friendships were many, and included such distinguished men as Wallace, Coventry Patmore, Dante Rossetti, and several artists. Of course these tastes and predilections were not the sort of heritage that bring grist to the mill, neither was his lovable impracticability conducive to worldly success. However, he was supremely happy in exploring his native fens, of which and of the general natural history of his neighbourhood he had an unrivalled knowledge. At one time he possessed an extremely valuable collection of the Lepidoptera of his district. His explanation of the disappearance of the Great Copper Butterfly is worth recording. In his opinion the extinction of this lovely insect was not due to the drainage of Whittlesey Mere, but in reality to heavy floods which occurred during the larval stage and drowned them out, although no doubt the rapacity of reckless collectors had previously depleted their numbers. The total disappearance of this butterfly is certainly remarkable, since its food plant, the Great Water Dock, is still very abundant.

The date of Fryer's taking up botany is a little uncertain, but it is known that he was in correspondence with Babington as early as 1876. He himself contemplated writing a *Flora of Huntingdon*, a

portion of which (*Polygonaceæ* onwards) is now in my possession, and he formed a large herbarium of Fenland plants, one portion of which is at present in the hands of Mr Charles Bailey, while the remaining portion, including the *Compositae*, the *Orchidaceae* and concluding orders (exclusive of the Pondweeds), was kindly given to me by his daughter. The specimens were always well selected, carefully preserved, and amply illustrate the species. In the eighties Fryer contributed a number of records to the second edition of *Topographical Botany* (p. 575) for Hunts and Cambridgeshire, and then he began the critical study of the Pondweeds,* for which purpose he was most favourably situated. This he did with the utmost assiduity and thoroughness, never being satisfied with a single specimen of a species, for he went so far as to say that even two hundred would be inadequate. His critical eye soon detected new forms and hybrids, and his series of *Potamogeton gramineus* and *lucens* showed, he said, how these two distinct species were connected together by a chain of graduating forms without one intervening gap. This magnificent collection of Pondweeds, consisting of 5450 sheets, has, through the kindness of his daughter and Mr Charles Bailey, been presented to the National Herbarium at Cromwell Road, together with the whole of Mr Morgan's drawings made for the *Pondweeds of the British Isles*.

This close and minute study of the group led Fryer to commence his *magnum opus*, entitled *The Potamogetons (Pondweeds) of the British Isles*, a work in quarto size, published by Lovell Reeve & Co. The parts are dated as follows:—I.-III., 12 plates, published 18th June 1898, 21s; IV., V., VI., 12 plates, 20th December 1898; and VII., VIII., IX., 12 plates, 16th January 1900. This work established his reputation as a systematic botanist: the text is exceedingly good, and abounds with instructive notes, while the figures drawn by the late R. Morgan are excellent. Unfortunately Fryer did not finish the work, although nearly all the plates were drawn: some friction arose between him and his publishers, and I am afraid my dear friend was a little difficult to manage, if rubbed up the wrong way. At any rate, the progress of the work was stopped. As we had been corresponding for some years, on hearing that straightened circumstances accounted for the delay, I ventured

* Mr C. Bailey tells me that on specimens of *P. lucens* in his herbarium, Fryer notes that it was the first specimen gathered by him of any *Potamogeton* —June 16, 1860.

to call on Fryer in 1903, and found him a most delightful and accomplished man, but (like the Fellows of a certain Oxford College) a mere child in finance, yet so independent in spirit as to decline all offer of assistance. Nor did the *res angustae domi* lead to any want of respect being shown him by his neighbours. They recognised his merits, and admired his character and ability. He might have been induced—under pressure—to accept the Royal Bounty; and a petition was drawn up and signed by the Lord Lieutenant of the County, the Bishop of Ely and other important people. It had, however, to be dropped, as one special name which I was told it was essential to obtain, could not be procured. Eventually a small grant was made by the Royal Society, but it was quite insufficient to relieve him from doing common work which anyone could have done, in order that he might do work which hardly anyone else could do so well.

But Fryer never grumbled at his poverty: he was blessed with affectionate children, and he loved his work in his garden. One day when I said to him: "Why don't you get on with the water 'Pots,' and give up this drudgery?" he replied: "how can a man do Pondweeds when he has a garden to look after?" And then he took me out to see this wizard's beguiler, as I called it; and when I saw it my breath was taken away, for it was no ordinary garden that met one's view. Great Burdocks, Milk Thistles, Wild Roses, "Darnel and all the weeds that grow in our sustaining corn" were flourishing in rank luxuriance. He caught the amazed and amused look in my eye, and exclaimed, "How can a man keep his garden clean when he has Pondweeds to look after?" and then the welkin rang with our joint merriment.

We used to have delightful rambles together, and at one time or another he showed me all the localities for his special Pondweeds. He knew them all by heart, and he could tell in a moment from what precise locality each gathering came from. One day he and I made a special search for *coriaceus*, and on the way we came to a deep dyke with steep sides. I implored him not to try to cross it, but he replied that he had always done so, and meant to do so again. The result was that in a few moments he was on his back in the water; and it was no easy matter to get him out again. He was a heavy man, my own frame was slight, and the sloping bank gave no secure standing place. It was impossible for me to raise him, and he for a moment

seemed to be quite unnerved, but on my telling him that I had at last solved the question of his religion, because I now saw that he was a baptist by immersion, he regained his spirits, made a good effort, and in a minute or two he was again landed on *terra firma*, with the water streaming off him in cascades. But he would not hear of going home: he insisted on walking it off, and a few hours after, by the time we reached home, he was quite dry again, rejoicing over our well-earned spoil, with which we were laden. Nor would he, even for his stomach's sake, take any stimulant, but contented himself with his Spartan fare of bread and cheese and an apple. For weeks together he never touched meat, and at last got to dislike it. To my great delight, he called on me early on the morning after the adventure I have related, none the worse, but, on the contrary, quite cured as he said of the sciatica which had recently been troubling him! Even at this advanced age he would walk to Ely, twelve miles away, to see a cricket match; stand all day, and walk back home, having partaken of nothing in the interim but a bottle of ginger beer! His birthdays were always signalised, until the last two, by a twenty mile walk.

As will be gathered from what I have said, Fryer was a determined optimist. The dull, prosaic fenland presented to him landscapes of delightful and entrancing beauty. The heavy November clouds had their delicate tints and tones of colour on which he used to dilate again and again. During our walks together, often was I called upon to admire the hedgerows, "those liberal homes of unmarketable beauty," or to watch the flight of waterfowl, or not unfrequently to look over a gate and see a crop of oats such as is only to be found in fenland, and then often he would enter upon some long metaphysical argument in which more than one of us lost his way. He was a charming letter writer, and his natural cheeriness was amply displayed in his correspondence.

During the last three years of his life, which were rendered more comfortable by his election as a recipient of the Murdoch Trust, through the recommendation of my two kind friends Sir A. Geikie and Mr A. Montgomerie Bell, he returned to the study of the Pondweeds, being stimulated, I think, by the discovery of his *P. Billupsii* in Hunts by Mr Hunnybun and myself, and he greatly rejoiced when I found another of his very local forms—*involutus*—in great plenty in the Northamptonshire fenlands. The visits to him of Mr A. H. Evans were much appreciated, and did much to encourage him. His health

kept good to within a few days of his death, when an attack of influenza weakened even his powers of resistance, and he succumbed from heart failure.

