

THE BOTANICAL SOCIETY
AND EXCHANGE CLUB
OF THE BRITISH ISLES.

(VOL. V. PART III.)

REPORT FOR 1918

BY THE

SECRETARY,

G. CLARIDGE DRUCE,

to whom, at YARDLEY LODGE, 9 CRICK ROAD, OXFORD, the Subscription,
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The Distributor's Report on Plants sent in for 1918 will appear in due course.

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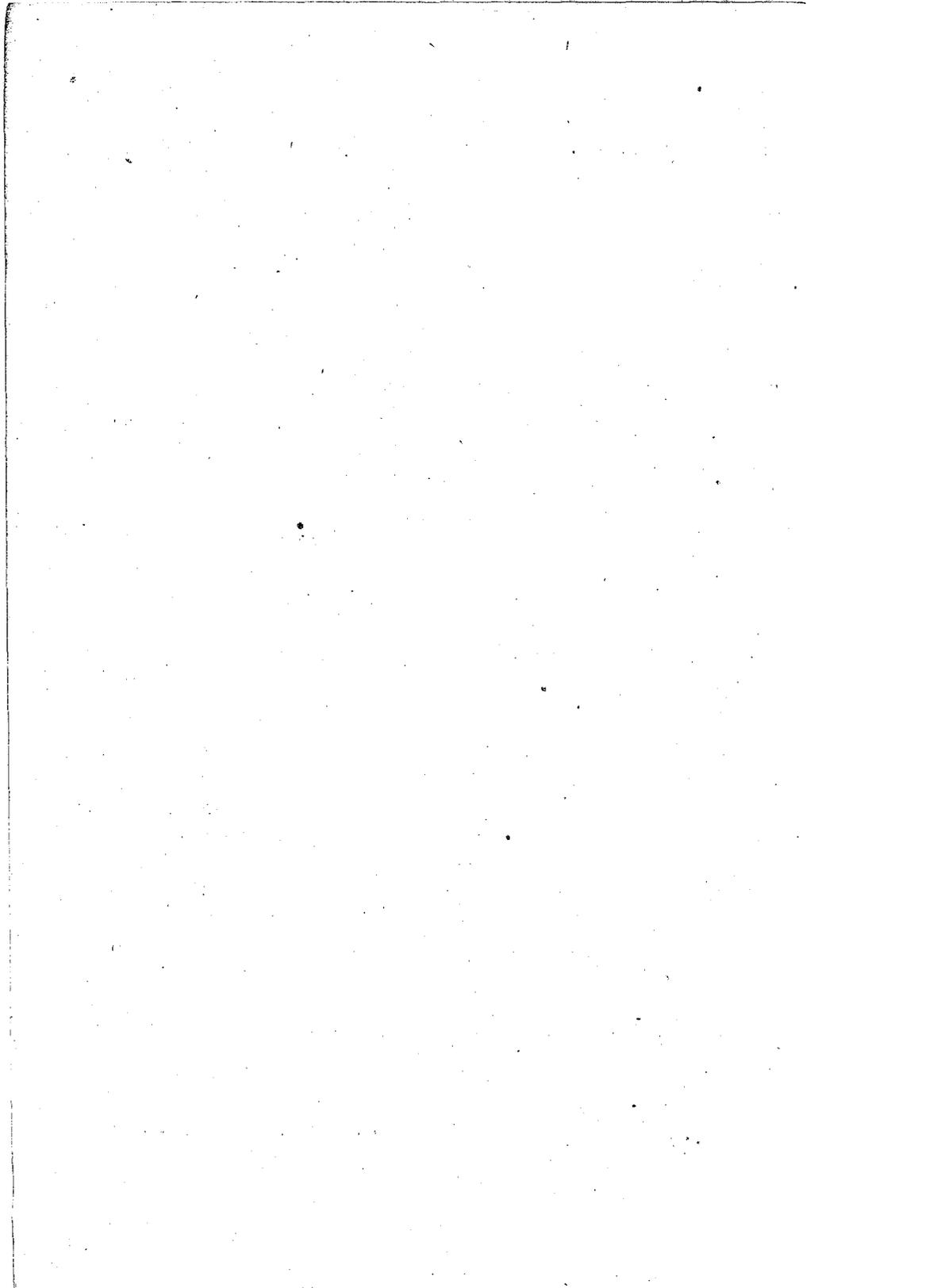
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 OF THE BRITISH ISLES.

THE REPORT OF THE SECRETARY & TREASURER
 G. CLARIDGE DRUCE, YARDLEY LODGE, OXFORD,
 FOR 1918.

BALANCE-SHEET FOR 1917.

Balance brought forward,	£ 0	11	2	Printing Reports, Bind-	
By Subscriptions received,	95	12	6	ing, &c.,	£104 3 3
Sale of Reports,	11	11	0	Expenses of Distribution,	2 2 0
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Balance due to Treasurer, £5 16s 1d.

Life Members' Fund (at cost), invested in War Savings, £25 14s.

Audited and found correct, January 10, 1919. —F. TWING.

All subscriptions should be paid to the above address on the first of January each year. Exchange Members pay 7s 6d, Ordinary Members, 5s. Payment in advance for two or more years saves much expense and trouble in applying for and giving receipts for such small sums. Members joining in 1919 pay 10s (Exchange Members, 12s 6d), to cover entrance fee and the *Report* for 1918.

There are still a few complete sets of the *Reports* from 1879 to 1916, forming four volumes. These are available for members at £3 10s.

Now that the war is at length brought to such a splendid termination, we can look back upon the years since 1914 and congratulate the members upon keeping the Society going. As in the days of the French Revolution, when such wonderful work was done by French scientists, so in our smaller and less important sphere, a large amount

of work has been carried out during the stress and turmoil of a nation in arms. Never has there been a period of greater botanical activity among our members. Only in the preceding year have we ever had so many recruits. But the work has had to be done under great disadvantages. The cost of travelling has been much increased, and the difficulties and discomforts have been many. The production of the *Reports* has been an enormous trouble, and the delay in their publication has been most annoying. The cost of paper alone has increased 500 per cent. from pre-war prices, and the cost of labour has been enormously enhanced, so that, despite our increased membership roll, one is not surprised to see once more an adverse balance. One is glad that it is so small. Had all the arrears of subscriptions been paid it would have been non-existent. It may be of interest to know that the subscriptions from the Exchange Club Members produce only about £22 10s, and the Distributor's Report alone cost £29 17s 6d. Our Society may be congratulated upon making no alteration in the price of its publications during the war years.

We are greatly obliged to the donors to our Benevolent Fund. These include, in addition to a special donation by Mr C. E. Britton included in the Balance Sheet, gifts from Mr F. J. Hanbury, Rev. Prebendary H. Fox, Rev. E. S. Marshall, Lord Rothschild, Prof. S. H. Vines, and Mrs Wedgwood of over £30 for a special case.

To Mr C. E. Britton we are greatly indebted for acting as Distributor and Editor of the *Exchange Club Report*, and sending out the plants so promptly. It is only fair to him to say that the very late appearance of the *Report* was owing in no way to any procrastination on his part. It was simply a difficulty with the printers, whose hands had been called up for service. He is to be congratulated on his successful Editorship under trying conditions. To our Publishers, Messrs T. Buncle & Co., Arbroath, we are under great obligations, since they have most generously met us with regard to the price charged for paper and printing.

Special thanks are due to Mrs Corstorphine for kindly checking the proofs, and to her and Rev. F. Bennett, Mr T. Gambier-Parry, and Mr F. N. Williams for literary assistance, and among others to Rev. E. S. Marshall, Rev. H. J. Riddelsdell, Dr Drabble, Lieut.-Col. Wolley-Dod, Messrs C. E. Britton, C. Bucknall, J. Groves, W. P. Hiern, C. C. Lacaita, D. Lumb, W. H. Pearsall, H. W. Pugsley, and C. E. Salmon for critical help.

For naming adventive plants we are again greatly indebted to Dr Albert Thellung; to Sir David Prain and the staff of the Royal Herbarium, Kew; Dr A. B. Rendle and Mr E. G. Baker of the National Herbarium, Cromwell Road; Professor Perceval of the Royal Agricultural College, Reading; Messrs Sutton, of the Royal Seed Establishment, Reading; Prof. S. H. Vines and Prof. I. B. Balfour for assistance in determining specimens or for facilities in consulting the collections under their care. It is a matter of great satisfaction that none of our National Herbaria suffered from the air raids. Some of the more valuable types have been carefully housed by Lord Rothschild at Tring.

It may be added that among the commonest plants which appeared on the turned up ground of the battlefields in France and Flanders was *Polygonum aviculare*, which attained a large size and rank luxuriance. A large number of other plants came from members in the trenches.

Contributions of books, specimens, &c., are welcomed for presentation to the University of Louvain. Each should bear the donor's name. We have to thank Mr Charles Bailey for a contribution of over 2000 specimens for this object, and also Mr J. E. Little and others.

It has been already remarked that the year 1918 showed some excellent work. Two of our members have each added a new species to Britain. Miss Fry discovered *Ajuga genevensis* in June last in Berkshire (see p. 299), and Mr Arnett, in September last, found *Centaureum scilloides*, var. *portense* in Pembrokeshire (see p. 290). Our *Report* also contains an overlooked record of *Rhinanthus Alectorolophus*, which was discovered by our veteran batologist, Rev. W. Moyle Rogers, in Devon in 1885, and re-found there in another locality in 1912 by Mr W. P. Hiern. Its status has, however, to be ascertained. It has been recorded in the *Transactions of the Devon Association*. Mrs Wedgwood and the Secretary were also fortunate to rediscover *Potamogeton rutilus* in Anglesey (the records for Sussex, &c., in *Journ. Bot.* are erroneous), and *Cystopteris Dickieana* in Kincardineshire, and we are able to add three new county records for *Alchemilla argentea*, which may be expected to be found in other places. One of the most important new county records is that of *Juncus capitatus*, which Mr Bolton King discovered in Anglesey, a notable extension of its range. This suggests a careful search to see

if *J. mutabilis* is not also present. It will be remembered that *Trifolium strictum* was once recorded from Anglesey, but has never been confirmed. Our member, Mr T. Attenborough, has been fortunate enough to meet with three specimens of *Orchis hircina* in Jersey. Mr J. Fraser detected a *Koeleria* growing among esparto grass introductions near Edinburgh which puzzled us. Eventually it has been described by Dr Stapf as a new species, bearing the appropriate name, *Koeleria advena*. Mrs Sandwith, too, has rediscovered *Phleum paniculatum* at Bristol, whence it was originally recorded from King Weston in that neighbourhood by Hudson in 1762. Its reappearance, therefore, links up a very old record with present times. The grass was cultivated at the Oxford Physic Garden, and a stray seed germinated on the adjacent wall of Rose Lane, whence Sibthorp (*Fl. Oxon.* 1794) recorded it, adding a general habitat for this species, "walls, dry pastures." Succeeding works elaborated this record to "dry walls, Rose Lane, Oxford," "dry walls, Oxfordshire," "dry stony places, Oxfordshire," "stoney fields, Oxfordshire," and the species was accorded a place in our British Floras which it did not deserve.

During the year we have suffered serious loss in the deaths of Mr J. E. Bagnall, A.L.S., Mr E. W. Hunnybun, Mr E. D. Marquand, Rev. T. Martyn, and the Right Rev. Bishop Mitchinson. Notices of these appear among the Obituaries. We have also lost four members from resignation or lapse.

The new members for 1918 (some have already appeared in last *Report*) include Mr A. Barrett, Mr E. J. Bedford, Rev. P. Bevan, Mr T. Bates Blow, F.L.S., Mr H. Neville Brothers, Mrs Butler, Rev. J. G. Buxton, Mrs Basil Champneys, Rev. A. D. Claye, D.D., Mrs Colville, Rev. E. C. Crutwell, Mr H. H. Dunn, Mr T. A. Dymes, F.L.S., Baroness Elphinstone, Mr J. J. Everitt, Mr J. L. Ewing, LL.D., Miss E. Du Cane Godman, Mr R. W. Goulding, Mr Stanley Guiton, Mr H. G. Gwatkin, Mr Gerald Haynes, Dr J. W. Houghton, Rev. Canon Headlam, Mr D. Lloyd Howard, Mr W. O. Howarth, Mr H. Wallis Kew, Mr R. Kennedy, Mrs A. Leith, Mr George Lillie, Right Hon. James Lowther, M.P., Mr St John Marriott, Lady Evelyn Mason, Rev. W. Wright Mason, Mr W. D. Miller, Duchess of Northumberland, Oxford City Library, Countess of Portsmouth, Earl of Plymouth, Miss Anna Robley, Dr E. J. Russell, Rev. Finlay Saunderson, Prof. W. Somerville, Swansea Field Naturalists' Club, Rev. F. Stone,

M.A., Miss A. E. Thomson, Rev. Canon Tuckwell, Mr T. Trollope, Miss May A. A. Tulk, Mr E. Vaughan, Miss E. Wheelwright, F.L.S., Rev. W. Wilks, M.A., Dr White, and Mr W. Wise.

We beg to offer our sincere condolence to Mr Leonard Sutton, who has now lost four sons in the war, the last being Lieut. E. M. Sutton, R.E., who was killed in the spring; to Prof. Bateson on the loss of his eldest son, Lieut. John Bateson, R.F.A., who fell a sacrifice on October 14, having already gained the Military Cross; and to Mrs Gregory, the authoress of *British Violets*, on the recent death of her distinguished son from pneumonia following influenza. He had been gassed at the front, and was therefore especially susceptible to the pest which has devastated so many homes in this fateful year.

For our Editor and Distributor of the Exchange Club we have secured the services of our old member, Mr J. Walter White, F.L.S., Warnham, Woodland Road, Clifton, Bristol. He has been kind enough to offer to supply from his large store of duplicates the individual desiderata of members as far as possible. Therefore members desirous of availing themselves of this offer should send in their marked list of desiderata as soon as possible. The lists, printed or otherwise, will be returned with the plants and Exchange bundles next year. Exchange Club parcels should be sent before December 7, 1919, to the above address.

PLANT NOTES, ETC., FOR 1918.

(Mostly New Plants to the British Isles).