From the year 1884 until 1897 he was a valued member of this Club, and contributed excellently prepared specimens. Since 1907 he has been a corresponding member, and in that year he was elected an associate of the Linnean Society, an honour which was greatly appreciated by him. His work on the Pondweeds will, we believe, be completed by Mr Arthur Bennett, a fellow-worker in the same field, to whom Fryer dedicated *Potamogeton Bennettii*. He was much too big a man to be swayed by narrow jealousies: to know him was to love him: his very unworldliness had a great charm, and all will share the deep regret alike of his children and of his fellow-botanists, that so short a time in his prolonged life was devoted to field botany, a field for which in so many respects he was peculiarly well qualified.

His botanical papers include: *Carex distans*, inland in Hants, *Journ. Bot.*, 1883, p. 246: in which year also appeared the following contributions: *Myosurus minimus*, native or colonist, p. 280: *Liparis* in Cambridgeshire, p. 316: *Potamogeton Zizii* in 29, 31; *P. decipiens*, 29, 31; *P. flabellatus*, 29, 31, p. 316: suggestion that new critical or rare British plants shall be sent to *Herb. Brit.*, p. 347; *Senecio viscosus* in 29, *loc. cit.*: *Ceratophyllum submersum* in 29, 31, p. 375: *Limosella* in 29, 31, p. 377. In 1884 *Apium graveolens*, &c., in 31, p. 55: West Norfolk plants, p. 92: Hunts. plants and Top. Bot. p. 105: Brecon plants, *Agrostis nigra* in 29, p. 125: *Juncus Gerardi* in 29, &c. p. 152: *Lepidium Smithii* in 29, &c. p. 247: *Tolypella prolifera* in 29, 31, p. 278: *Fumaria confusa* and *Boraei* in 29, p. 279: *Bupleurum tenuissimum* in 31, p. 349. In 1885 *Carex paradoxa* in Wicken Fen, p. 221. In 1886 *Narcissus Pseudo-narcissus*, &c., in Brecon, p. 24: *Potamogeton fluitans*, in 29, p. 306: *P. natans*, p. 337: *P. lucens*, p. 378: *Epilobium augustifolium*, *Polygonum tataricum* in 29, p. 345. In 1887, *Ceratophyllum apiculatum*, *Potamogeton polygonifolius*, p. 282: *P. lucens*, p. 50: *P. Zizii*, p. 113: *P. heterophyllus*, p 163: on land forms of *Potamogeton*, p. 306. In 1888 *Potamogeton Griffithii*, with leaf-bearing stipules, p. 57: *P. fluitans*, p. 273: *P. flabellatus*, p. 297. In 1889 *P. coriaceus*, Fryer, p. 8*: *P. varians*, Morong, in 29, p. 33: *P. falcatus*, nov. sp. and fig., in 31, p. 65: Irish Pondweeds, p. 183: *Polygala calcarea* in 29, p. 119: on *Gnaphalium uliginosum* var. *pilulare* p. 83: *Mercurialis perennis*

*This plant Fryer says "led me to make a special study of the genus."

flowering in autumn, p. 251. In 1890 *Potamogeton decipiens*, p. 137: Hybridity in *Potamogeta*, p. 173: *P. falcatus*, p. 219: *P. crispus*, p. 225: *P. fluitans*, p. 249: *P. crassifolius*, nov. sp. with fig. p. 321. In 1891 *P. undulatus* var. *Cooperi*, Fryer, with fig. p. 289. In 1892 *P. gramineus* var. *graminifolius* with fig. p. 33: *P. Zizii*, p. 114: *P. undulatus* in 29, p. 377. In 1893 *P. Billupsii*, Fryer, with fig. p. 353. In 1894 *P. polygonifolius* var. *pseudo-fluitans*, p. 97: *P. rivularis*, p. 337: *P. nitens* in 29, p. 345. In 1895 *P. Bennettii* with fig. p. 1. In 1896 *P. nitens* f. *involuta* with fig. p. 1. In 1897 *P. fluitans*, p. 355: *P. trichoides* in 29, p. 446. In 1899 *P. Drucei* as a full species, p. 524. In the *Wats. Bot. Exch. Club Report*, 1899, p. 23, he published his × *P. Lintoni*, while his × *P. salignus* appeared in the *Victoria County Hist.* of *Devon.* On Nov. 20, 1911 he wrote me saying that "a series of *P. Lintoni* dried would be useful, but if you can have some gathered fresh for me next year, I should much like it to describe for the Pot. Book from fresh specimens. Well, here's news you will like—I have retired into private life . . . . A surprise came at the same time: a letter from L. Reeve & Co. asking if the book could be completed. I wrote saying Yes! and am at it now. Now let me say . . . that the Scotch bequest has made the finishing of my work possible,—that alone! Without this aid I could not possibly have had leisure to work at it."

Allan Octavian Hume, C.B., born 4th June 1829 at St Mary Cray, Kent; died July 31st 1912 in his 84th year. The "Father of the Indian National Congress," who was educated at Haileybury College, was one of the greatest authorities on the ornithology of India, the study of which he commenced in the sixties and worked at in his usual energetic way. During twenty-five years collecting he accumulated an enormous collection of birds and eggs, amounting to no less than 63,000 skins (it almost takes one's breath away merely to think of the slaughter of so many feathered innocents) and 19,000 eggs; and on these he had written manuscript notes and memoranda which filled many folios. All these were preserved in his museum at Simla, but in 1884, while he was absent in the plains, it is supposed some discontented servant stole and destroyed these valuable manuscripts, as no trace of them was ever discovered. Thus perished the results of his work of a quarter of a century, as far as the literary matter was concerned. This disaster thoroughly disheartened him, as

it well might. He could have sold his collection for £10,000, but it would then have gone to the United States, so he refused to part with it, and in 1885 he made the noble gift of 82,000 birds and eggs to the British Museum (Natural History) in Cromwell Road. Of his ornithological labours I need not speak, except to remark that in 1873 he published a work on *Nests and Eggs of Indian Birds*, and in 1879, in conjunction with Capt. C. H. T. Marshall, *The Game Birds of India*, a book in three volumes, with 144 coloured plates. After his great loss he took up horticulture with characteristic zeal, and then on returning to England in 1900 he started his great collection of British Plants. This he planned on an enormous scale, and enlisted the services of Mr W. H. Griffin (now curator of the South London Institute) and of the very industrious and competent botanist, our member, Mr F. H. Davey, whose *Flora of Cornwall* was materially helped by Mr Hume. He came to Oxford, and I showed him a few plants, but his wholesale collecting made me shudder, especially when he coolly dug up Fritillary bulbs by the score and Snowflakes by the dozen, albeit I was not aware that they were to be given to the nation. The result was that I felt compelled to refrain from showing him any more rarities. In 1903 he visited Teesdale and ravaged that fair domain. The specimens he collected, however, were most carefully prepared, and, whenever possible, all parts of the plant were shown separately, as were also the seedlings in a large number of instances. In 1910 Hume purchased the freehold premises 323 Norwood Road, S.E., and adapted them for the purpose of a herbarium and library. The whole of the premises, together with furniture, &c., were vested in trustees, under the title of "The South London Botanical Institute," having for its object the "promotion of the study of the science of Botany amongst residents of South London." The collection of plants now numbers over 40,000 sheets. Mr Frederick Townsend, who died in 1905, bequeathed his herbarium and botanical library to the Institute; and it was further enriched in 1910 by the gift of our late member Mr W. H. Beeby's herbarium, which was especially rich in plants from the Orkneys and Shetlands. (In my biographical notice of Mr Beeby in the 1910 *Report*, p. 532, I stated by mistake that his herbarium had gone to the Horniman Museum.) The South London Institute now possesses a magnificent collection, which is particularly rich in alien plants, and it is well looked after by its present custodian.

The son of Joseph Hume, he remained true to the political traditions of his father. He entered the Bengal Civil Service in 1849 and had a distinguished career, becoming in 1870 one of the principal Secretaries to the Government of India. During the Mutiny he was Magistrate of Etawah, his gallantry and resource during that critical period being rewarded by his receiving the decoration of C.B. As a boy, Hume was a friend of John Stuart Mill, and he had the advantage of being acquainted with Sir William Hooker and Jeremy Bentham. He joined the Linnean Society in 1901, and in that year sent a note to the *Journ. Bot.* on *Impatiens Roylei*, which I identified for him, and *Scirpus maritimus* var. *monostachys*, Sonder, p. 146, and in 1902 p. 115 he records *Solanum rostratum*, Dunal., all from Cornwall. Respecting the Balsam he wrote on August 25, 1900: "I discovered a plant which must now be added to our English Flora—it is, I think, one of our East Indian balsams—a garden escape, of course, but now established by the thousand along at least three miles of the upper course of the Looe River. It was a sight never to be forgotten: here and there clumps of a dozen plants together: great plants five to seven feet high with great heads of bloom, a foot in diameter nearly, and innumerable side shoots all full of flower, the bigger leaves at the base of the side shoots fully a foot long—the flower from a rich 'Rose du Barri' varying through all fainter tints to nearly white, with purplish pinkish shades. I enclose a scrap with the mint, and would be grateful if you would let me know its name at your early convenience." I named it for him, and told him I had already noted the plant as a British species in the *Flora of Berkshire* (1897) p. 123.

William Weekes Fowler. Born February 27, 1835, at Winterton, Lincolnshire: died at the same place, March 7, 1912. Educated at Christ's College, Cambridge, taking his M.A. degree in 1860. Vicar of Liversedge, Yorkshire, for 47 years. Hon. Canon of Wakefield. Elected President of the Yorkshire Naturalists' Union in 1886. In 1880 he added *Selinum carvifolia* to the British Flora from Lincolnshire, a description of which, by F. A. Lees, with a plate, appeared in *Journ. Bot.*, 1882, p. 129. Canon Fowler contributed papers to the *Phytologist*, 1858, p. 332, on the rarer plants of Winterton, and on *Teucrium Chamaedrys*, p. 416: and many papers to the *Naturalist* between the years 1878 and 1890. Many notes were sent by him to the second edition of *Top. Bot.* (1883), and he supplied a considerable

number of new records for Lincolnshire to the *Botanical Record Club Reports*. I made his acquaintance when he was staying with his brother, the President of Corpus Christi College, whom he resembled, as it appeared to me, in his bluff heartiness, his genuine kindness, and in his broad way of looking at things.

THOMAS HILTON: 1833—1912. Born at Brighton, April 16, 1833, and at the age of thirteen began to assist in the grocery business which his father had established at No. 99 Church Street in 1815. This business he took over on his father's death, and conducted it so successfully that in 1890 he was able to retire, in order to devote his attention entirely to his favourite study of botany. He was appointed Hon. Curator of the Brighton Museum, at the instigation of my friend Mr Henry Willett, under whose auspices, on the occasion of one of my many visits to Brighton, I made Hilton's acquaintance. He was a man of spare frame, of very temperate habits, and an indefatigable walker. We enjoyed many rambles together, indeed, I may say that, owing to Willett's kindness, we saw almost all the plants of interest in the neighbouring country. During one of our excursions in 1899 we found *Peucedanum palustre* at Hurstmonceaux, and in 1900 the variety *tenuifolia* of *Salsola Kali* at Southwick. In 1909 we went to see the great colony of *Crepis fœtida* which he had discovered at Newhaven. He discovered a Batrachian Ranunculus, which Messrs Groves considered to be a hybrid between *R. Lenormandi* and *R. peltatus*, and this form they named after him × *R. Hiltoni* (*J. B.*, 1901, 121, t. 420). He took a very deep interest in the Brighton Museum, and carefully went through the herbarium of the late Mr F. Roper, the author of the *Flora of Eastbourne*, which had been bequeathed to the Museum. He was also very assiduous in supplying for the Institution fresh specimens of wild flowers, the exhibition of which did much to encourage an interest in the local flora. Hilton was a member of this club since 1905, and his herbarium has been presented to the British Museum, Cromwell Road. After a comparatively short illness from hepatic disease he died on February 10, 1912, and was buried in the Friends' Burial Ground, Black Rock, Brighton, my own illness preventing me from attending the funeral to pay the last tribute of respect to departed merit. I extract the following remarks from a letter written by Mr Alfred Webster on February 23: "I am sure you will agree with me in saying that all who are interested in botany will greatly deplore his

loss. Among Sussex botanists especially it will be felt. If anyone wanted to find any particular flower, and wrote to Mr Hilton, he could always get the information he required: no one knew so much about the Sussex flora as he did: and then none of those who were fortunate enough to accompany him in his walks—as I often was in his later years—could fail to observe how completely he had every detail of any flower you might find at his fingers' end: and he was always anxious to give his friends the benefit of his knowledge. . . . . I have lost one of my best and kindest friends."

Among the plants which he sent me shortly before his death were *Hieracium surrejanum* var. *megalodon* from Stedham Mill, West Sussex, and *Crepis nicaeensis*, Balb. from White Hawk Down, East Sussex.

JOHN PIQUET, pharmaceutical chemist. Born at St Helier's, Jersey, in 1825, where he died on September 5, 1912, at the age of eighty-seven. He was apprenticed in 1837 to Mr John Ereant, a chemist and druggist, with whom he remained ten years, his working hours being from 6.30 in the morning till 11 at night. In the year 1847 he started in business on his own account, and this he continued up to the date of his death. He became a member of the Pharmaceutical Society in 1853. From his earliest years he was a keen naturalist, and devoted much attention to entomology, especially Lepidoptera, of which he formed an interesting collection of Jersey species. But gradually entomology gave way to botany, and he worked up the flora of the Channel Islands, especially of Jersey, with great assiduity and thoroughness. In the *Journal of Botany* for 1873, p. 18, which was then under the able editorship of a good systematic botanist, Mr H. Trimen, there is a record of *Centaurea paniculata* and *Scabiosa maritima.* which had been sent from Jersey by Mr Piquet, who considered them native to the island: but the former plant had been previously recorded. Mr Arthur Bennett noted in *J.B.* 1882, p. 86, *Hypochaeris maculata* and *Carduus pratensis*, which had been sent as new to Jersey by Piquet. In the *Phytologist*, 1853, p. 1135 he adds *Aceras anthropophora* from Rozel, and publishes a note on a supposed new fern in Jersey (*Phyt.* 1854, p. 149). His chief botanical paper, however, was contributed to the *Société Jersiaise* in 1896, and consisted of a list of 721 plants, besides varieties, which he had himself found in the

island; and two years later he added a supplement containing 24 additional species. In 1906 he furnished me with a further list of about a score more, which sufficiently shows his energy and acuteness of observation.