38. *RANUNCULUS TRICHOPHYLLUS* Chaix in Vill. Hist. Pl. Dauph. i., 335. In this volume the name is given without description and with merely a reference to Haller, 1162. Haller's is itself a compound species, therefore Mr Williams ignores Chaix and cites *trichophyllus* only from its restoration by Grenier and Godron *Fl. Fr. i.*, 23, 1847. Rouy & Foucaud (*Fl. Fr. i.*, 67), however, use the name *R. trichophyllus* Chaix as the name for a polymorphous group of twelve "formes." These are *R. radians* Revel, *Godroni* Gren., *Martini* Lamotte, *trichophylloides* Humn., *trichophyllus* Chaix *genuinus*, *capillaceus* Thuill., *paucistamineus* Tausch, *Drouetii* Schultz, *Britannicus* R. & F., *lutulentus* Perr. & Song., *filicaulis* R. & F., and *confervoides* Fr. The description of *R. Britannicus*, which has to be accounted for if, as seems likely, the name alludes to its being a British plant, no French localities being given, is "Feuilles toutes multiséquées, à lanières divergentes hors de l'eau; feuilles supérieures distinctement pétiolées; tige grêle; pédoncules grêles, courts (2 centimètres); fleurs petites; étamines 5-10, carpelles très hispides, un peu amincis au sommet"—a description which, Mr Williams says, does not apply to our British plant. As M. Rouy's herbarium is now in the possession of Prince Roland Bonaparte it would be well worth while seeing the original of the plant on which this description is based, and whether it is our usual form. It will be observed that in the above arrangement *Drouetii* is made subordinate to *trichophyllus*, whereas Mr Williams keeps them distinct, giving it the name *divaricatus* Schrank, dating from 1789.

41. *R. PELTATUS* Schrank, var. (vel forma) *LACERUS*. Foliis natantibus inaequaliter in segmenta acuta, cuniformia sectis, apicibus interdum in radios divaricatus prolongatis; foliis submersis flaccidis et cum ex aqua extrahuntur, collabentibus; segmentis 4-5 cm. longis, carpellis subrotundis. Differs from the type in the floating leaves being irregularly cut into acute, wedge-shaped segments, sometimes with the apices prolonged into long, comb-like

parts; submerged leaves flaccid and collapsing into a pencil or closely aggregated, the segments 4-5 cm. long; carpels rounder than type. Llanbadarn Fawr, Cardigan; Don, Alford, N. Aberdeen; Bardour Loch, Baldenoch, Stirling; Balnaha, Loch Lomond.

50. *TROLLIUS EUROPAEUS* L., [var.] *RELICTUS* Heslop-Harrison in Trans. Soc. Northumberland, Durham, and Newcastle-on-Tyne v., pt. i., 136, 1917. *Trollius* grows in the Lower Tees marshes and luxuriates at ten feet from sea level. This Dr Harrison cultivated side by side with plants from 1000 and 1800 feet from Alston, and with others from 500 feet from Wark. Wide divergences were at once noticed between the Pennine and Tees marsh specimens. Those from Wark, closely as they approached the mountain form, were nevertheless intermediate. Dr Heslop-Harrison has drawn up the following table to show concisely the main differences:—

CHARACTER.	UPLAND FORM (type).	LOWLAND FORM (<i>relictus</i>).
Flower buds.	Greenish.	Reddish brown.
Colour of flowers.	Yellow.	Slightly deeper.
Bracts.	Not so leaf-like and few.	Leaf-like and many.
Flowering spike.	Short and rarely if ever branching.	Long and branching frequently enough.
Seed pods.	Rich deep purple in colour.	Only very faintly so.
Leaves.	Much more compact owing to the closeness of the segments; on an average not so long.	Freer in growth in all these characters.

It would be instructive if further experiments were made so as to test the permanence of the above characters in seeding specimens. There is also the extreme high alpine form of the Scottish cliffs which has a facies of its own. It may be added that in the above note Dr Harrison has mentioned no special grade, and I am responsible for the introduction of the term "var."

68 (4). *ACONITUM COMPACTUM* Reichb. Uebers. Aconit. 27. In the *Flora of Perthshire* 54, 1898, Dr Buchanan White records *Aconitum Napellus* as an escape on the banks of the Tay and Earn. Last August on the tidal mud-banks below Perth I found an Aconite quite naturalised which belonged to the *Napellus* group. It is quite distinct from the native form and is, as Dr Stapf kindly tells me, *A. compactum* Reichb. "the commonest form of *Napellus*, sensu lato,

on the Swiss Alps." It has not been previously recorded as an adventive plant, but is doubtless of garden origin. G. C. DRUCE.

80. PAPAVER RHOEAS L., lusus. A curious monstrosity in which below the inflorescence on each stem there is a pair of extra sepals giving it a bracteate appearance. Found at Stoke Cannon, Devon, 1918, Miss COBBE.

80. P. RHOEAS L., var. CAUDATIFOLIUM (Timb. Bull. Soc. Hist. Nat. Toul. iv., 163, 1870, as a species) Fedde in Pflanzenr. 297, 1909. As a "forme" in Rouy & Fouc. *Fl. Fr.* i., 154. Capsule broadly ovate, always narrowed at base, the lateral leaf-lobes few, usually narrow, slightly toothed or undulate, the terminal lobe larger and elongate, lanceolate-linear, serrulate, and in the stem-leaf forming the larger portion of it; flowers often large, the petals narrowed into the claw; hairs of stem spreading.—Herba plerumque elata; folia pinnatifida, rarius pinnatipartita, segmentis lateralibus paucis, angustis, interdum abbreviatis, dentatis vel undulatis, terminali (praesertim foliorum caulinarum) multo majore elongato, lanceolato-lineari, serrulato, minimum quidem dimidium, plerumque autem majorem partem totius folii formante; flores saepe majores, petala (an semper?) subunguiculata. England—Yorkshire, Surrey, 1881, NICHOLSON; France—(sub nom. *P. Fuchsii*) Toulouse, TIMBAL-LAGRAVE in *Soc. Dauph.* n. 27774, 1881; Germany, Italy, Greece, Balkans, Russia, Persia, Asia Minor, Egypt, Tunis, Algeria, Morocco, Canaries, FEDDE, *l.c.*; Brixham, S. Devon, Miss COBBE; Burpham, W. Sussex; Lewes, E. Sussex; Wootton, Berks; Pyrford, Surrey; Brickhill, Bucks; Headington, Oxford, 1883; Yardley Gobion, Northants, 1875, DRUCE; Lighthorne, Warwick, Miss PALMER.

Fedde in *Pflanzenreich*, *l.c.*, gives the following clavis to the varieties of *P. Rhoëas*:—

A. Varieties based on leaf form.

a. Leaves dentato-pinnatifid or sub-pinnatifid.....Var. GENUINUM Elkan.

Varying

a. Pinnatifid with inciso-sub-crenate lobed segments..... Sub-var. *quercifoliolatum* Fedde.

b. Pinnatilobed with oblong crenate segments..... Sub-var. *obtusilobum* Fedde.

b. Leaves often sub-entire, deeply serrate or serratodentate..... Var. SUBINTEGRUM Willk. & Lange.

uniflorum (Balb.).

Varying

With closely patent stem-bristles and long hairs.

-Sub-var. *crinitum* (Fedde).
 c. Leaves pinnatifid, the lateral segments few, narrow
 or abbreviated, the terminal much elong-
 ated, serrulate.....Var. CAUDATIFOLIUM Fedde.

Varying

- a. Leaf segments narrowly linear-lanceolate or
 nearly entire.....Sub-var. *parvicaudatum* Fedde.
 b. Lower leaves sub-pinnatifid, the upper with a
 long terminal lobe as in the foregoing.
Sub-var. *subpinnatifido-caudatum* Fedde.
 c. Stem-bristles long, brown-purple, those of the
 sepals golden.....Sub-var. *aegadicum* Fedde.
 d. Leaves often trifid or trisected; segments feebly
 dentate.....Var. TRIFIDUM Fedde.
 e. Leaves pinnatipartite, segments sub-entire.....
Var. CRUCIATUM (Jord.) Fedde.
 f. Leaves bipinnatifid or rarely sub-tripinnatifid, the
 segment lobes narrowly linear.....Var. DODONAEI Fedde.
 g. Leaves often tripinnatisect.....Var. MULTIFIDUM Fedde.
- B. Varieties based on petal colour.
 a. Petals pale red, flowers small.....Var. PALLIDUM Gren. & Godr.
 b. Petals white, 2.5 cm. long.....Var. LEUCANTHUM Fedde.
 c. Petals violet.....Var. VIOLACEUM Bréb.
- C. Varieties based on leaf clothing.
 a. Plant sub-glabrous, few stem-bristles.....Var. GLABELLUM Elkan.
 b. Plant glabrous, except a few bristles on leaf-nerve
 and apices of leaf-teeth.....Var. GLABRUM Fedde.
 c. Hairs on peduncles red.....Var. PRYORI Druce.
 (*erythrotrichum* Fedde).
 d. With stem-bristles and tubercles.....
Var. TUBERCULIFERUM Fedde & Bornmüller.
- D. Varieties based on the stigmatic disc.
 a. Capsule not stipitate, disc sub-pyramidal, umbilicate
 (0.5-1.5 mm.).....Var. OMPHALOPHORUM Fedde.
 b. Capsule stipitate, disc flat, umbilicate.....
Var. UMBILICO-SUBSTIPITATUM Fedde.
- E. Capsule sub-stipitate, stigmatic rays 12-20.....Var. HOOKERI (Baker) Fedde.
 F. Peduncle scapiform, elongate, stigmatic rays 5-6.....
Var. PSEUDO-EROSULUM Fedde.

Var. TRIFIDUM Fedde. I referred to this, which seems well worth distinguishing as a variety, in the *Flora of Oxfordshire* 18, 1886. It almost certainly crosses with other forms, and is sometimes found with crimson stem-bristles.

Var. SUBINTEGRUM Willk. & Lange Prod. Fl. Hisp. i., 872. Fedde in Pflanzenreich 297, 1909. Var. *uniflorum* (Balbis ex Spenner Fl. Frib. iii., 980, 1829, as a species). ? Var. *pallidum* Gren. & Godr. Fl. Fr. i., 58, 1848. Tota herba plerumque gracilior (an modo forma depauperata?); folia omnia vel plurima grosse serrata vel serrato-dentata, rarius dentato-pinnatiloba vel rarissimo, imprimis inferiora, pinnatifida segmentis integerrimis. England, France, Spain, Portugal, Germany, Italy, Istria, Turkey, W. Asia, N. Africa. Boar's Hill, Berks; Shotover, Oxford; Brickhill, Bucks.

Var. VIOLACEUM Brébisson Fl. Norm. ed. 5, 18, 1879. Folia subbipinnatifida, segmentis altius incisus; petala violacea. Burpham, W. Sussex; Great Doward, Hereford.

Even this large series of varieties does not exhaust the named forms. These varieties referred to are not of equal grade. They differ from each other as the stars in glory. But it appears more convenient to call them varieties than to enter the quagmire of vars. and sub-vars., of forms and subforms, of races and monstrosities, as to the limits of which no two authors agree, and in the shifting phantasmagoria the trivial name, thanks to the absurd ruling at Vienna, may be changed with each move according to the will of the author. Among these which are given in Fedde's clavis, are P. RHOEAS, forma SETOSA Bornmüller It. Pers.-Turc. n. 3228, 189, 1892, Brixham, S. Devon, Miss COBBE; var. ROSEUM Kuntze, petala pallide rubra, livida rosea; var. IMMACULATUM Kuntze, petala rubra immaculata, common in Britain; var. HOFFMANNIANUM Kuntze, petala rubra, basi nigro-maculata, macula albo-marginata. This is rather frequent in England—Brixham, S. Devon, Miss COBBE (!); Odiham, N. Hants, Miss PALMER; Swanage, Dorset; Lyndhurst, S. Hants; Pyrford, Surrey; Burpham, W. Sussex; Eastbourne, Sandhurst, Tubney, &c., Berks; Headington, Oxford; Yardley Gobion, Northants; Edge Hill, Warwick; Stow, E. Gloster, DRUCE. There are also variations of *caudatifolium* and *Hoffmannianum* with red stem-bristles. The stigmatic discs afford other varieties. One has them thickly covered with blackish-violet velvety indumentum, another being almost smooth, and the number of rays also varies. The capsules vary from flat-topped to rounded and their base may be narrowed or rounded. The juice is normally white, but a yellow-juiced variety, *chelidonioides* Kuntze, has occurred in

Britain. The hairs on the stem are normally patent but plants with appressed stem-bristles occur. These may be hybrids of *dubium* but *P. strigosum* Boenn. is separated by Fedde from *Rhoeas* by nineteen species. Fedde gives no British locality for *strigosum* or its seven varieties. In addition to the stem-bristles being red, golden-orange forms occur as at Brixham, S. Devon, Miss COBBE; Wootton, Berks. &c., DRUCE.

The extreme diversity of *P. Rhoeas* need not be wondered at. With cereal culture introduced ages ago these agrestal weeds, like cereals, came from widely separated areas of the Old World. Coming into a new area they would be more likely to cross with their allies from other geographic sources, and these again would cross from time to time with new immigrants so that this wide range of variations is not difficult to account for. Hitherto these forms have been neglected in Britain. In France Rouy & Foucaud restrict the true *Rhoeas* to plants having capsules rounded at the base and having pinnatifid leaves. Under this they put var. *pallidum* Gren. & Godr. (my var. *uniflorum*), var. *violaceum* Bréb., var. *vestitum* Gren. & Godr., var. *conicum* Legrand. Then come "formes" (1) *P. INSIGNITUM* Jord. with top-shaped capsule, deeply pinnatifid leaves having pinnatifid lobes; (2) *P. INTERMEDIUM* Beck., (*P. Dodonaei*), which is figured in Dodonaeus' *Pemptades* 444, 1581, with its vars. *erucifolium* Timb., *arvaticum* (Jord.), *erraticum* (Jord.), and *segetale* (Jord.); (3) *P. CAUDATIFOLIUM* Timb. with its vars. *agrivagum* (Jord.), *cruciatum* (Jord.) and *serratifolium* Hérib.; (4) *P. STRIGOSUM* Boenningh., and (5) *P. ROUBIAEI* Vig.