As late as the 8th of August last Mr Piquet sent me some aliens from a farm at St Ouen's, which included *Plantago Psyllium*, and remarked: "You can't think how many rare things I have found [there] . . . . but I am too old and weak to walk out now alone. I live in the past. I should be so glad of roots of *Diotis*, to re-introduce it at a particular spot at St Ouen's Bay, where it formerly grew, but was destroyed when the retaining wall was built to keep out the sea. *Crambe maritima* was also lost then." He also asked me to name "two plants which came up spontaneously in gardens," and these proved to be *Satureia montana* and *Linaria bipartita*.

I had the pleasure of making Piquet's acquaintance as long ago as the year 1877, when in his cheery companionship I experienced the intense delight of seeing for the first time the riches of a southern flora. We traversed the Quenvais, and the prolific area of St Ouen's Bay, where he showed me *Diotis*, then on the verge of extinction. Now, alas, the place knows it no more. With the greatest glee Piquet pointed out to me a patch of *Lagurus ovatus*, which might have been covered with a pocket handkerchief; he had himself brought over the seeds from Guernsey, and sown them there. At the present time this beautiful grass grows there in millions, and has spread over a considerable area. When I was in Jersey in 1907, and told him how it had increased since he first showed it to me, he rubbed his hands with delight at the recollection of what he had done, seeing no harm, he said, but plenty of good, in thus introducing new plants from other areas; but he made no secret of his practice, and never claimed for these introduced plants any higher rank than naturalised aliens. He told me he had introduced *Caltha palustris*, and at one time I suspected *Dianthus gallicus* had come from France through his instrumentality, but now I know it was not so. At that time (1877) *Ranunculus ophioglossifolius* had already disappeared, but he very kindly gave me one of the last specimens gathered in the island. Many years went by before I saw him again, but in 1906 I found him still very active and enthusiastic; indeed, he took me a stern chase up the rocky hill near St Heliers, to show me *Ranunculus*

flabellatus, seeds of which he had sown there, taken from plants growing at St Aubin's. In this new station it has increased considerably, but rarely or never flowers. Aided by the sight of the plant in this condition, I was enabled to find it in some considerable quantity near St Brelade's, where it must be, in Piquet's opinion, certainly native.

As an instance of his activity, I may mention the following. I told him I had seen a patch of *Thesium* near Don Bridge, a plant he had never found in the island. The very next morning he started off at six o'clock, and walked all the way out and back, in search of it, but was not successful. So I marked the spot by placing some stones round the patch, and the next day he marched out and found it, to his great delight.

In my papers on the Channel Islands plants in *Science Gossip*, 1878, p. 250, and *Journ. Bot.*, 1907, p. 397, I have spoken of my old friend, and acknowledged my indebtedness to him for many delightful rambles in his native island in search of plants; he was as active and vigorous and botanically keen when I last met him as he had been thirty years before on our first acquaintance, and his interest in plants never flagged. His assistance is gratefully acknowledged by Lester-Garland in his *Flora* of *Jersey*, where he says: "I owe much to Mr J. Piquet, who has made the Jersey plants a life-long study."

Some years ago he presented a collection of plants to the Société Jersiaise, and another collection he left to the Victoria College; but his principal herbarium is now in the possession of his son, Mr F. Piquet, of Jersey. Mr Perrédés has contributed to the *Journ. Bot.* 1912, p. 374 a sympathetic obituary notice of our old friend, with a portrait.

GEORGE MAW, F.L.S., F.S.A., F.G.S. 1832-1912. Born in London, was at Agric. Coll., Cirencester, 1848-1849. Manufactured encaustic tiles in Salop. Travelled widely through Europe, North Africa, and the East. Accompanied Sir J. D. Hooker and John Ball to the Great Atlas in 1871, and wrote the valuable appendix H. on *The Geology of the Plain of Marocco and the Great Atlas* to Hooker & Ball's *Tour in Marocco 1878*. The former dedicated vol. 1874 of the *Bot. Mag.* to him. His chief love was for the Genus *Crocus*, of which he had 67 living species in his beautiful garden at Benthall. On one of his excursions he was captured by brigands. His chief

work was the magnificent *Monograph of the genus Crocus*, with an appendix by C. C. Lacaita, M.A., M.P., F.L.S., Dulau, 1884, with 71 coloured plates, many drawn by the author. He died at Kenley, Surrey, Feb. 7, 1912.

Mr Britten (*Journ. Bot.* 1912, p. 296) says: "We regret to record the death of Dr Mordecai Cubitt Cooke." We are delighted to find, however, that 'the statement is somewhat exaggerated,' since the veteran fungologist writes to the *Daily Telegraph* Nov. 1, 1912, that he is "not ill or suffering from other than the infirmities of my time of life—*i.e.*, 87 years."

NEW COUNTY AND OTHER RECORDS.

In addition to those already given, the following from various sources may be singled out for citation: (They date from 1912 except where other dates are given).

21. RANUNCULUS AURICOMUS, L. Boultach, Caithness, *Scot. Bot Rev.* 1912, p. 182.

112. FUMARIA MICRANTHA, Lag., *F. densiflora*, DC. Worcester, R. TOWNDROW, in *lit.*; Larne, Antrim, G. C. DRUCE.

113. FUMARIA VAILLANTII, Lois. Near Aldbourne, N. Wilts, Miss TODD, vide spec.

114. FUMARIA PARVIFLORA, Lam. Near Aldbourne, N. Wilts, Miss TODD, vide spec.

131. BARBAREA INTERMEDIA, Bor. Near Pembrey, Carmarthen, D. HAMER, in *lit.*

296. VIOLA CANINA, L. em. Hayne. Near Moreton in the Marsh, Gloster E., H. H. KNIGHT, in *lit.*

299. VIOLA HIRTA, L. Stanner Rocks, Radnor, Mrs BANKS and G. C. DRUCE.

301 (2). VIOLA EPIPSILA, Ledeb. Near Silchester, N. Hants; Near Omagh, Tyrone, G. C. DRUCE.