131. *BARBAREA INTERMEDIA* Bor., var. *FALLAX* Loret et Barr. Fl. Montp. ed. 1, p. 42. Differs from the type in the spreading silicles. Oat field, Lower Morden, Surrey, July 1918, C. E. BRITTON.

184. *SISYMBRIUM ALTISSIMUM* L., var. *UCRAINICUM* (Blonski) Thell. in Hegi Ill. Fl. Mitt. Eur. iv., 179, 1918 as forma. Milverton, Warwick, 1894, H. BROMWICH as *S. Columnae*. Plants were distributed through the Club in 1894 but without mention in the *Report*.

193 (3). *S. THELLUNGII* O. E. Schultz in Engl. Pflanzenreich. (Crucif.-Brass.) mscr. Syn. *Brassica pachypoda* Thellung in Viertelj. Nat. Ges. Zürich lvi., 257, 1911, non *Sisymbrium pachypodium*

Chiovenda in *Annali di Bot.* ix., 52, 1911. Alien, Africa austr. Meanwood, Leeds, September 1917, E. C. HORRELL. Teste A. THELLUNG.

247 (24). *LEPIDIUM SPICATUM* Desv. in *Journ. de Bot.* iii., 178, 1814. Stem herbaceous, upright, with simple branches; leaves linear, pointed, entire, glabrous, adpressed to the stem; silicles almost imbricate, disposed in a long spike, orbicular and emarginate, a little rounded at the top, with no projecting style. A specimen, of South American origin, is in the Herbarium of the Paris Museum. It is allied to *virginicum* but is easily distinguished by the arrangement of the silicles. Melrose, Roxburgh; Galashiels, Selkirk, Miss I. M. HAYWARD. First recorded in *Rep. B.E.C.* 187, 1915 as *L. bonariense* L., var. *Stuckhertianum* Thell., but Dr Thellung, having grown it from seed, now identifies it as above. It is a native of Chile and the Magellan area.

247 (35). *L. PEREGRINUM* Thell., var. nov. *GLABRIPES* Thellung. Galashiels, Selkirk, 1918, Miss I. M. HAYWARD. Differt a typo pedicellis glaberrimis nec intus puberulis, praeterea et inde racemis fructiferis elongatis haud distincte lateralibus, siliculis latioribus (2:1 $\frac{3}{4}$ mm.), ovato-suborbiculatis, emarginatura valde angusta, seminibus latioribus (1 $\frac{1}{4}$: fere $\frac{3}{4}$ mm.) foliis minoribus. Planta evidenter magis normaliter evoluta quam specimen³ originale typi (qui = forma *umbrosa* ?). A. THELLUNG, in *lit.*

357. *CUCUBALUS BACCIFER* L. This was first recorded in Ray *Syn.* 267, 1724 by Dillenius as "gathered in hedges in Anglesey by Mr Foulkes of Llanbeder and sent to Dr Richardson," but in 1727 Mr Foulkes wrote to Dr Richardson saying he had been misinformed. Smith (*Brit. Fl.* 464) says the Rev. H. Davies could never meet with the plant in that island. Dr Macreight (*Man. of Botany*, 1837) says it was found by Mr G. Don in shady woods near Edinburgh, but Prof. Don said that his brother only thinks the plant he saw might have been *Cucubalus*. Therefore the earliest unquestioned record is that of Mr G. Luxford who (*Mag. Nat. Hist.* ii., n.s., 45, 1838) records it from the Isle of Dogs. He says that while he was botanising there in June he observed it growing among nettles and brambles on the southern bank of one of the ditches in considerable quantity. He

thought it was *Cerastium aquaticum* as it was not in flower. In the early part of the following August he again saw it and as it was in full flower to his surprise and delight he perceived it to be the highly interesting *Cucubalus*. "From the very luxuriant state I should conclude that it had been for a long time in undisturbed possession of the place where it was growing, and the ditch having been cleaned out and the banks cleared of their rank herbage on each side of the place, it is not improbable that the plant had been destroyed in the cleared parts." As we know the *Cucubalus* continued there for some years, and having in mind its recent discovery in Norfolk by Mr Robinson it may be we have been wrong in treating it as an adventive plant in the Isle of Dogs as the locality was not a very likely one for aliens, nor was the plant likely to be introduced with ballast. It seems much more likely that the seeds were bird-brought from the continent. There is another overlooked record given in *Phyt.* 295, 1842 from Mr H. O. Stephens of Bristol, who says that on the margin of his copy of Ray's *Syn.*, in old writing, is a note by the former owner of the book that *Cucubalus* grew at Springfield, Essex.

371. *CERASTIUM VISCOSUM* L. In the MSS. for the *Cambridge Flora I* divided the variations of this polymorphic plant into five forms—(a) the type, being the sub-var. *corollinum* (Fenzl as a var.); (b) forma *apetalum* (Murbäck under *glomeratum*); (c) forma *gracile*, based on plants from the ferruginous sandstone of Brickhill, Heath. &c., Beds and Bucks; (d) forma *densum* (sub-var. *confertum* Rouy & Fouc.), with the heads closely aggregated and the plant short and stout, and (e) forma *elongatum* (Rouy & Fouc. as a sub-var.), the latter very closely allied to *gracile*. *Elongatum* has long peduncled flowers in lax cymes and the plant is robust and much branched. This I have from Skye, 1910; Oxford, 1858; Lane End, Bucks, 1802, &c. This form was included in Beguinot *Fl. Ital. Exsicc.* n. 804 as a variety.

399. *ARENARIA CILIATA* L., var. *HIBERNICA* (Ostenf. & Dahl. in *Nyt. Mag.* 216, 1917, as a sub-sp.) comb. nov. This is the Ben Bulbin plant.

408. *SAGINA PROCUMBENS* L., lusus *DAVIESII*. Originally found on a green near Beaumaris, Anglesey, by the Rev. H. Davies in 1817

it was described and figured by Baxter in *Phaen. Bot.* iii., 199, 1837. It was cultivated in the Oxford Botanic Garden by Baxter and in 1836 he says a single flower, having only a diameter of one-tenth of an inch, had 44 perfectly formed petals. (See Williams in *B.E.C. Supp.* 194, 1917). In 1918 Mr Bolton King found a similar plant near Rhosneigr, Anglesey, showing how the plant persists in that island. It is, however, not confined to Anglesey as is evidenced by the note in *Phyt.* 1000, 1850 by the Rev. R. C. Douglas, who says he found a similar form among sphagnum in a small bog by the roadside about half way between Stafford and Rugeley.

453. *MALVA ROTUNDIFOLIA* L. (*M. NEGLECTA* Wallr.), var. *BRACHYPETALA* Uechtr. Kirkstall, York, August 1917, E. C. HORRELL. Possibly adventitious. Determined as probably this by Dr THELLUNG.

456 b. *M. PARVIFLORA* L., var. *MICROCARPA* (Desf.) Fiori et Paoletti. *M. microcarpa* Desf. Tabl. ed. 1, 144. Alien, Europe. Mirfield, Leeds, 1916, E. C. HORRELL.

488. *GERANIUM ROBERTIANUM* L. The British varieties are not adequately dealt with by Knuth in his Monograph. He omits mention of var. *maritimum* Bab. and var. *purpureum* Forst., non Vill. There are good specimens of the latter at South Kensington. Babington (*Man.* ed. 1, 62, 1843) diagnoses var. *purpureum* (Forst.) as a plant with petals narrower than type, sepals glandular-hairy, capsule glabrous, more wrinkled, leaves with narrower segments and (*Man.* ed. 3, 62, 1851) he diagnoses var. *maritimum* as a plant with glabrous carpels with 1-2 deep transverse wrinkles at the top. Var. *maritimum* Bab. and var. *rubricaulis* Hornem. are very closely allied. Other names in the British Herbarium at South Kensington are *G. Lebelii* Bor., *G. minutiflorum* Jord., and of course *G. modestum* Jord. and *G. purpureum* Vill. The true *G. Lebelii* is a plant with the general characters of *G. modestum* Jord. with small red flowers but with the carpels covered with a short grey pubescence. The true *G. minutiflorum* Jord. has small red petals with an oval-oblong limb. It is a fetid plant of a sombre green or dark red colour with peduncles longer than the leaves. Various plants have been sent to the National Herbarium named *G. modestum* Jord. The true plant has small red

flowers with anthers yellow, then brown, the beak of the fruit about 15 mm. long, and the whole plant somewhat glandular but less fetid than *G. minutiflorum* Jord. E. G. BAKER.

497 (2). *ERODIUM SEROTINUM* Stev. in Mém. Ac. Pétersb. iii., 297, 1809, appears in a paper on the Adventive *Erodium* species by F. ARNOLD LEES in the *Naturalist* for 1918.

526. *ACER CAMPESTRE* L., var. *LOBATUM* Pax, sub-var. *MOLLE* (Opiz) Pax. Hedge, far from houses, Dorrington, S. Lincoln, June 1915, Rev. W. WRIGHT MASON. Det. A. THELLUNG, 1918.

562. *MEDICAGO FALCATA* L., var. *PROCUMBENS* (Bess.) Asch. & Graebn. *M. procumbens* Bess. Prim. Fl. Galic. ii., 127, 1809. *M. Falcata* L., var. *major* Koch Syn. ed. 1, 160, 1835. This differs from the type in its more robust growth, the longer stems, in the larger and more dentate stipules, and in the larger leaflets. Found on the Bleakdown Golf Links, Surrey, 1918, Miss COBBE and Lady DAVY. Det. at Kew.

629 (2). *TRIFOLIUM ANGULATUM* Waldst. & Kit. Pl. Rar. Hung. i., 26. Alien, Hungary, &c. Ashton Gate, Bristol, 1918, Miss M. COBBE.

630 (2). *T. ISTHOCARPUM* Brot. Phyt. Lusit. i., 148, t. 61. Alien. Portugal. Among wool-shoddy aliens in a field near Byfleet, Surrey, 1918, Miss A. B. COBBE.

640 (3). *T. MICROCEPHALUM* Pursh Fl. Amer. Septent. ii., 478, 1814. Crowborough Camp, E. Sussex, July 1916, W. B. TURRILL.

666 (2). *CORONILLA CRETICA* L. Alien, Reg. Medit. Elland, York, 1916, F. PULLAN. W. B. TURRILL agrees with me in thinking the Yorkshire plant is a luxuriant example of this southern species.

673 (2). *ONOBRYCHIS ALBA* Desv. Journ. de Bot. iii., 83, 1814. A native of Italy, Greece, Macedonia, Serbia, Hungary, Roumania, Banatia, Roumelia. Fallow fields by Ermyn Street, on Downs above Ashstead, Surrey, June 1918, C. E. BRITTON. This has leaves with appressed hairs, white flowers in cylindric racemes, the wings a little

shorter than the calyx and the keel a little longer than the vexillum. The calyx-teeth in the Surrey specimens are more than half as long as the corolla. Det. at Kew as *O. alba* Desv., forma.

679 c. *VICIA CRACCA* L., var. *LINEARIS* Peterm. In plenty on the shingle of the Dee at Ballater, S. Aberdeen, August 1918, G. C. DRUCE.

883. *GEUM RIVALE* L., *lusus*. Through the kindness of our member, Mrs Leith, who sent me a plant gathered by her sister, Mrs Tryon, at Great Durnford, Wilts, I am able to report a beautiful form of the above. Out of a double flower grew a short stalked inflorescence of numerous petals of a rich crimson colour. Many examples of variations are given in Master's *Teratology*, but not, I think, this particular form.

910. *ALCHEMILLA ARGENTEA* DON. By a curious coincidence just as the paper on this species in *Rep. B.E.C.* 20, 1917 came to me I was going through a large collection of British plants which had been kindly given to the University of Oxford by our member, Miss Agnes Thomson, the niece of the celebrated Indian botanist and companion of Sir Joseph Hooker in the Himalayas. Part of this collection was made by Dr Thomson. One sheet, labelled *Alchemilla alpina* from Ballinluig, Mid Perth, gathered in 1877, is *A. argentea* Don, and a welcome addition to the flora of Perth. It may be that the Ben Lawers locality is also correct, and that in the locality near Perth (*Rep. B.E.C.* 24, 1917) it may be native. Another locality has come to my knowledge—"on the banks of the Dee, Peterculter, Mrs Garland," but she does not remember on which side of the Dee the plant grew, so it may be either in Aberdeenshire or Kincardineshire. This note I had through the kindness of our member, Mr E. B. Bishop. I have seen the specimen which he has had in cultivation since its discovery in 1912. Mr St John Marriott also kindly informs me that his brother, C. H. Marriott, and W. Culcher, B.Sc., in the summer of 1909 found a large clump of it, with the Beech and Oak Ferns, on the Queensberry Hill near Campbell Church, Moffat, Dumfriesshire, at 2000 feet, miles from any habitation. We may now therefore give its comital distribution as Ang. 1 ? Scot. 5 [2] 1 ?—70 Cumberland ? Dickinson ; 72 Dumfries (!) Marriott ; 88 M. Perth, Ben Lawers ?

Perth Barclay, adv. ; 89 E. Perth, Ballinluig (!) Thomson ; 90 Forfar (!) G. Don, Black, and Corstorphine ; 92 or 93 Deeside, Peterculter (!) Garland ; 100 Arran, Glen Sannox (!) Tyacke and Slater ; 104 Skye G. Don ? ; 112 Shetland Beeby, adv.

910 (2). *A. PUBESCENS* Lam. Found originally on Hambledon Common, Surrey, by Mrs C. WILDE in 1912 and still existing in July 1918. Almost certainly from a neighbouring garden, E. B. BISHOP, in *lit.* It was named by C. E. SALMON in *Journ. Bot.* 141, 1913.

954. *PYRUS COMMUNIS* L., var. *DESEGLISEI* (Rouy & Camus Fl. Fr. vii., 10, as a var. of *P. Piraster*) comb. nov. Found by CEDRIC BUCKNALL and J. W. WHITE on the margin of a wood, bounded by a small stream, Yate Lower Common, W. Gloster. This is described by Rouy & Camus as having small fruits, the size of a cherry ; leaves sub-orbicular, mostly cordate at base, relatively large. It is the *P. cordata* of Déséglise in Billot Exsicc. n. 2458 and *P. cordata* in Boreau Fl. Centre 235 in part, but not of Desvaux, which is the plant which formerly appeared in our lists as var. *Briggsii*. This latter has fruits only about 10 mm. across, while the Gloster plant has fruits 20-25 mm. across. As Mr Bucknall points out, it belongs to the *Pyraster* section under which it is put in *Fl. France* and not to *Achras*. Mr Bucknall sent specimens to the Club gathered in August and September 1917. See *Rep. B.E.C.* 222, 1917. He and Miss Roper tell me that the trees are quite large, with a girth of four feet, and appear quite wild. They should be compared with Mr Riddellsdell's Pear from the Great Doward.

966. *CRATAEGUS MONOGYNA* Jacq., vel *C. OXYACANTHA* L., var. *INCISIFOLIA* mihi. Allied to var. *laciniata* Wallroth. Foliorum lobis 5-7, non contiguus, fere ad nervum mediana incisus, sinus grandes et latos, lobi in superiore parte integri aut crenati, plerumque acuti, raro rotundi, angusti, 5-8 mm. lati. The leaf-lobes (5-7) are cut nearly to the midrib, with large open sinuses, the upper part of the lobes rounded or more usually acute, entire or notched, the leaf-lobes narrow, 5-8 mm. broad. In *laciniata* the lobes are nearly contiguous and are not so deeply cut. Slinfold, J. W. WHITE ; Claygate, Surrey, C. E. BRITTON ; Arundel, W. Sussex ; Wytham, Berks ; Castle-

thorpe, Bucks; Yardley Gobion, Northants, G. C. DRUCE; Yeldersley, Derby, W. R. LINTON; Edinburgh, G. C. DRUCE.

977 (2). *SAXIFRAGA DRUCEI* Marshall. Nomen in *Rep. B.E.C.* 224, 1917. Published in *Journ. Bot.* 65, 1918. Discovered on Brandon Mountain, Kerry, on the summit rocks, September 1906, G. C. DRUCE. Praeger says it also occurs in Donegal.

Gen. 185 (5). *PHILADELPHUS* L.

1000 (10). *P. CORONARIUS* L. Alien, Europe. Little Broad, South Repps, A. R. HORWOOD; planted in hedges about Merton and many other places in W. Norfolk, July 1918, G. C. DRUCE.

1010 (2). *SEDUM MAXIMUM* Suter *Fl. Helv. i.*, 270. Alien, Europe, widely distributed: Hambledon Common, Surrey, August 1912. Identified by C. S. NICHOLSON. Probably from the same garden as *Alchemilla pubescens*, but a quarter of a mile away, E. B. BISHOP, in *lit.*

1053. *EPILOBIUM LANCEOLATUM* × *PARVIFLORUM* = *E. ASCHERSONIANUM* Hausskn. A partly sterile plant with the habit of *lanceolatum* and (teste Rev. E. S. Marshall, not quite like a natural garden hybrid grown by W. R. Linton) showing strong evidence of *parviflorum* in the buds and pubescence. It is a remarkably leafy plant. This is the first record of it in a natural state in Britain. Near Amberley, Sussex, 1919, G. C. DRUCE.

1107 (2). *CARUM AROMATICUM* Druce in *Rep. B.E.C.* 612, 1916. *C. copticum* Benth. & Hook. f. *Gen. Pl. i.*, 891. *Trachyspermum copticum* Link. Dean Clough, Halifax, York, September 1917, E. C. HORRELL. Det., as *Trachyspermum aromaticum* (L.), by Dr THELLUNG, April 1918.

1107 (3). *C. RIDOLFIA* Benth. & Hook. f. *Gen. Pl. i.*, 891. *Ridolfia segetum* Moris. Alien, S. Europe—Spain, Portugal, Italy, &c. Mirfield, York, 1916, E. C. HORRELL. An imperfect specimen but "probably this," W. B. TURRILL. Dr THELLUNG agrees.

1110. *SIUM LATIFOLIUM* L., var. *ANGUSTATUM* Doell *Fl. Bad.* 1007, 1857. Wolvercote, Oxon. See Druce *Fl. Berks.* 240, 1897.

1110. *S. LATIFOLIUM* L., var. or *lusus BRACTEATUM* mihi. Umbellules with long foliaceous bracteoles. Bracteolis foliaceis. Portmeadow, Oxford, August 1883, G. C. DRUCE.

1134. *OENANTHE CROCATA* L., var. or forma *TENUIFOLIOLATA* mihi. Differs from the type in the much narrower leaf-segments, those of the lower leaves 8-15 mm. across, apices acute, those of the upper leaves 2-3 mm. across. Inferioribus foliorum segmentis 8-15 mm. latis, apicibus acutis; superioribus, segmentis 2-3 mm. latis. By the Arun, near Burpham, W. Sussex, 1918, G. C. DRUCE.

1151. *PEUCEDANUM SATIVUM* Benth. & Hook. f., var. *EDULE* (DC.). Var. *dulce* Druce Brit. Pl. List. *Pastinaca sativa* Hoffm., var. *edulis* DC. This cultivated form of the Parsnip, distinguished by the larger and more fleshy roots, by the glabrous leaves, shining above, the segments narrowly wedge-shaped at base, is occasionally found on field-borders and rubbish-heaps as a straggler from or an outcast of cultivation. At Craigmillar Castle, near Edinburgh. Mrs Wedgwood found this form in some quantity with *Rumex scutatus* and quite naturalised. She tells me she learned from the custodian that "Mary Queen of Scots was so fond of Sorel she sent to France for seeds. They were delivered to her in the tennis court, and when she opened the packet some seeds blew away, and their descendants still flourish on the wall of the court." Doubtless the Parsnip was sent for her kitchen-garden, and both still survive. G. C. DRUCE.

1233 (2). *CEPHALARIA TATARICA* Schrad. Cat. Sem. Hort. Gott. 51, 1814. Alien, Russia, Orient, &c. Naturalised on edge of gravel pit, Wareside, Herts, 1915-16, J. W. HIGGENS, vide sp.

1253. *ASTER LAEVIS* L., var. *GEYERI* Asa Gray Fl. N. Amer. 183. Alien, N. America—valleys of the Northern Rockies to Idaho south to Wyoming. Canadian Mule Depot, Long Ashton, N. Somerset, 1917, Miss I. M. ROPER. Named at the Missouri Bot. Gard., St Louis. This has the involucre broader and less imbricated; its bracts of thinner texture, mostly attenuate-acute, the green tip less definite.

1261 c. *ERIGERON ACRE* L., var. *CORYMBOSUM* Wallroth. Tottenhill, W. Norfolk, J. E. LITTLE and Miss ANNA LUDDINGTON. Differs

from the type in having a white pappus. See *Rep. B.E.C.* 228, 1917.

1270. *ANTENNARIA DIOICA* Gaertn., var. *HYPERBOREUM* DC. Inner Hebrides—Isle of Skye. See Williams' *Prod.* i., 17, and *E.B. Suppl.* t. 2640, 1830 (as *A. hyperborea*). It was first found in Skye, on rocky ground on Little Breeze Hill, September 1794, by J. Mackay. Found on the Cuchullins in 1835 by Dr N. Tyacke. Under the illogical rule of keeping the first name used in the grade in vogue, and not the earliest trivial, which assuredly is the wiser and more conservative plan, this should be called var. *LANATA* (Gray Nat. Arr. 458, 1821, as a var of *A. montana*) Druce, comb. nov.

1285. *PULICARIA DYSENTERICA* Bernh., var. *DISCOIDEA* (Druce under *Inula*). *Journ. Bot.* 82, 1880. Harpole, Northants, G. C. DRUCE. A lusus rather than a true variety.

1292. *AMBROSIA TRIFIDA* L., forma *INTEGRIFOLIA* (Muhl.) Torrey & Gray. Alien, N. America. Morley, F. PULLAN; Elland, York, 1916, E. C. HORRELL. Det. A. THELLUNG.

1297 (2). *RUDBECKIA HIRTA* L. Alien, America. Bristol, 1917. Miss I. M. ROPER. Det. A. THELLUNG.

1301. *HELIANTHUS* species. Varieties of *H. annuus* and *lenticularis* when crossed produce plants which are as fertile as the parents. The annual species (typical *Helianthus*) crossed together are quite fertile, but the hybrids themselves are sterile. *H. annuus* has been crossed with *argophyllus*, *petiolaris* and *cucumerifolius*. Annual species can rarely be crossed with perennial, and when this occurs the offspring closely resembles one or other parent species. T. D. A. COCKERELL in *Nature*, September 26, 1918.

1301 (2). *H. LENTICULARIS* Dougl. in Bot. Reg. t. 1265. Bristol. Long Ashton, N. Somerset, 1917, Miss I. M. ROPER.

1301 (8). *H. DIVARICATUS* L. Long Ashton, N. Somerset, 1917, with the above, on the site of the Canadian Mule Depot, Miss I. M. ROPER.

1301 (11). *H. GIGANTEUS* L. Alien, N. America. Bristol, 1916,

Miss I. M. ROPER; Elland, York, September 1916, E. C. HORRELL;
Botley, Oxford, 1915, G. C. DRUCE.

1311 (4). *BIDENS FRONDOSA* L. Alien, America. Bristol, 1918,
Miss I. M. ROPER. Det. A. THELLUNG.

1312. *GALINSOGA PARVIFLORA* Cav. Dr Thellung, *Allg. Bot. Zeit.* 6, 1915, describes a variety of this species as var. *ADENOPHORA* Thell. "Pedunculis involvulis involucrisque (praeter pilos simplices rariores) glandulis stipitatis dense obsitis, interdum solum glandulosis (pilis simplicibus deficientibus)." The type, var. *GENUINA* Thell., is characterised—"Pedunculis involucrisque eglandulosis vel parce glandulosis, illis pilis brevibus erecto-subpatentibus (ad 30 deg.) setulosis."

Forma *SUBGLANDULOSA* Thell. Alien, S. America. Guildford, Surrey, R. M. KENNEDY. Det. A. THELLUNG, 1918.

1320 (4). *SCHKUHRIA BONARIENSIS* Hook. & Arnott in Hook. *Journ. Bot.* iii., 321, 1841. Alien, Chile. Lanal. Pampas of Buenos Aires. Tweedside, Galashiels, Selkirk, October 1918, Miss I. M. HAYWARD. Det. W. B. TURRILL.

1322 (2). *TAGETES MINUTUS* L. Alien, America. Meanwood, Leeds, 1917, E. C. HORRELL. Det. A. THELLUNG.

Gen. 313 (3). *LONAS* Adans. *Fam.* ii., 118, 1763.

1322 (10). *L. ANNUA* (L.), comb. nov. *L. inodora* Gaertn. *Fr.* ii., 396. *Atanasia annua* L. *Sp. Pl.* ii., 1182, 1763. Alien, Reg. *Medit.* On waste ground between Truro and Malpas, W. Cornwall, August 1912, F. RILSTONE. Named *L. inodora* Gaertn. by A. THELLUNG.

1344 (2). *ANTHEMIS WIEDMANNIANA* Fisch. & Mey. *Ind. Sem. Hort. Petr.* ii., 27, 1835. Alien, Asia Minor. St Philip's, Bristol. June 1911, J. W. WHITE. See *Rep. B.E.C.*, 229, 1917.

1353. *CHRYSANTHEMUM LEUCANTHEMUM* L., *lusus* vel var. *DISCOIDEUM*. Ligules absent. Sent by Miss Todd from Wickham, Hungerford, Berks, 1918.

1365 (7). *COTULA ANTHEMOIDES* L. Alien, Spain, &c. Plymouth, S. Devon; Mr SMITH in *Trans. Dev. Assoc.* xlix., 105, 1917; near Byfleet, Surrey, 1918, Miss M. COBBE.

1408 (23). *SENECIO LIGULARIA* Hook. f. *Fl. Brit. Ind.* iii., 349. Alien, Himalayas. Bonnington Lake, Herts, August 1918, Mrs JAMES, ex Miss TROWER.

1408 (24). *S. SMITHII* DC. *Prod.* vi., 412. Alien, Magellan. On the banks of a small tributary of the Don in N. Aberdeen I saw a huge *Senecio* which at a distance suggested *palustris*, but on closer acquaintance I found that it was this species of South American or New Zealand origin. How it came there was at first difficult to explain. I visited about a score of gardens in the adjoining village of Clongarff but in vain. Eventually, however, among the stones of a fallen house several plants were noticed. From this place it doubtless originated. The plant is a handsome species with large oblong-lanceolate leaves nearly a foot long by 4-5 inches across and an inflorescence recalling that of *Sonchus arvensis*.

1408 (25). *S. OLIVORUM* Maxim. in *Bull. Acad. Pétersb.* xvi., 220, 1871. Alien, China, Japan. On the margins of little Broad, South Repps, Norfolk, A. R. HORWOOD. Doubtless planted there.

1459 (4). *CENTAUREA MACULOSA* Lam., *lusus ALBIFLORA* Gugler. Alien, Europe. Woodhall Spa, N. Lincs, 1917, Rev. F. ALSTON, vice "*C. psammogena*." See *Rep. B.E.C.* 37, 1917. It is not a hybrid as the pappus is well developed.

1641. *HYPOCHOERIS GLABRA* L. In immense quantities in sandy fields near Pyrford, Surrey, in two distinct modifications as pointed out to me by the Misses COBBE and Lady DAVY. Both forms are typical as regards the fruit characters, but they differ in habit and size. One is the usual, small, 10-20 cm., spreading, semi-prostrate plant with narrow leaves about 4-10 mm. across, the other is a stout, erect plant, 2 dm. or more high, with deep green, glossy leaves. 30 mm. across, achenes, including pappus, 20 mm. long, stout tap root. The aspect of the latter suggested *radicata* or a hybrid, but there seems no evidence of that species in it, the fruits being perfectly fertile.

1649. *LACTUCA SERRIOLA* L., var. *INTEGRATA* (Gren. & Godr. Fl. Fr. ii., 320, sub *L. Scariola* mihi. Alien. Found in the Canadian Mule Depot at Long Ashton, N. Somerset, in 1917 by Miss I. M. ROPER.

1687. *OXYCOCCUS QUADRIPETALUS* Gilib., var. *PYRIFORMIS*, var. nov. *Baccis pyriformis*. Methuen, M. Perth, August 1918. In the type the berries are globular—*baccis rotundis*. If retained in the genus *Vaccinium* it must be *V. Oxycoccus* L., var. or sub-var. *pyriforme* mihi. G. C. DRUCE.