377. STELLARIA AQUATICA, Scop., var. SCANDENS, Lej. Suleham, Berks. Plant 7-8 feet high, G. C. DRUCE.

406. SAGINA APETALA, Ard. Innerleithen, Fife, G. C. DRUCE.

408 (2). S. SCOTICA, Druce. Clova, Forfar; Callater, S. Aberdeen, G. C. DRUCE; Stob Coire, Westerness, as *saginoides*, SHOOLBRED, 1891; Glas Thulachan, E. Perth; Stuich an Lochan, *Syme*; Craig Cailleach, M. Perth; Glen Ennich, Easterness; Also Ben Lawers, Robert Brown, 1794, in *Hb. Brit. Mus.*

412. SPERGULARIA MEDIA, Presl, var. GLUTINOSA, Druce. Gloster E., RIDDELSDELL, in *J.B.*, 1912, p. 315.

414. S. ATHENIENSIS, Asch. Aldeburgh, Suffolk, native, 1911, first as English, DRUCE; Par, Cornwall, C. C. VIGURS, 1912; Cobo and L'Erée, Guernsey, 1912, W. C. BARTON. See *Report*, 1906, p. 196.

424. ELATINE HEXANDRA, DC. Loughnahaltora, W. Mayo, R. L. PRAEGER, *Irish Nat.* 1912, p. 27.

467. LINUM ANGUSTIFOLIUM, Huds. (? *L. bienne*, Miller *Gard. Dict.* 1768.) Near Hawnby, York, N.E., showed me by the Hon. Mrs. J. Savile last Sept. It appears to be native, as it is in an upland pasture. G. C. DRUCE.

475. GERANIUM VERSICOLOR, L. Llanstephan, Carmarthen, D. HAMER in *lit.*

477. GERANIUM SYLVATICUM, L. Abundant by the Grywney river, Monmouth, Miss ELEANOR VACHELL, vide spec.

485. GERANIUM ROTUNDIFOLIUM, L. Between Llanelly and Bynea, Carmarthen, D. HAMER, in *lit.*

531. LABURNUM ANAGYROIDES, Med. Well established especially in the elevated districts. In Abergwili parish, alt. 900 ft., there are miles of hedgerows mainly composed of self-seeding Laburnum, D. HAMER, in *lit.*

538. ULEX GALLII, Planch. No Man's Land, Herts, BLAKE, in *Hb. Druce*, 1830. Near Moreton in the Marsh, Gloster E., H. H KNIGHT, in *lit.*

547. TRIGONELLA ORNITHOPODIOIDES, DC. Worcester, A. J. CROSFIELD ex R. F. TOWNDROW, in *lit.*

580. MEDICAGO ARABICA, Huds. Near Trimsaran Crossing Station, Carmarthen, D. HAMER, in *lit.*

593. MELILOTUS OFFICINALIS, Lam. Near Pitlochry, E. Perth, colonist, G. C. DRUCE.

611. TRIFOLIUM ARVENSE, L. Near Wick, Caithness, HENRY, see *Scot. Bot. Rev.* 1912, p. 181.

619. TRIFOLIUM STRIATUM, L. Galashiels, Selkirk, Miss I. M. HAYWARD, vide spec.

677. VICIA SYLVATICA, var. CONDENSATA, Druce. White Park Bay, Antrim, new to Ireland. Retains its characters after three years' cultivation. G. C. DRUCE.

700. VICIA LATHYROIDES, L. Stanner Rocks, Radnor, G. C. DRUCE.

711. LATHYRUS TUBEROSUS, L. Peppard, Oxford, Miss RIDLEY, colonist, *Report*, 1911, p. 81; Dalton in Furness, Lanc., alien, D. LUMB, vide spec.

765. RUBUS LINDLEIANUS, Lees; 778, R. SELMERI, Lindb.; 787, R. PUBESCENS, W. and N., and 828, R. ECHINATUS, Lees, all from N. Essex, G. C. BROWN, in *lit.*

773. RUBUS PULCHERRIMUS, Neum. Virginia, Cavan, G. C. DRUCE.

806. RUBUS LETTII, Rogers. Virginia, Cavan, G. C. DRUCE.

811. RUBUS GELERTII, Frid. Botley, S. Hants, G. C. DRUCE.

909 (2). ALCHEMILLA MINOR, Huds. Beechwood, Herts, BLAKE, in *Hb. Druce*, 1821; Stanner Rocks, Radnor, G. C. DRUCE.

914. AGRIMONIA ODORATA, Mill. North Berwick, Haddington, Miss I. M. HAYWARD, vide spec.

966. C. MONOGYNA, Jacq., var. SPLENDENS, Druce. Forfar, R. H. and M. CORSTORPHINE, vide spec.

967. CRATAEGUS OXYACANTHOIDES, Thuill. Near Kirriemuir, Forfar, but perhaps originally planted, G. C. DRUCE; Pembrey, Carmarthen, D. HAMER, in *lit.*

987. SAXIFRAGA HIRCULUS, L. Bet. Lybster and Loch Rhuard, Caithness, with *Ranunculus scoticus*, G. LILLIE ex A. BENNETT, in *Scot. Bot. Rev.*, 1912, p. 205, an interesting extension of the range of this local species.

1010. SEDUM PURPUREUM, Tausch. Welland, Worcester, R. F. TOWNDROW, in *lit.*, but see Lees; Welwyn, Herts, 1820, BLAKE, in *Hb. Druce.*

1016. SEDUM ALBUM, L. Established in gravel pit, West Wickham, Kent, W. H. GRIFFIN, in *lit.*

1032. MYRIOPHYLLUM SPICATUM, L. Pembrey and Llanelly, Carmarthen, D. HAMER, in *lit.*

1036. CALLITRICHE OBTUSANGULA, Le Gall. Guarlford, Worcester, R. F. TOWNDROW, in *lit.*

1037. CALLITRICHE PALUSTRIS, L. Near Halton, Bucks, G. C. DRUCE, in *lit*; Ouchterlony, Forfar, R. H. and M. CORSTORPHINE, vide spec.; Loch Watten, Caithness, see *Scot. Bot. Rev.* 1912, p. 181.

1045. LYTHRUM HYSSOPIFOLIA, L. Near new timber in a gravel drive, Miss ROBINSON and Miss PHYLLIS BUXTON, Sussex; by the Welland, Barrowden, Rutland, Rev. E. A. WOODRUFFE-PEACOCK.

1067. OENOTHERA SINUATA, L. Alien, America. Near Keevil Mill, Calne, Wilts, W. C. BARTON, vide spec.

1080. ERYNGIUM CAMPESTRE, L. Downs near Winchester, S. Hants., SIMON BARING, vide spec. An interesting addition to the Hampshire flora by a very young botanist.

1109. PRIONITIS FALCARIA, Dum. Alien. On a wall near Strangford, Co. Down, F. W. STANSFIELD, vide spec.

1128. ANTHRISCUS CEREFOLIUM, Hoffm. Alien. Edgehill, Warwick, quite naturalised, G. C. DRUCE. Spec. now distributed.

1138. OENANTHE FISTULOSA, L. Pembrey, Carmarthen, D. HAMER, in *lit.* Var. TABERNAEMONTANI, Gmel. Peakirk, Northants, G. C. DRUCE.