1690. *ARCTOSTAPHYLOS UVA-URSI* Spreng., var. *ANGUSTIFOLIA* mihi. First found on An Teallach, W. Ross. See *Trans. Bot. Soc. Edin.* 149, 1894. *Foliis anguste lanceolatis*. Leaves narrowly lanceolate, 15 mm. long by 3.5 mm. broad.

1694. *ERICA CINEREA* L., *lusus*. Lieut. R. Whympers sent in September last from Wool, Dorset, a curious condition of heath in which the "inflorescence" is of claret colour, but the corolla-like growth seems to be entirely foliaceous, probably due to a gall or mite. Through Prof. I. Bayley Balfour's kindness we append the following note:—I find that the wine-coloured bud-like structures at the tips of the branches are vegetative shoots. Such tassel-like or bulbil-like shoots with shortened internodes and modified leaves are found on various species of *Erica*. They are of the nature of galls and are due to the action of larvae of species of *Perrisia* or to the larvae of a species of *Myricomyia*. The particular form the gall takes, whether a tassel-like bud as in the specimen submitted or a more solid bulbil-like shoot, depends apparently not only on the species of *Perrisia* or *Myricomyia* as the case may be, infesting the plant, but to some extent also on the species of *Erica* attacked; the same species of *Myricomyia* may produce galls slightly different in appearance on different species of *Erica*. Our collection of galls does not contain this one on *Erica cinerea*. It is similar in appearance to galls formed by *Myricomyia mediterranea* F. Löw, on *Erica vagans* Linn. and *Erica scoparia* Linn. It also resembles somewhat galls on *Erica carnea* by *Perrisia ericina* F. Löw. HARRY F. TAGG. I may add in addition to the above note by Mr Tagg, who has charge of the gall collection, which is a good one, that in Honard's *Les Zoocidies des*

Plantas d'Europe there is a figure of the *Erica* gall of which your specimen is a form. I. BAYLEY BALFOUR.

1726. PRIMULA VERIS × POLYANTHA. In great abundance, along with *P. acaulis* and *P. veris*, in a meadow, but only in this one meadow, near Pullborough, Sussex, 1918, ALFRED WEBSTER. This striking and beautiful plant appears to be the first evidence of its occurrence in the naturalised condition in Britain. The foliage is that of *P. veris*, but the corolla lobes, which are of the size of *veris*, are of a rich blackish-brown colour with a bright gamboge-yellow base. *P. polyanthus* Miller is referred to *P. elatior* in *Ind. Kew.*, but Nicholson (*Gard. Dict.* vi., 182) says it is a hybrid of the Cowslip and Primrose. If that be so this Sussex plant is *P. veris* × (*P. veris* × *P. vulgaris*) = × *P. Websteri* mihi. Mr Chittenden, who kindly exhibited it at the Horticultural Society, says there is a cultivated hybrid between *P. vulgaris* and *P. officinalis* grown under the name of *P. variabilis*, and that these plants appear identical with it. G. C. DRUCE.

1733. LYSIMACHIA VULGARIS L., forma nova MACULATA. This year Miss TODD sent me from Shapwick Moor, N. Somerset, a specimen of the Loosestrife which had a brownish-crimson spot at the base of the corolla lobes.

1757 (2). CENTAURIUM SCILLOIDES Druce, var. PORTENSE (Brot.), comb. nov. In September this year, when I was in Scotland, Mr J. Arnett of Tenby, who has done so much for the botany of Pembroke-shire, sent me specimens of *Tunica Saxifraga* and two or three other plants which were put into drying sheets by my servant. On my return for a couple of days, before going away on another visit, I glanced through the great pile of specimens which had come in during my absence and seeing a loose flower in the same cover as Mr Arnett's specimens assumed it was a monstrous condition of *Centaurium* (*Erythraea*) which he alluded to in his note of September 6. After my return I had to make a systematic examination of the year's plants and then found, with one of the specimens of *Tunica*, a portion of a plant to which evidently the *Centaurium* flower belonged. This proved to be *Centaurium diffusum* (the *Erythraea diffusa* of Joseph Woods). Mr Arnett's specimens, having been gathered in N. Pem-

brokeshire on cliffs about 2 miles from Newport, are therefore the first certain evidence of this Atlantic species in England, to the flora of which it is a most interesting addition. In Europe this plant has a very limited range along the margin of Western France, Spain, and Portugal, but not reaching the Mediterranean. It grows on the sides of roads and in dampish places. Cherbourg is perhaps its nearest habitat to England. A form or race with white flowers occurs in the Azores in bushy places and on rocky soil up to 1000 feet. The plant is quite unlike our other forms of *Centaureum* in having a caespitose growth, with diffuse or prostrate stems, having many barren branches, which bear opposite, sub-orbicular or ovate leaves, narrowed into a short stalk; flower-bearing stems erect, with distant elliptic or oblong leaves; flowers stalked, in a few, usually 4-5-flowered cymes; corolla large, 15-20 mm., rose-coloured, the tube a little shorter than the ovate lobes which are 8-9 mm. long, and a little shorter than the bilocular capsule which is narrowed at the top. The whole plant is glabrous.

The name of this plant is not free from difficulty. There seems to be now a general agreement in recognising the earliest trivial for the Azorean plant in *Gentiana scilloides* of the younger Linnaeus (*Suppl.* 175, 1781), but the description * is so vague, and the colour of the flowers being said to be yellow, for more than half a century it was ignored. There is however at Paris Francis Masson's specimen from the Azores on which it is based and which has been identified as the plant that has received another name, *Erythraea Massoni* Sweet Hort. Brit. ed. 2, 363, 1830. This Azorean plant differs, inter alia, from the European in the colour of the flowers. Watson (Godman's *Nat. Hist. Azores* 195, 1870) says it is a widely varying species but he never saw a pink or rose-coloured example among the thousands which came under his notice. Mr P. B. Webb, a very able, critical botanist, emphatically declared his dissent from a union as one species of Wood's *diffusa* and the Azorean plant. It must be borne in mind that other Azorean species only differ slightly from their European congeners,—for instance, *Lysimachia nemorum* and *azoricum*, *Potentilla erecta* and *insignis*, and this may well be another

* "Caule unifloro, ramoso, foliis obovatis, obtusis, trinerviis. Corolla infundibuliformibus quinquefidis, bracteis binis Limbus luteus."

example. M. Malinvaud held the two plants to be distinct species (*Bull. Soc. Bot. Fr.* xliii., 423, 1896). He says that the first exact description of the French plant is that under *Erythraea portensis* given by Hoffmannsegg & Link, *Fl. Portugaise* i., 351, t. 66a, 1809. It is based on the *Gentiana portensis* of Brotero *Fl. Lusit.* 278, 1804, the name being given on account of Oporto being the centre of its area. Le Jolis also considered it a distinct species, having seen it in 1840 in the landes near Hague, Manche. In February 1845 he submitted specimens and drawings to the Soc. Linn. de Normandie under the name *Chironia peploides* from the resemblance the leaves bear to those of *Peplis Portula*. The Commission of that body however only thought they were a very exceptional form of *C. Centaurium*, not a new species or even a variety (sic). Grisebach (*Mon. Gent.* 144, 1839) queries *scilloides* as a synonym and therefore keeps *portensis* separate even from *diffusa*. Joseph Woods, the author of the *Tourist's Flora* published (*Comp. Bot. Mag.* ii., pp. 263-282, 1836) his "Account of a Botanical Excursion into Brittany" and there (p. 274) he says on the 25th of May on a very rough piece of ground, at a very short distance S.W. of Morlaix he found "an *Erythraea* which appears not to have been noticed. Its characteristics are the diffuse mode of growth, without any indications of a leading stem, and the few [red] flowers, not above three in a panicle. This did not arise from late shoots, as the *Erythraea* had hardly yet begun to flower, and this may be considered as one of the earliest, nor had it been eaten by cattle for most of it was well protected by the prickles of the *Ulex* among which it grew, nor was it owing to that shelter, for some of it was in open and exposed situations. In all the appearance was alike and I should propose to call it *Erythraea diffusa*, caulibus diffusis, sub-bifloris." Woods says he has found specimens in *Herb. Smith* from the Azores labelled by him as being the *Chironia maritima* of Hort. Kew., but not of Willdenow. Aiton's *C. maritima* (*Hort. Kew.* ed. 2, ii., 6, 1811) is a mixture, partly the yellow-flowered *maritima* and possibly Masson's plant which it is said he introduced into Britain in 1777. Trelease (*Bot. Observ. Azores* 132, 1897) evidently considers the Azores plant distinct for he uses the name *E. Massoni* and quotes *E. diffusa* Drouet [*i.e.* non Woods]. He gives it as occurring in Corvo, Flores, Fayal, Pico, Terceira, San Miguel, and Santa Maria. Grisebach has not been very successful

in treating of *Erythraea*. In his *Genera et Species Gentianarum* he gives full specific rank to both *E. diffusa* and *portensis*; he puts *Gentiana scilloides* among the "ignotae" and gives the Azores for *diffusa* the flowers of which are said to be "intensae roseae." In the *Prodromus* ix., 59, he gives the Morlaix locality, but wrongly puts in Britannia for *diffusa* and on p. 561 gives *latifolia* for the Azores where it has not been found. In it he expresses his idea that the localities of *Massoni* belong to *diffusa*, and, quoting from Seubert, suggests that *G. scilloides* is the Azorean plant because the younger Hochstetter found only the plant of Woods there. As a matter of fact Hochstetter says he found two forms (a) forma *major*, in which the colour of the flowers is not mentioned, and (b) forma *pumilior*. . . foliis duplis minoribus, caule longe, decumbentibus apice subunifloris. . . flore albissimo, which grows in meadows and among rocks from 500-2000 feet in Terceira. M. Drouet (*Cat. Fl. Iles Açores* 1857) gives both *Massoni* and *diffusa* putting between them the yellow-flowered "*maritima*," and then again adding the same plant as "*lutea*" after them both. His catalogue gives seven species, and Seubert two only, but both these are wrongly named. Other botanists unite the Azorean and the European plant—e.g., Puel (*Bull. Soc. Bot. Fr.* 502, 1860) says that Masson's plant in *Herb. Paris* is identical with *E. diffusa* Woods and he uses the name *E. scilloides* Chaub. in *Herb.* for both. This is also the view of Lange in Willkomm & Lange *Prod. Fl. Hisp.* 1870 and of Rouy (*Fl. Fr.* x., 244, 1908) but he calls it *E. Portensis*. In *Index Kewensis Gentiana scilloides* L. f., *G. portensis* Brot., *E. nummulariifolium* Steudel and *E. diffusa* Woods are all referred to *E. Massoni* Sweet, a name which is absolutely untenable except on the assumption that *scilloides* is not the Azorean plant. Nyman (*Consp. Fl. Europ.* 502, 1878-82) retains the name *E. diffusa*, citing *scilloides* as a synonym, and gives as its distribution "Brit., Gall., bor-occ. Hisp., bór-occ. (Galeoc.) Lusit." This (see also DC. *Prod.* ix., 561) therefore suggests that Nyman (who is also followed too religiously by Rouy, *l.c.* and Lange, *l.c.*) had seen the plant from Britain. Nyman usually discriminates between Anglia and Scotia and when Brit. is used by him it conveys the impression that the plant occurs in both countries. There is no previous evidence of it as a British plant in our floras before Mr Arnett's discovery. How did this record creep into literature?

The explanation is very simple. Grisebach (DC. *Prod.* ix., 59) has made a mistranslation. He saw that an Englishman had found *diffusa*, and he publishes it from "Pr. Morlaix in Britannia, Woods," instead of Brittany in France in which Morlaix is situated. Under *E. diffusa* the plant is figured in Nicholson's *Gard. Dict.* iii., 530 and briefly described as "flowers bright clear rose, leaves fleshy, shining, generally concave; height 2-3 in.; perennial. A charming little rock plant." W. Robinson (*Alpine Flowers for Gardens* 223) speaks of it as a beautiful and rapid grower with a profusion of pink blossoms in the summer. The plant is therefore known in cultivation.

The question arises—is this new *Centaurium* native? It would seem that where it grows, unless intentionally introduced by some mistaken disciple of Maurice Hewlett, it has that claim. Its cultivation in rock-gardens makes it more easy for a stupid, irrational person to plant it. Recently it has come to my knowledge that a large number of seeds from a seed warehouse were mischievously scattered on the waste places bordering Kingsway and elsewhere, which may account for some of the aliens which appeared there. On the other hand the distribution of *portensis* on the continent suggests that it is not an unlikely plant to occur. It might well be found in the Channel Isles and N. Devon or Cornwall, but it is so striking a plant as not easily to be overlooked. Then the question arises—if this Pembroke locality is the only British one, is it a dying-out species, or, as would seem probable, is it not a more recent immigrant, brought by wind-borne seeds or more likely by some bird visitor? To whichever of the three grades it may eventually be proved to belong, its discovery by our member, Mr Arnett, in Pembrokeshire is one on which he is highly to be congratulated.

For much of the following synonymy I am indebted to the note by M. Malinvaud (*op. cit.*), but I have given them in greater detail:—

Gentiana scilloides L. fl. Suppl. 175, 1781.

G. portensis Brotero Fl. Lusit. i., 278, 1804.

Erythraea portensis Hoffmannsegg & Link Fl. Portug. i., 351, t. 66a, 1809. G. L. Schmidt Mon. Erythraea 42, 1828. Rouy Fl. Fr. x., 244.

Chironia maritima Ait. Hort. Kew. ed. 2, 6, 1811, p.p., non Willd.

Erythraea Massoni Sweet Hort. Brit. ed. 2, 363, 1830. Watson in Lond. Journ. Bot. 596, 1844. Ind. Kew. ii., 895, 1893. Trelease Bot. Obs. Azores 132, 1897.

E. diffusa Woods in Hook. Comp. Bot. Mag. ii., 274, 1835. Hook. in Ann. & Mag. Nat. Hist. i., 437, t. 16, 1838. Seubert Fl. Azorica 36, 1884. Le Jolis in Ann. Sc. Nat. t. 15, Avril, 1847. DC. Prod. ix., 59, 561. Gren. & Godr. Fl. Fr. ii., 485, 1850.

E. scilloides Chaub. in Herb. ex Puel in Bull. Soc. Bot. Fr. vii., 502, 1860. Lange in Willk. & Lange Prod. Fl. Hisp. ii., 664, 1870. Corb. Nouv. Fl. Normandie 394, 1894.

Centaurium scilloides (L.fil.) Druce in Rep. B.E.C. 614, 1916. Exsicc.: Wittrock, n. 48.

The generic name *Centaurium* was employed by Dodoens (*Stirpium* 333, 1583), Caspar Bauhin (*Pinax* 278, 1623), and as *Centaurium minus* by Tournefort 122, 1700, Dillenius Ray *Syn.* 286, 1724, and Gerard, 437. It was first restored after 1753 by Hill in *Brit. Herbal* 62, 1756, a name which has priority and which is accepted by Schinz, and (as *Centaurion*) by Rendle & Britten. *Erythraea* was first used by Paul de Renealme in *Sp. Hist. Pl.* 77, 1611, where it is beautifully engraved on the same plate with *Chlora*, as *Eriethraea* based on *Centaurium minor*. Linnaeus ignored it and put the type as *Gentiana Centaurium*, followed by Necker (*Elem.* ii., 10, 1790), and as *Erythraea* it is used by Borck (*Roem. Archiv.* i., 1, 1796). The name, appropriate enough as it is to our British plant, does not fit the yellow-flowered section.

One may add that I did not see *scilloides* when I was in the Azores in the early spring of 1909, but I collected a form of *Centaurium ramosissimum* (Pers.) Druce = *C. pulchellum* Druce in the crater of Furnas, San Miguel, sufficiently distinct from the British plant to deserve varietal rank, *i.e.*, var. *azoricum* Druce in Journ. Bot. 27, 1910.

1781 (5). HELIOTROPIUM CURASSAVICUM L. Alien, tropics. Pye Hall Farm, W. Suffolk, 1917. A. R. HORWOOD. Det. A. THELLUNG.

Gen. 418 (3). PLAGIOBOTHRYIS Fisch. & Mey. Ind. Sem. Hort. Petrop. ii., 46, 1835.

1785 (10). P. TENELLUS A. Gray in Proc. Amer. Acad. xx.

283, 1885. Bristol, 1918, Mrs SANDWICH. A new alien to Europe. Det. A. THELLUNG.

1831 (3). *VOLVULUS DAHURICUS* (Herbert) Druce. *Convolvulus dahuricus* Herbert in Bot. Mag. t. 2609, 1826. *Calystegia dahurica* Fisch. Alien, Siberia. Radice sarmentosa, caule volubili, tomentoso, herbaceo; foliis oblongo-cordatis, uniflorus, glabris, margine et nervis subtus tomentosus; pedunculis axillaribus uniflorus, tomentosus, margine repando; bracteis binis late ovatis; calycis foliolis lanceolatis, acutis duobus exterioribus latioribus; corolla roseo-purpurea; styli filamentis longiore. Differs from *sepium* in having the bracts proportionately broader and less acuminate; flowers smaller, rose-coloured; stalks, petioles and peduncles downy. See *Rep B.E.C.* 233, 1917. From a thicket by road-side near Rhyd-y-mwyn, Flintshire, August 29, 1906, C. WATERFALL.

1833. *CONVOLVULUS ARVENSIS* L., forma. Plants with pure white flowers and broad, large, roundish, auricled leaves, 50 mm. by 40 mm. have been seen for some years on the Woodstock Road, near Oxford, by Mr TROLLOPE.

1872 (11). *ALONSOA INCISIFOLIA* Ruiz & Pavon Syst. Veg. 154. 1798. Alien, Peru. Hort. In a cut down wood near Failand, N. Somerset, 1917, Rev. E. ELLMAN, ex Mrs SANDWICH. Det. W. B. TURRILL, 1918.

1873. *LINARIA VULGARIS* Mill., var. *SUBGLANDULOSA* (Braun-Blanquet in Sched. ad Fl. Rhaet. Exsicc. 24, 1918, as a var. of subsp. *vulgaris* Br.-Bl.). Pedunculis glandulosis, caulibus et foliis glabris. This seems to be synonymous with var. *pulchella* Druce Fl. Berks. 370, 1897. It was distributed through the Club in 1891. See *Rep B.E.C.* 341, 1891.

1879. *L. CHALEPENSIS* Mill., forma *CLEISTOGAMA* Thell., forma nova. Corolla minima, $1\frac{1}{2}$ mm. longa, albida, ecalcarata, semper clausa (cf. E.H.L. Krause in Beih. Bot. Centralb. xxxv., abt. 2, H. 1, 150, 1917). "Spornlose Kleistogame Pelorie." Adventitious in Switzerland—Zürich, 1913, Thellung; France—Strasbourg, E. H. L. Krause, l.c.; and Holland—Gorinchem, 1912, Henrard. Elland, York, 1916, E. C. HORRELL. Det. A. THELLUNG.

1903. DIGITALIS PURPUREA L., var. PUBESCENS E. A. Saunders. Var. NUDICAULIS E. A. Saunders in Journ. Genetics vii., 1918. In the latter the stem is green, polished and smooth from the base to the flowering region where it becomes pubescent, and the leaves are less hairy. Both the above breed true.

1906 (4). VERONICA PSEUDOCAMAEDRYS Jacq. Fl. Austr. i., 37. *V. latifolia* L. herb., non Sp. Pl. *V. Teucrium* L., sub-sp. *Pseudochamaedrys* Nym. Consp. 545. Alien, Europe. Quite naturalised near Reigate, Surrey, H. E. S. T., ex C. E. SALMON.

1941. EUPHRASIA ROSTKOVIANA Hayne, var. MINOR (Gaudin Fl. Helv. iv., 110, 1829, under *E. officinalis*). Heathland, East Winch, 1918, F. ROBINSON. LUMB and PEARSALL refer to it in *lit.* to var. *minor*. Gaudin laconically describes it as "floribus parvis."

1951 (2). RHINANTHUS ALECTOROLOPHUS Pollich Hist. Pl. Pal. ii., 177, 1777. *R. hirsutus* Lam. Fl. Fr. ii., 353, 1778. *Alectorolophus Alectorolophus* Sterneck. This plant has a wide continental distribution, occurring in Belgium, France, Luxemburg, Italy, Switzerland, Germany, Austria, Hungary. Exsicc.: Fl. Exsicc. Austr. Hung. 137, 1602. Billot Fl. Gall. et Germ. 1125, 1289 bis and ter. Reichb. Fl. Exsicc. Germ. 1543. Baenitz Herb. Europ. 3924. Figs.: Reichb. Ic. Crit. viii., t. 976. Ic. Fl. Germ. xx., fig. 118. The chief difference between this and *R. major* is in the calyx which in *major* is glabrous, but in this it is strongly reticulate and covered with a dense indumentum of long and short hairs mixed; seeds broadly winged. It may be added that Rouy unites *major* and *Alectorolophus* under one species which he calls *A. grandiflorus* Wallr., but that Nyman treats it as a sub-species *R. hirsutus* Lam. Sterneck in his *Monograph* keeps it distinct, and, following Koch, *Syn.* 544, 1837, I also retain it in that grade under its oldest trivial. Mr W. P. Hiern tells me it was first found in June 1885 in Knowlstone parish, N. Devon, by the Rev. W. Moyle Rogers, and then a solitary plant was found by himself in North Molton parish in 1912 and recorded in *Trans. Devon Assoc.* 1913. The question arises as to whether it is native or adventitious in N. Devon. Mr Hiern, in *lit.* December 23, 1918, says it does not appear to be indigenous but only a non-permanent casual in cultivated lands.

1968. OROBANCHE HEDERAE Vaucher ex Duby, sub-var. MONOCHROA Rouy Fl. Fr. xi., 190, 1909. Var. *monochroa* Beck Mon. 260. This is, as its name suggests, a one-coloured plant, being very pale yellow or almost white. It occurs at Creux, Sark; Berry Head and Torquay, S. Devon, G. C. DRUCE.

1986 (2). VERBENA TENERA Sprengel Syst. ii., 750. *V. pulchella* Sweet. Alien, Argentina, Brazil. Hortal. Introduced from Brazil in 1827. Rubbish tip, Bedminster, Bristol, 1918, Miss COBBE. Det. W. B. TURRILL. A much branched, creeping perennial with deeply cut foliage and violet long-tubed flowers.

1990. MENTHA LONGIFOLIA × SPICATA. Holyhead, Anglesey, August 1917, G. C. DRUCE.

2003. LYCOPUS EUROPAEUS L., var. GLABRESCENS Schmidely Annot. au Cat. des Pl. Vasc. de Genève in Bull. Soc. Bot. de Genève iii., 129, 1884. Tige glabrescente, fistuleuse, à moelle se résorbant assez vite dans les entrenœuds moyens, parsemée çà et là poils étalés. Feuilles assez largement lancéolées, aiguës ou acuminées au sommet, ± brièvement atténuées à la base, glabrescentes sur les deux faces, à nervures légèrement pubescentes en dessous, mesurant 6.5 × 2.5-3 cm. de surface." Briquet *Lab. Alpes Marit.* 117, 1891. Exsicc.: Fiori & Beg. n. 1949. Odiham marsh, N. Hants, 1900, G. C. DRUCE and Miss C. E. PALMER; West Drayton, Middlesex; Banbury, Oxford, 1842, BEESLEY; Yardley Gobion, Northants, 1873; Lighthorne, Warwick, 1852, Miss C. E. PALMER; Aldcliffe, N. Lancashire, 1838. This seems to be the common British form.

2003. L. EUROPAEUS L., var. PUBESCENS Benth. in DC. Prod. xii., 178, 1848. This has the stem, especially at the angles, more or less clothed with shaggy white hairs, and the leaves on both surfaces, and especially on the veins of the under surface, furnished with pluri-celled white hairs. The leaves vary in the apices of the leaf-segments being more or less obtuse or almost acute and also in the depth of cutting, the surface measuring about 60 × 25-30 mm. Grande Mare, Guernsey, Bishop MITCHINSON; Garlieston, Wigton, 1912, and as a form with deeper incised leaves with acute segments from Ellesmere, Salop; also with broader leaves from Barlaston,

Stafford. There is scarcely room for another variety based on such a variable character as the leaf-clothing so I put these plants to *pubescens* as defined by Briquet, *l.c.* "Tige peu fistuleuse, couverte, surtout sur les angles, d'une pubescence courte. Feuilles \pm largement lancéolées, aiguës ou obtusiuscules au sommet, brièvement pubescentes en dessus et en dessous, à pétiole velu, mesurant 5.5-6 \times 3 cm. de surface."

2057. *STACHYS PALUSTRIS* L., var. *OBLONGIFOLIA* Briquet Lab. Alp. Marit. 248, 1891. Leaves oblong, shortly acuminate or simply pointed at apex, measuring 4-8 \times 1.5-3.5 cm., the cutting either crenate or dentate, the tops of the teeth or crenatures about 1-2 mm. high, each separated by a space of 2-7 mm. This seems to be our common fern. Hinksey, Tilehurst, Berks; (petioles shortly stalked), Winchelsea, Sussex, &c.

2060. *S. OFFICINALIS* Trev., var. *NANA* Druce, forma *ALBA*. Some years ago I brought back from the Lizard a dwarf form of the Wood Betony which I was surprised to find retained its dwarf character in cultivation. It makes a pretty rock plant, very different from the rather coarse, straggling, woodland species. Some years ago Mr R. Irwin Lynch of Cambridge found at the Lizard a white form of the same plant which is figured and described as *S. Betonica*, var. *alba* in the *Gardeners' Chronicle* 127, 1918. It is, he says, from 5-7 in. high, forming one "of the most beautiful rockery plants." It is easy of cultivation by division. Var. *nana* also at Freshwater, Isle of Wight.

2079. *TEUCRIUM SCORODONIA* L., forma *CRISPUM*. See *Rep. B.E.C.* 49, 1917. Miss Rayner's experiments show that the crisped character is not perpetuated by seed, therefore the varietal grade given it is too high. See Miss M. C. RAYNER in the *Journal of Genetics* vii., 1918.

2085. *AJUGA GENEVENSIS* L. On June 14, 1918, our member, Miss FRY, brought me a Bugle found by her the preceding day on the Berkshire downs which, having compared with a plate in Hill's *Herbal*, she thought might be *Ajuga alpina*. There was, however, no doubt that the specimen was *A. genevensis* L. On the 17th of June

under Miss Fry's guidance I visited the habitat and saw the plant which was scattered among grass under the shelter of furze bushes on a remote spot on the Berkshire downs. The nearest building is a farm above a quarter of a mile away. The plant is not in cultivation in the area. Although in small quantity it has the appearance of being native, therefore it is one of the most interesting discoveries of recent years. Its distribution given in Nyman's *Conspectus*, where it is given full specific rank, is Scandinavia, Belgium, France, Switzerland, Germany, Italy, Istria, Austria, Hungary, Slavonia, Transylvania, Croatia, Dalmatia, Montenegro, Herzegovina, Bosnia, Serbia, Macedonia, S. Russia and Moldavia,—a distribution which favours its being a native of Britain.