1142. SILAUS FLAVESCENS, Bernh. Laugharne Burrows, Carmarthen, D. HAMER, in *lit.*

1174. CORNUS SUECICA, L. Dollar Law, Peebles, G. G. BLACKWOOD, in *Scot. Bot. Rev.* 1912, p. 117 ; Ben Ledi, Perth, W. BALFOUR, *Bot. Exc.* 1860, p. 309, *et l. c.*, p. 184.

1176. ADOXA MOSCHATELLINA, L. South Caithness, see A. BENNETT, in *Scot. Bot. Rev.* 1912, p. 181.

1177. SAMBUCUS RACEMOSUS, L. Alien. Abundant and quite naturalised north of Moffat, Dumfries, G. C. DRUCE.

1196. GALIUM SYLVESTRE, Poll. Stanner Rocks, Radnor, G. C. DRUCE.

1258. ASTER TRIPOLIUM, L. Gloster E., ex. RIDDELSDELL, in *J.B.* 1912, p. 315.

1302. HELIANTHUS SCABERRIMUS, Elliot, *Bot. S.C. and Ga.* 1824, *ii.* p. 423. Alien. Lougher Valley, Carmarthen, D. HAMER, vide spec. ; Oxford, 1909, G. C. DRUCE.

1309. BIDENS CERNUA, L. Gloster E., ex RIDDELSDELL, in *J.B.* 1912, p. 315.

1312. GALINSOGA PARVIFLORA, Cav. Alien. Garden ground, Oxford, G. C. DRUCE.

1343. ANTHEMIS ARVENSIS, L. Carmarthen Boro., D. HAMER, in *lit.*

1376. ARTEMISIA MARITIMA, L. Gorey, Jersey, S. GASKING, in *J.B.* 1912, p. 316.

1382. ARTEMISIA ANNUA, L. Alien. Carmarthen, D. HAMER, vide spec.

1396. SENECIO SQUALIDUS, L. Alien. Carmarthen, D. HAMER, vide spec.

1399. SENECIO VISCOSUS, L. Gloster E., RIDDELSDELL ex *J.B.*, 1912, p. 315, Ware ; Herts, G. C. DRUCE.

1420. ARCTIUM NEMOROSUM, Lej. Kirkcudbright, Wigton, Dumfries, Haddington, G. C. DRUCE.

1432. CIRSIUM OLERACEUM, Scop. Alien. Tayside, about a mile below Perth. W. BARCLAY, in *Scot. Bot. Rev.*, 1912, p. 235. Miss I. M. Hayward showed it to me in 1909 on the margin of a small loch near Selkirk where no other alien was present, and where it had been known for some years, G. C. DRUCE.

1646 (2). TARAXACUM SPECTABILE, Dahlst. Teesdale, York, and Durham ; near Kington, Hereford ; Llanberis, Carnarvon ; Snowdon 1905 ; Sligachan, Skye ; Glen Cahir, Co. Clare, 1909 ; G. C. DRUCE.

1649. LACTUCA SERRIOLA, L. Llanelly and Kidwelly, Carmarthen, D. HAMER, in *lit.*

1651. LACTUCA MURALIS, Fres. Near North Berwick, Haddington, G. C. DRUCE.

1679. LEGOUSIA SPECULUM-VENERIS, Fisch. Alien. Cornfield, Bognor, Sussex, G. C. WALTON, vide spec.

1695. ERICA TETRALIX, L. Near Moreton in the Marsh, Gloster E., H. H. KNIGHT, in *lit.*

1699. ERICA VAGANS, L. Quite wild about half mile from the Inn at Stronachlacher, W. Perth, near the head of Loch Katrine, to all appearance native, J. W. OLIVER, in *Science Gossip*, 1877, p. 19. A record to be confirmed.

1739. STEIRONEMA CILIATUM, Rafn. Den of Auldbar, Forfar, R. H. and M. CORSTORPHINE, vide spec.

1745. CENTUNCULUS MINIMUS, L. Craigoch Moor, Wigton, J. FRASER, in *Scot. Bot. Rev.*, 1912, p. 46.

1753. BLACKSTONIA PERFOLIATA, Huds. Gorey, Jersey, S. GASKING, in *J.B.*, 1912, p. 316.

1785. CYNOGLOSSUM MONTANUM, L. Hereford, Rev. A. LEY ex RIDDELSDELL, in *J.B.* 1912, p. 350; near Mentmore, Bucks, G. C. DRUCE.

1793. SYMPHYTUM ORIENTALE, L. Alien. Railway bank, Bewdley, Worcester, known there for fifteen years, CARLETON REA, vide spec.

1798. ANCHUSA SEMPERVIRENS, L. Abergwili, Carmarthen, D. HAMER, in *lit.*

1800 (2). ANCHUSA OCHROLEUCA, M. Bieb. Alien. Dover, G. C. WALTON, vide spec.; Ware, Herts, G. C. DRUCE.

1839. CUSCUTA EPITHYMUM, Murr. Killard Point, Co. Down, C. H. WADDELL, in *Irish Nat.*, 1912, p. 134.

1870 (2). VERBASCUM OLYMPICUM, Boiss. Alien. About four miles north of Peakirk by the railway, Linc. South, G. C. DRUCE.

1893. SCROPHULARIA ALATA, Gilib. Dens of Pitairlie and Craigmill, Forfar, R. H. and M. CORSTORPHINE, in *lit.*; an interesting record. Spec. now distributed.

1899. MIMULUS MOSCHATUS, Dougl. Alien. Quite naturalised by the road, Pentre, Denbigh, G. C. DRUCE. Spec. now distributed.

1912. VERONICA ANAGALLIS-AQ., L. vera. Wendlebury, Oxford; Eddlesborough, Beds and Bucks; near Whithorn, Wigton; Rescobie, Forfar, G. C. DRUCE.

1943. EUPHRASIA KERNERI, Wetts. Welwyn, Herts, 1820, as *officinalis*, BLAKE, *Herb. Druce.*

1951. RHINANTHUS APTERUS, Fries. Near Crockett Hall, Herts, 1822, BLAKE, in *Herb. Druce;* Cirencester, Gloster E., W. J. GREENWOOD, vide spec.

1955. RHINANTHUS MONTICOLA, Druce. Formoyle Hill, Londonderry, G. C. DRUCE.

1965. OROBANCHE RUBRA, Sm. Killard Point, Co. Down, C. H. WADDELL, in *Irish Nat.*, 1912, p. 134.

1969. OROBANCHE PICRIDIS, F. Schultz. Welwyn, Herts, as *O. minor*, 1821, BLAKE, in *Hb. Druce;* near Saunderton, Bucks, G. C. DRUCE.

1971. OROBANCHE MINOR, Sm. Sligo, R. L. PRAEGER, in *Irish Nat.*, 1912, p. 179.

1975. UTRICULARIA VULGARIS, L. Caithness, A. BENNETT, see *Scot. Bot. Rev.*, 1912, pp. 81 and 235.

1976. UTRICULARIA MAJOR, Schmid. Near Carmarthen, D. HAMER, in *lit.*

1977. UTRICULARIA INTERMEDIA, Hayne. Kirkcudbright, W. Perth, E. Perth, Forfar, Kincardine, Skye; the true plant, G. C. DRUCE.