Linnaeus (*Sp. Pl.* 561, 1753) tersely and inadequately describes it as *Ajuga foliis tomentos calycibus hirsutis*, giving a synonym, *Bugula carneo flore* Clus. Hist. ii., 43. Koch (*Syn.* 575, 1837) more clearly diagnoses it as "floribus verticillatis, stolonibus nullis, bracteis inferioribus trilobis, dentatis, integerrimisque, superioribus verticillo brevioribus. In campis arenosis, ericetis ad vias. Flores caerulei vel carnei." Grenier and Godron (*Fl. Fr.* ii., 707) admirably describe it as a species distinct from *reptans* and *pyramidalis*. Glomerules of 3-4 flowers, forming an elongated spike which is interrupted nearly throughout; floral leaves sessile, the upper ones bluish, the lower ovate, unequally crenate, the middle trilobed, the upper shorter than the flowers; calyx softly woolly, teeth unequal, lanceolate, pointed, shorter than the tube; corolla of a clear blue or rose, tube elongate, cylindric, the lower lip with spreading lobes, the middle obcordate; radical leaves upright, perishing before the flowering period; lower stem leaves small, oblong or longly attenuate, wedge-shaped, crenulate at the top, the upper shorter but broader and more strongly crenulate, all of a whitish-green and very hairy; stem upright, simple, hairy throughout; rootstock very short, not creeping, always without stolons; plant 1-3 dm., very hairy. The plant, as we shall see, has been confounded by some botanists with *A. pyramidalis* (*cf.* Bentham *Brit. Flora* 205, 1916), but is easily distinguished by the foregoing characters. *A. pyramidalis* has a dense, tetragonous-pyramidal inflorescence with bracts broadly ovate, obtuse, entire or feebly sinuate, and always longer than the flowers, narrowing in the inflorescence

from below upwards, as the name suggests; lower leaves large, persisting after the flowering period, making a spreading rosette appressed to the soil; stem short and very leafy; rootstock oblique, truncate, without stolons. This latter character separates both species from *A. reptans* which has leaves more glossy and glabrous and less deeply crenate and not conspicuously wedge-shaped; flowers of a more washed out tint; radical leaves persistent. Only rarely *reptans* fails to produce stolons, but the hairiness, the leaf-shape and the flower-colour offer differentiating characters.

Rouy (*Fl. Fr.* xi., 226, 1909) adopts a different treatment from that of his illustrious predecessors, Grenier & Godron. He unites *reptans*, *genevensis*, *alpina* and eight other sub-species under one species, *A. vulgaris* Rouy. One of these sub-species, *A. Knafii* Rouy, as we shall see, he identifies as British, another, *A. alpina*, is a plant of the Alps, (?) Pyrenees, and northern Europe, differing from *genevensis* in the larger radical leaves, and in the bracts not being trilobed or strongly dentate but entire or feebly crenulate. There is no doubt that the species of the *reptans* group freely hybridise (hybrids of *reptans* and *pyramidalis* have been seen by me in Scotland and Ireland), but neither the hybrids, nor the variations which are numerous, are sufficiently near *genevensis* to lower the claims of the latter to specific rank. Even botanists with an idea of big species, such as Bouvier (*Flore des Alpes*), Archangeli (*Fl. Ital.*), Koch (*Syn. Fl. Germ.*), Bentham (*Labiatae*), Coste (*Fl. Fr.*) and Briquet (*Lab. Alp. Marit.* p. 102), who puts *alpina* L. as a synonym, give it specific grade. Bentham (*Labiatae*) kept *genevensis*, *reptans* and *pyramidalis* distinct species. In the *British Flora* he made *genevensis* the type of which *pyramidalis* is a variety, suggesting that it was a condition, but he adds that the type is not British. Therefore this Berkshire record is the first trustworthy or definite publication of *Ajuga genevensis* as a British plant. There are previous records, but these are probably errors of identification, or they lack confirmatory evidence, so that the plant is not included in our more recent Floras and only appears in the *British Plant List* as an alien on the authority of Sir J. D. Hooker's Lanarkshire record.

The history of these records may not be unwelcome. It may help to disentangle the mingling of truth and error, but its main object is to induce botanists to make a search on the two hills afterwards re-

ferred to, in order to ascertain what form of *Ajuga* still grows there. The first mention of a Bugle in British literature, different from the common one, is on the authority of Johnson (*Mercvrii Botanici pars altera. . . in Cambria descriptio* 11, 1641). He there describes his journey from Beaumaris to Bangor, his toilsome ascent of " Carnedd-llewellyn " in trying circumstance, his lazy guide, the dense mist, the danger from the attacks of eagles, and the fear of approaching to the edge of the precipice where the best plants grow, so that they were rewarded by finding only two of note, one, a viviparous grass, "*Gramen sparteam spica foliacea majus*" and the Bugle, "*Consolida media flore caerulea Alpina.*" This has been interpreted by some authors to mean *genevensis*, while others refer it to *pyramidalis*, but W. A. Clarke thought it was only a form of *reptans*. Ray (*Cat. Pl. Ang.* 48, 1670) however refers it to *Bugula caerulea Alpina* Park. The *Consolida media caerulea Alpina* C.B. which is probably *genevensis* Ray says " found by Dr Johnson (*loc. cit.*) it hath not yet come in my way in England." He repeats this in the second edition (133, 1677) and in the *Synopsis* (85, 1690), merely adding the distinguishing characters separating it from *reptans*, *i.e.*, " A praecedente differt caulibus ab una radice pluribus erectis, foliis minoribus, longioribus et profundius in caule crenatis, quodque clematis careat." Without change it is repeated in the editions of 1696 and 1724. From his similar reference to it in the *Historia* (575, 1686) it is evidently *A. genevensis* which Ray had in his mind. Hudson (*Flora Anglica* 220, 1762), however, takes a different view and names Johnson's plant from the Carnedd as *A. pyramidalis*, quoting Plukenet's plate t. 18, f. 3 for it. Plukenet's figure, not from a British specimen, is however *genevensis*. In the second edition (249, 1778) Hudson adds under *A. pyramidalis* a Scottish locality " supra montem Ben Nevis dictum in Scotia, D. Hope." With *A. pyramidalis* Withering (*Nat. Arr.* i., 348, 1776) also identifies Johnson's plant, and so does Stokes (*With. Bot. Arr.* ii., 588, 1787), where the Burn of Killogower and the Ord of Caithness are given as additional localities. These it may be added certainly refer to *pyramidalis*, not to *genevensis*. Smith (*Eng. Bot.* t. 477, 1798) under *A. alpina* says he has received specimens from Durham from Robson and " from the summit of a mountain near Castleton by Dawson Turner," and adds there is no doubt of its being the *alpina* of Linnaeus. In the

Notes on the Drawings for English Botany there is a reference to the leaf at the bottom of the plate "traced from an English specimen." It would seem almost certain that the figure was drawn from Robson's garden plant and not from Turner's Derbyshire specimen and, as we shall see, it is not *alpina*. Smith (*Flora Britannica* ii., 604, 1800) follows *Eng. Bot.* in calling both the Welsh and the Scotch plant *A. alpina*. "Durham, Mr Robson. On the summit of a mountain near Castleton, Derbyshire, Mr Dawson Turner," are again given as localities. In the *English Flora* (iii., 64, 1825) Smith gives *A. alpina*, which he says is the *pyramidalis* of Hudson (and therefore of Ray whom he cites) and the *genevensis* of Withering. He gives the Carnarvonshire, Derbyshire and Durham localities and adds "on the mountains of Aberdeenshire, not uncommon, Mr David Don." Under *A. pyramidalis*, which is fairly well described, he gives only the Ben Nevis locality but adds Aichaltie, Ross-shire. In this arrangement he had been forestalled by Gray (*Nat. Arr.* ii., 368, 1821) who called the plants *Bugula*, not *Ajuga*. Hooker (*Flora Scotica* 178, 1821) in the same year also adopted that arrangement, but says that of *A. alpina* he had never seen British specimens. (There can be little doubt that David Don's *alpina* was scionless *reptans*). Indeed Hooker (*Brit. Flora* 253, 1842), while mentioning *alpina* from Wales, Derbyshire, Durham, and Cave Hill, Belfast, says he has seen no British specimens and the Scotch ones, so-called, have proved only *reptans*. Hooker and Arnott (*Brit. Flora* 324, 1855) write that the *alpina* they describe is *genevensis* but that they have seen no British specimens, that the Scotch ones have proved to be *reptans*, and that the Durham specimen of *alpina* is denied by Winch. Turner and Dillwyn in the *Botanist's Guide* (88, 1805) state *A. alpina* was seen by Mr Griffith on the flat near the summit of Carnedd-Llewelin and on p. 251 says "it is erroneously stated in *English Botany* that this plant has been found in Durham by Mr Robson, for the specimen he sent to Sowerby was from his own garden." If this statement be correct it goes far to explain the curious drawing of the *English Botany* plate which represents neither *A. alpina* (for which it is figured) nor *genevensis*, but is identified by Rouy (*Fl. Fr.* xi., 231, 1909) as *A. Knafii*, var. *Smithiana* Rouy, which is said to be a hybrid of *A. pyramidalis* and *genevensis*. neither of which is there any reason to believe grows in Durham, but

which might well have come from the continent through horticultural sources to Robson's garden. Turner (*op. cit.* 188) however gives a locality for *A. alpina* for Derbyshire "on the mountain that leads from Matlock into the town of Castleton, on the left hand side, immediately adjoining the road" (not as stated by Smith on the summit), which it is presumed refers to the Peak. W. R. Linton (*Flora of Derbyshire* 246) makes two statements neither quite accurate, but he evidently had not seen *alpina* in that county. Babington (*Manual* 254, 1847), under *A. alpina*, repeats the Durham, Derby, and Belfast localities and cites *Eng. Bot.* t. 477. In 1851 (*Manual* 255) he omits the Durham locality and says he has seen no British specimens, and in the *Manual* (279, 1874) leaves out all localities and says *Eng. Bot.* t. 477 seems to be *genevensis*. Sir J. D. Hooker (*Student's Flora* 332, 1884) merely says "a form without stolons (var. *pseudo-alpina*) has been mistaken for *alpina*, an exotic species." H. C. Watson (*New Bot. Guide* 263, 1835) queries Turner's record of *A. alpina* for Derbyshire. Gardiner (*Flora of Forfarshire* 144, 1848) gives a very definite record of *A. alpina* which is, "found by Prof. Graham by a stream falling into the White Water, Clova, above the falls: only two specimens found," but Watson (*Cyb. Brit.* ii., 250, 1849) says he was with Graham when the plants were gathered in 1831 and "one of them is in my own herbarium, undistinguishable from *A. reptans*, according to my eyes." To me this is scionless *reptans*. In the *Comp. Cyb.* pt. 2, 271 he says it was simply misnamed. Syme (*Eng. Bot.* vii., 87) says that the British plants recorded as *A. alpina* are partly *reptans* and partly *genevensis*. Evidence in support of the latter statement is yet wanting. Under *A. genevensis* Syme quotes the *Eng. Bot.* figure which does not represent it, and the Durham record which has been shown to be from a garden, but adds that "Dr J. D. Hooker many years ago sent Mr Watson a specimen among plants collected in Lanarkshire. There is also an example of it from Wales in Buddle's Herbarium." Watson (*Comp. Cyb.*) says of "*A. (reptans) alpina*, scarcely a var.," and of "*A. genevensis*, casual or alien. From gardens?" This scarcely expresses the facts. If an *Ajuga* distinct from *reptans* was found by Johnson on Carnedd Llewellyn and by Dawson Turner on the Peak it could scarcely be of garden origin, though that might describe the Lanarkshire plant of which unfor-

tunately no details are given. There remains still another allusion to an alpine Bugle. It is that by Ray (*Syn.* 238, 1690) who gives " *Bugula caerulea Alpina* Park. Found in Stokenchurch Wood by Mr Bobart." This record is ignored by Bobart himself (*Hist. Oxon.* ii., 394, n. 2, 1699) as he only refers to a colour variety of *A. reptans* which he calls " *Bugula media flore carneo. Consolida media pratensis purpurea* C. B. P. Praecedenti similis est (*A. reptans*) minor quadantenus est planta, floresque carnei coloris profert; quoad caetera non absimilis. In Agro Oxoniensi in sylva haud longe a villa Stokenchurch dicta nos comitibus usi D. Davis M.D. & D. Branker A.M., in Plantarum inquisitione versati, triginta abhinc annis hanc Bugulam sponte nascent reperimus," but which he was unable to find in after years. The specimen is merely the pinkish-flowered form of *A. reptans*. Under *A. genevensis* he makes no reference to an Oxford plant and we may safely presume that he at first thought this colour variant of *reptans* was another species which Ray inserted in the first edition of the *Synopsis* but subsequently allowed to sink into oblivion.

To sum up these discursive notes, it seems quite obvious that all the Scottish localised records refer to *A. pyramidalis*. The Irish record for Cave Hill is ignored by the authors of *Cybele Hibernica*. Robson's plant is shown to be a garden specimen and Sir J. D. Hooker's Lanark specimen, which is correctly identified as *genevensis*, was probably of adventitious origin for he does not refer to it in his *Flora*. There remain, however, two precise statements of the occurrence of a Bugle distinct from *reptans*, *i.e.*, those of Johnson and Dawson Turner, both good botanists. An examination of the habitats referred to might still reveal the presence of an *Ajuga* other than *reptans*, but it is rather unlikely that the damp mountainous localities would yield the sun-loving, dry-soil *genevensis*, for which at present we can only cite Berkshire as a native home in Britain.

2092. *PLANTAGO LANCEOLATA* L., var. *SYLVATICA* Pers. *Syn.* i., 138, 1805, with the very terse and inadequate description, " altior, spicis longis cylindricis." Under the above name Mr E. G. Baker identifies plants collected by Mr C. E. BRITTON on the roadside from Ewell to the Downs, Surrey, September 1917. The leaves are about 27 cm. long including the stalk, and 15 mm. broad, and the spikes

are about 80 mm. long. This name is also adopted by Rouy *Fl. Fr.* x., 130. In the *Manual* 262, 1847, Babington described a var. *elata*, "spike very long and cylindrical, scape often 2 feet high and leaves $1\frac{1}{2}$ feet long," which he said was not the true *altissima* L. according to Koch. In *Eng. Bot.* ed. 3, vii., 171, Syme described a var. *major*, "leaves with long, distinct petioles, erect. Scapes erect, scarcely curved at base. Spikes cylindrical or oblong-cylindrical. Bracts and sepals marked with fuscous or black blotches. In grass fields and meadows." In the 1856 edition of the *Manual* Babington drops the variety and simply treats it as a condition of habitat. This seems its true position. Whether the differences given by Syme are sufficiently persistent to warrant varietal distinction is worth investigating. His plant seems common in Scotland.

2092. *P. LANCEOLATA* L., var. *SPHAEROSTACHYA*. In 1848 a root of this variety from the Sands of Barry was planted in Mr G. Lawson's garden at Seafeld, Dundee. The plant remained for some months in the border without undergoing any visible change, retaining its woolly appearance and stunted habit as on the sandy downs. When the warm weather came round, however, it began to increase in bulk at a more rapid rate, and assumed a much more luxuriant appearance. It soon extended itself to considerable size, lost all its woolliness about the base of the leaves, and produced a profusion of flower-heads corresponding entirely with the common forms of *P. lanceolata* as found by the waysides. George Lawson in *Bot. Gazette* i., 35, 1849. This was my own experience with a plant brought from the Quenvais, Jersey in 1906, and also the experience of Dr Richardson with Welsh specimens.