1977 (2). UTRICULARIA OCHROLEUCA, Hartm. Westmoreland, A. BENNETT, in *J.B.;* Lugaloughan, W. Mayo, R. L. PRAEGER. I have seen it from vice-counties 9, 69, 72, 73, 74, 88, 89, 90, 91, 92, 96, 97, 98, 99, 101, 102, 103, 104, 105, 106, 108, 110, and 112. It was plentiful on the Moor of Rannoch.

1978 (2). UTRICULARIA BREMII, Heer. Near Dalton in Furness, Lanc., PRESSALL and LUMB.

1988. MENTHA ROTUNDIFOLIA, Huds. var. near *M. Lamarkii*, Tenore; near Bridge of Dun, Forfar, R. H. and M. CORSTORPHINE and G. C. DRUCE.

1990. MENTHA LONGIFOLIA, Huds. var., near *pachylodes*, Briquet. Kirkinner, Wigton; Glen Ogilvy, Forfar, G. C. DRUCE.

1991. MENTHA SPICATA, L. var. or nova species, near *M. veronicaeformis*, Opiz. Kirkinner, Wigton. The type at Gatehouse of Fleet, Kirkcudbright, G. C. DRUCE.

1993. MENTHA PIPERITA, L. Forse, Caithness, A. BENNETT, in *Scot. Bot. Rev.*, 1912, p. 181.

1997. MENTHA GENTILIS, L. Near Circenster, Gloster E., W. J. GREENWOOD, vide spec.; Salop; Edinburgh, 1820, BLAKE, in *Hb. Druce.*

2046. PRUNELLA LACINIATA, L. Near Pyrford, Surrey, Lady DAVY, vide spec.; Brockenhurst, S. Hants, F. A. REDDIE, in *Selb. Mag.*; Royston, Herts, C. E. Moss, in *lit.*, with the hybrid *P. laciniata* × *vulgaris*.

2052. STACHYS GERMANICA, L. Stoke Rochfort, Lincoln N., 1820, BLAKE, in *Hb. Druce*.

2063. GALEOPSIS DUBIA, Leers. Valley of the Loughor, Carmarthen, D. HAMER, in *lit.*

2081. TEUCRIUM BOTRYS, L. Near Sapperton Tunnel, Gloster, W. J. GREENWOOD, in *lit.*

2091. PLANTAGO MARITIMA, L. Gloster E., ex RIDDELSDELL, in *J.B.*, 1912, p. 315.

2117. CHENOPODIUM RUBRUM, L. First Tower, Jersey, S. GASKING, in *J.B.*, 1912, p. 316. Casual here.

2122. CHENOPODIUM MURALE, L. Alien. Isle of Moy; Edinb, vide spec.; Beighton, Derby (see *Fl. Derby*, p. 249 as *C. album* var. *viride*, *Report* 1897, p. 562.)

2126. CHENOPODIUM FICIFOLIUM, Sm. Malvern, R. TOWNDROW, in *lit.*; Gloster E., RIDDELSDELL, in *J.B.*, 1912, p. 315.

2158. SALICORNIA STRICTA, Dum. S. RAMOSISSIMA, Woods, S. DISARTICULATA, Moss. Llanelly and Kidwelly, Carmarthen, D. HAMER, in *lit.*

2220. EUPHORBIA DULCIS, L. Quite naturalised above the Kirkton of Glen Isla, Forfar, R. H. and M. CORSTORPHINE. Spec. now distributed.

2245. ULMUS GLABRA, Miller. Near North Berwick, Haddington; Near Kinnoull Castle, M. Perth, G. C. DRUCE.

2246. ULMUS WHEATLEYI, Hort. Alien. Thornborough, Bucks; Silverstone, Northants; Wallingford, Berks, G. C. DRUCE.

2246. ULMUS PLOTII, Druce. Near Newark, Notts; Near Enniskillen, Fermanagh, G. C. DRUCE.

2289. POPULUS CANESCENS, Sm. Strathmore, Forfar; Kirkcudbright; Dumfries, G. C. DRUCE.

2294 (2). POPULUS CANDICANS, Aiton. Alien. Perth, M. and E.; Forfar; Near Grant's House, Berwick.

2296. CERATOPHYLLUM SUBMERSUM, L. Llanelly, Carmarthen, D. HAMER, in *lit.*

2316. HELLEBORINE LATIFOLIA, Druce. Applecross, GRAHAM, in *Bot. Soc. Edin.*, 1844, i., p. 202.

2317. HELLEBORINE MEDIA, (Fr.) Druce. Ayott Green, Herts, 1821; BLAKE, as *latifolia*, in *Hb. Druce.*

2317 *b*. HELLEBORINE MEDIA, var. PLATYPHYLLA, Druce. Loch Broom, W. Ross, LADY FOWLER, vide spec.

2327 (2). ORCHIS O'KELLYI. Near Omagh, Tyrone, G. C. DRUCE.

2335. OPHRYS APIFERA, Huds. Carmarthen, D. HAMER, in *lit.*

2340. HABENARIA VIRIDIS, var. BRACTEATA, A. Gray. Gaddesdon How, Herts, 1821, BLAKE, in *Hb. Druce.*

2360. SISYRINCHIUM ANGUSTIFOLIUM, Mill. Alien. Glen Clova, Forfar, J. LOWSON, in *Scotsman*, July 17, 1912; amongst heather, near Bude, Cornwall, Hon. N. C. ROTHSCHILD, in *lit.*

2379. LEUCOJUM AESTIVUM, L. W. Clare, R. D. O'BRIEN, in *Irish. Nat.* 1912, p. 154.

2383. ASPARAGUS MARITIMUS, Mill. Pembrey, Carmarthen, 1910, D. HAMER, in *lit.*

2396. ALLIUM VINEALE, L. Llanstephan, etc., Carmarthen, D. HAMER, in *lit.* I saw it there in 1872.

2399. ALLIUM ROSEUM, L. Alien. Scilly Isles, F. H. DAVEY, vide spec.

2403. ALLIUM OLERACEUM, L. Near Colesborne, Gloster, J. EDWARDS, in *lit.*, not a new rec. Somerset, E. S. MARSHALL, in *J.B.*, 1912, p. 216.

2413. ORNITHOGALUM UMBELLATUM, L. Probably native in King's Wood, G. CHESTER, in *lit*, and in Stibbington Wood, Northants, G. C. DRUCE.

2420. GAGEA LUTEA, Ker. Brickhill, Bucks; see *Report* 1911, p. 129.

2427. JUNCUS ACUTUS, L. By the Suir 2 miles below Waterford Station, Kilkenny, R. A. PHILLIPS, in *Irish Nat.* 1912, p. 64.

2429. × JUNCUS DIFFUSUS, Hoppe. Kingoodie, Dundee, Forfar, C. H. OSTENFELD, vide spec.

2436. JUNCUS ALPINUS, Vill. Loch Greenoch, Kirkcudbright, G. WEST, in *Proc. Roy. Soc. Edinb.* 1910, xxx. p. 113.

2438. JUNCUS SQUARROSUS, L. Near Moreton in the Marsh, Gloster E., H. H. KNIGHT, in *lit.*

2439. JUNCUS COMPRESSUS, Jacq. Somerset, E. S. MARSHALL, in *J.B.* 1912, p. 216.

2441. JUNCUS TENUIS, Willd. Alien. W. Linton, Peebles, J. MCANDREW, *Scot. Bot. Rev.* 1912, p. 47.

2442 (2). JUNCUS RANARIUS, Song. & Perr. Woolmer Forest, S. Hants; Pyrford, Surrey; Carnoustie, Forfar; Kinlochewe, W. Ross, G. C. DRUCE; Duddon Estuary, D. LUMB, vide spec.

2462. SPARGANIUM NEGLECTUM, Beeby. Wigton, Peebles; Lismore, Argyll (S. MACVICAR), ex A. BENNETT, in *Scot. Bot. Rev.* 1912, p. 95; Rescobie, Forfar, DRUCE and OSTENFELD.

2465. SPARGANIUM AFFINE, Schniz. 85, G. WEST; Caithness ex A. BENNETT, in *Scot. Bot. Rev.* 1912, p. 96.

2466. SPARGANIUM MINIMUM, Fr. as *S. natans.* Salop, BLAKE, 1822, in *Hb. Druce.*

2469. ACORUS CALAMUS, L. Berkeley Canal, Gloster E., RIDDELSDELL, in *J.B.* 1912, p. 315.

2475. WOLFFIA ARRHIZA, Wimm. Somerset, E. S. MARSHALL, in *J.B.*, 1912, p. 216, an interesting extension of the westward range.

2486. POTAMOGETON POLYGONIFOLIUS, Pourr. Near Moreton in the Marsh, Gloster, H. H. KNIGHT, in *lit.*

2499. POTAMOGETON DECIPIENS, Nolte. Lagan Canal, Co. Down, C. H. WADDELL, in *Irish Nat.* 1912, p. 134.

2501. POTAMOGETON PRAELONGUS, Wulf. Durness, Orkney, M. SPENCE, in *Scot. Bot. Rev.* 1912, p. 47.

2503. POTAMOGETON COOPERI, Fryer. Lagan, Co. Down, C. H. WADDELL, in *Irish Nat.* 1912, p. 134.

2516. RUPPIA ROSTELLATA, Koch. Llanelly, Carmarthen, D. HAMER, vide spec.

2518. ZANNICHELLIA MARITIMA, Nolte. Llanelly, Carmarthen, D. HAMER, vide spec.

2521. ZOSTERA NANA, Roth. Aberlady Bay, 82; mud flats of Cramond, 84; near Torryburn, 85, see W. EVANS in *Trans. Bot. Soc. Edin.*, 1903, p. 415.

2525. APONOGETON DISTACHYUM, Thunb. Alien. Guisachan, in a loch about a mile from the Lodge, Lady MARGARET WATNEY, vide spec.

2528. CYPERUS FUSCUS, L. One tuft by a stream in a very marshy place near Suleham, Berks, Mr V. MURRAY, 1911. This year we sought vainly for it; the surrounding vegetation is very luxuriant —*Angelica, Scrophularia aquatica* over nine feet high and *Stellaria aquatica* var. *scandens* eight feet high.

2533. SCIRPUS MARITIMUS, L. Gloster E., RIDDLESDELL, in *J.B.*, 1912, p. 315.

2547. ERIOPHORUM PANICULATUM, Druce, as *E. pubescens.* Loughborough Park, Leicester; confirmatory. Prof. HENSLOW, in *Hb. Druce*, 1820.

2558. CAREX PSEUDO-CYPERUS, L. Gloster E., RIDDELSDELL, in *J.B.*, 1912, p. 315.

2611. CAREX AXILLARIS, Good. Warkton, Northants, G. CHESTER, vide spec.

2614 *(b)*. CAREX LEERSII, Schultz. Kington, Hereford; New Timber, Sussex E., G. C. DRUCE.

2617. CAREX BOENNINGHAUSIANA, Weihe. Mawsley, Northants, G. CHESTER, vide spec.

2619. CAREX DIANDRA, Schrank. Frilford, Berks, L. V. LESTER-GARLAND, vide spec.

2683. AGROSTIS VERTICILLATA, Vill. Alien. "Glasgow. Mr Curtis thinks it a distinct species, and I have no doubt of its being so." G. DON, in *Hb. Blake*, circa 1796.

2774. GLYCERIA DISTANS, Wahl. Gloster E., RIDDELSDELL, in *J.B.* 1912, p. 315.

2812. BROMUS INTERRUPTUS, Druce. Roadside, Malvern, sol. spec., R. F. TOWNDROW, in *lit.*

2845. LEPTURUS FILIFORMIS, Trin. Gloster E., RIDDELSDELL, in *J.B.*, 1912, p. 315.

2847. NARDUS STRICTA, L. Near Moreton in the Marsh, H. H. KNIGHT, in *lit.*

2855. ELYMUS ARENARIUS, L. Ballycastle, Antrim, R. L. PRAEGER, in *Irish Nat.*, 1912, p. 174.

2872. EQUISETUM HYEMALE, L. Hants. S., J. F. RAYNER, in *J.B.*

2877. ADIANTUM CAPILLUS-VENERIS, L. Still at Portland, Dorset, W. R. HALL, 1912, ex W. GODDARD, in *lit.*

2923. AZOLLA CAROLINIANA, Willd. Near Sonning, Miss RIDLEY, 1911; Oxford, G. C. DRUCE, 1911; Suleham, Berks, V. MURRAY, 1911, vide spec.

2923 (2.) AZOLLA FILICULOIDES, Lam. Woodbastwick, Norfolk, 1911; near Queenstown Junction, Co. Cork, G. C. DRUCE, 1911.

2924. ISOETES LACUSTRIS, L. Treifi Pools, Cardigan, Prof. R. H. YAPP and Prof. WEISS, in *lit.*

2934. NITELLA OPACA, Ag. Llanelly, Carmarthen, D. HAMER, in *lit.*

2938. NITELLA GRACILIS, Agardh. Perranzabuloe, W. Cornwall, Col. F. RILSTONE, comm., H. and J. GROVES.

2949. CHARA VULGARIS, L. Pembrey, Carmarthen, D. HAMER, in *lit.*

CORRECTIONS.

Report 1897, p. 562.—*Chenopodium album* var. *viride*, L. Beighton, Derby, *W. R. Linton.* This is teste Dr Murr a form of *C. murale*, L., and a new record for Derby.

Report 1911, p. 26, line 5 from bottom, for "dense" read "laxer."

Report 1911, p. 56, et *Report* 1909, p. 469.—*Chenopodium urbicum* var. *intermedium*, Dr Vigurs. My specimen is correctly named, which Dr Murr corroborates.

Report 1911, p. 139.—*Deyeuxia neglecta* var. *Hookeri*, Syme. Ellis' Cut, Co. Down. Some if not all the specimens are *Agrostis alba*, var. *coarctata*, a grass which is common on Harbour Island and other places near Lough Neagh.

MR E. W. HUNNYBUN, Homeshill, St Aubin, Jersey, 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., University 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, 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 and Mr E. D. Marquand have also very kindly assisted me.

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.