2114. *AMARANTHUS CHLOROSTACHYS* Willd., var. *PSEUDO-RETROFLEXUS* Thell., sub-var. *ARISTULATUS* Thell. Bradford Sewage Works, 1917, J. CRYER and E.C. HORRELL. Det. A. THELLUNG, who adds "Forsan var. vel sub-sp. propria." See *Rep. B.E.C.* 207, 1915.

2116 (5). *A. THUNBERGII* Moq., forma nova *MACULATUS* Thell. Alien, Africa austr. Foliis in medio maculis rubris notatis. Bradford, August 1917, J. CRYER. Det. A. THELLUNG, 1918.

2122. *CHENOPODIUM MURALE* L., forma *PAUCIDENTATUM* Beck. Alien, Europe. Sandal, York, 1916, E. C. HORRELL. Det. A. THELLUNG, 1918.

2135 (5). *MONOLEPIS NUTTALLIANA* Engelm., forma *MINOR* (Moq.) Thell. *M. trifida* Schrad. Bristol, W. Gloster, 1917, Miss I. M. ROPER. Det. A. THELLUNG. See *Rep. B.E.C.* 208, 1915.

2174. *POLYGONUM LAPATHIFOLIUM* L., var. *PUNCTATUM* Gremli Fl. Switz. 337, 1889, et ed. 5, 1885. Differs from the type in having golden glands on the underside of the leaves, as well as on the perianth. Swanage, Dorset, J. GREEN; St Peter's Marsh, Bristol, 1917; Falmouth, Cornwall, E. THURSTON; Hayes, Middlesex; Leicester; Glen Roy, Westerness, 1891, G. C. DRUCE. Probably a common British form, indeed Syme says the perianth of *lapathifolium* is rough with small yellowish glands. The variety is not mentioned in our British Floras.

2191 (2). *P. SACHALINENSE* F. Schmidt in Maxim. Prim. Fl. Amur. 233. Alien, Saghalien Island. Marston brick-yards, Oxford September 1917-18, growing with *P. cuspidatum* and, like that, doubtless originating from rubbish from the Botanic Garden.

2210 (11). *RUMEX GIGANTEUS* Ait. f. Hort. Kew. ed. 2, ii., 323, 1810. Alien, Sandwich Isles. Marston brick-yards, Oxford, July 1918, G. C. DRUCE. Doubtless from the Botanic Garden.

2217. *VISCUM ALBUM* L. On pear at Belvoir Castle, Leicester, *Gard. Chron.* December 1917; Brynwyn, near Hereford, [several instances of it growing on pear are given in the Hereford *Flora*]. On oak at Hackwood Park, Hants, [known there in 1864, see *Herb. Hill*]; Leigh Woods, N. Somerset, Miss I. M. ROPER; Stoulton, Worcester; Sherwood Forest, Notts; Windsor Forest, Berks; Richmond Park, Surrey, Sir HERBERT MAXWELL in *Memoirs of the Months* 285. The foregoing taken from a Lecture on the Mistletoe given by Sir Daniel Morris at Bournemouth in 1917.

2228 (2). *EUPHORBIA VIRGATA* Waldst. and Kit. Pl. Rar. Hung. ii., 176, t. 162. Glabra, radice verticali pluricipiti, caulibus errec-

tis, induratis, virgatis, tenuiter striatis, densiuscule foliosis, superne valde ramulosis; ramulis radiisque tenuibus, iterato-bifidis, inflorescentiam anguste thyrsoideam formantibus; foliis rigidis, strictis, integris, lineari-lanceolatis, basi vix attenuatis, apice attenuatis acutis, umbellaribus brevibus ovatis; floralibus ovatis, mucronulatis, transverse latioribus; involucri campanulati, lobis ovatis, denticulatis, ciliolatis; glandulis semilunatis cornubis, latis apice subincrassatis; capsula breviter ovata, profunda trisulcata, clavato-punctata; semine ovato, caruncula, orbiculari, postice breviter rostrata. Differs from *E. Esula*—radice simplici, descendente, foliis lanceolatis-linearibus, sessilibus, erectis, superioribus lateoribus, involucri foliolis latitudine superantibus, ovatis; floribus pedunculatis; petalis viridibus; capsula punctis elevatis scabris. Distribution—West Germany, Bohemia, Moravia, Austria, Hungary, Transylvania, Croatia, Macedonia, Serbia, Roumania, S. Russia, &c. Wyck, W. Sussex, as *E. Esula*, in *Rep. B.E.C.* 127, 1917; also at Hassocks, E. Sussex, ROBERTS. When I saw this growing in the gravel pits at Wyck in 1917 I felt it could not be kept to *Esula*. Dr Thellung says it is *virgata*, and doubtless other plants passed in Britain as *Esula* will have to be transferred to it.

2228 (2). *E. VIRGATA* Waldst. & Kit. Pl. Rar. Hung. ii., 176, t. 162, forma *ESULIFOLIA* Thell. in Ber. Schweiz Bot. Ges. xxiv-v., 215, 1916. Alien, Europe. Calder Bank, York, October 1917. Det. A. THELLUNG, April 1918. This plant has been recorded under several names and the true identification is very welcome.

2235. *E. PEPLUS* L. From the *Barbados Agricultural News* it appears that in Germany experiments were made on this species as a rubber-producing plant. It is claimed that from $2\frac{1}{2}$ acres 42 kilos of rubber were produced as well as 120 kilos of fatty substances. From the difficulty experienced in drying *Sonchus asper* and *S. oleraceus* it is probable that they contain a large percentage of rubber substance.

Gen. 562 (2). *SERAPIAS* L.

2331 (10). *S. NEGLECTA* De Not. Prosp. Fl. Ligust. 55. Alien, Italy, Corsica. In a cornfield, Binstead, Isle of Wight, June 2, 1918,

noticed for several years, Mrs WEDGWOOD. Unfortunately the roots were removed by the tenant to a garden.

2335. *OPHRYS APIFERA* Huds., var. *MUTELIAE* Mutel in Ann. Sc. Nat. iii., 243, 1835. Labelli lobis lateralibus valde cornutis. Reichb. *Ic. Fl. Germ.* xiii., 971, t. 464. In *Trollii* the labellum is "acute triangulo, elongato, lobis lateralibus plus minusve obsolete." Wantage, Berks, 1912, Mrs LINDSAY. E. G. BAKER, in *lit.* Richter (*Pl. Europ.* 264) only cites it from France. The figure of the flower does not appear to me to represent the Berkshire specimen, which is very imperfect.

2389 (2). *HEMEROCALLIS FULVA* L. Sp. Pl. 462, 1763. Alien, Europe. By the Arun above Arundel, W. Sussex. Notice was first given me of the occurrence of this showy plant by the Arun in Sussex by Mr P. E. Coombe in 1906 who had accidentally found a clump of it among willows and reeds some years before. Unfortunately it was not to be seen when I went in quest of it that year. In July this year however Prebendary Burdon and myself gathered it in the original station where a local resident had known it for thirty years.

2422. *COLCHICUM AUTUMNALE* L., var. *VERNUM* Schrank Baier. Fl. i., 631, 1789. *C. vernale* Hoffm. Fl. Germ. i., 174, 1791. Race *C. vernale* Rouy Fl. Fr. xii., 456. This differs from the type in flowering in the spring. The perianth divisions are narrower and a few leaves are usually present. A specimen is figured in Syme *Eng. Bot.* t. 1545 from Devizes, Wilts. (reprinted from *Eng. Bot.* t. 1432, March 1, 1808). Miss Butler sent it in April last from Birdlip, W. Gloster, and it occurred at Spilsbury, Oxford in 1914. It is rather a *lusus* than a race or variety, G. C. DRUCE.

Gen. 606 (2). *DRACUNCULUS* (Tourn.) Mill. Gard. Dict. Abr. 1754. Schott Melet. i., 17, 1832.

2468 (10). *D. VULGARIS* Schott, *l.c.* *ARUM DRACUNCULUS* L. Alien, Europe mer. Under brambles in a hedge, Penwartha Coombe, Cornwall, W. E. BUNNY, ex F. RILSTONE. ? A garden outcast.

2498. *POTAMOGETON LUCENS* L., var. *LANCIFOLIUS* Mert. & Koch

Deutsch. Fl. In the river close to Pyrford Mill, Surrey (!), July 1918, Lady DAVY.

2502. *P. PERFOLIATUS* L., var. *OBLONGIFOLIUS* Mert. & Koch. Llyn Coron, Anglesey, July 1918, G. C. DRUCE. Agreeing fairly well with a specimen from Mertens & Koch in *Herb. De Candolle*, teste A. BENNETT; Selkirk, Miss I. M. HAYWARD.

2509. *P. RUTILUS* Wolfgang in Roem. & Schultes Syst. Veg. Mant. iii., 362, 1827. *P. caespitosus* Nolte in Reichb. Ic. Fl. Germ. et Helv. vii., 21, 1845, in syn. Not *rutilus* in Journ. Bot. 65, t. 407, 1900, which is a form of *P. pusillus*. Exsicc.: Tiselius Potam. Suec. iii., n. 105, 1897. Fig.: British Pondweeds 82, t. 54 [Swedish specimen]. Reichb. Ic. Fl. Germ. et Helv. vii., t. 23, f. 40. Stem subcompressed, lower part branched, upper simple, slender. Leaves all similar, narrow-linear, lower crowded, 1-3 in., 3-ribbed, without secondary ribs, semirigid, gradually acuminate at the apex, often tinged with red at base. Stipules long, 1 in., subpersistent, acuminate. Peduncles $1\frac{1}{2}$ -2 in. long, slightly thickened upwards. Spikes 3 lines long, few-flowered. Sepals lance-oblong. Drupelet $\frac{1}{2}$ -1 line long, nearly straight on the ventral margin, the beak forming a continuation, semi-convex on the dorsal margin. Plant elongated with long internodes on the upper part and sometimes with fascicles of leaves in the axils. Anglesey, Orkney, ARTHUR BENNETT in *British Pondweeds*. Since only Anglesey is given with certainty for this Pondweed in Britain, the previous records of *rutilus* (*Journ. Bot.* 65, 1900) being only forms of *pusillus*, it was thought very desirable to localise the plant, especially as in *British Pondweeds* the plant is figured from a Swedish specimen. Fortunately the original specimen is contained in the Herbarium of our member, Mr J. Griffith, the author of the *Flora of Anglesey and Carnarvon*, and he told me that he gathered it in Llyn Coron in 1892. Last year I visited Llyn Coron but was unfortunate as the continued stormy weather prevented any dredging. This year we happened on one calm day and after some close search Mrs Wedgwood and I were rewarded by obtaining a few specimens growing among a dense growth of *Chara* in about 5 feet depth of water. It was mostly barren. Storms prevented us obtaining more on a second visit. It is a singularly graceful plant

with bright green leaves when young. G. C. DRUCE. One may add that the apparently endemic *P. Griffithii* is still present in its classic locality in Carnarvonshire, but even in July it was past its best. Only *P. polygonifolius* was observed growing with it in the mountain lake, but there is no boat by which the centre of the lake can be reached.

2527 (3). *CYPERUS DECLINATUS* Moench, var. *LIBBATUS* (C. B. Clarke), comb. nov. G. C. Druce. Alien, Juan Fernandez, Chile. Bradford, York, J. CRYER. Det., as *C. vegetus*, var. *limbatus* Clarke by W. B. TURRILL.

2564. *CAREX INFLATA* Huds., var. *ANGUSTIFOLIA* Druce in Ann. Scot. Nat. Hist. 109, 1908. Alltnahara, W. Sutherland; Loch Watton, Caithness.

2632 (2). *PANICUM FRUMENTACEUM* (Link), comb. nov., not of Salisbury or Roxburgh. Alien, Europe. Bradford, York, J. CRYER. Det., as *Echinochloa*, by Dr STAFF.

2637 (2). *PANICUM LAEVIFOLIUM* Hackel, var. *AMBOENSE* Hackel ined. Differt a typo. pedunculis lateralibus brevioribus minus patentibus, apice minus distincte clavato-incrassatis. Alien, Africa austr. Adventive in France, Germany, and Switzerland. Bradford, York, 1917, J. CRYER and E. C. HORRELL; Hertford, G. C. DRUCE.

2641 (2). *SETARIA AMBIGUA* Gussone Fl. Sicil. Syn. i., 114. Alien, Sicily, Hungary. Bristol, 1918, Mrs SANDWICH.

2663. *ALOPECURUS ALPINUS* Sm., var. *ROBUSTUS* mihi. Differs from the type in its more robust growth, longer leaves (12 cm. by 6 mm. broad) which are more strongly ribbed, the ribs more asperous with small cartilaginous bristles, sheaths less inflated, panicle relatively short, 2 cm. long by 12 mm. broad, the whole plant intensely glaucous, and at a distance suggesting *Elymus arenarius*. Found by Miss I. M. HAYWARD in a sewage tank at Galashiels, Selkirk, flowering in September 1916, and seen by myself in 1917. I am inclined to think this comes from the Falkland Isles or Magellan area.

2669 (7). *STIPA FORMICARUM* Delile Ind. Sem. Hort. Monsp.

vii., 1849, var. *SPICA-VENTI* (Godr.) Thell. Fl. Adv. Montp. 94, 1912. Alien. Bradford, York, J. CRYER. Det. A. THELLUNG. Also found adventive in Germany.

Gen. 652 (3). *SPOROBOLUS* R. Br. Prod. 169, 1812.

2682 (10). *S. INDICUS* R. Br., *l.c.* Alien, Australia. Bradford, York, 1918, J. CRYER. Det. W. B. TURRILL.

2687. *AGROSTIS CANINA* L., var. *STOLONIFERA* Blytt Norge Flora 81, 1861. In marshy ground near Wellington College, Berks, G. C. DRUCE. Rootstock longly creeping, with numerous tufts of fine capillary leaves at intervals on the stolons.

Var. *PALLIDA* Reichb. Ic. Fl. Germ. t. lxxiv., f. 129, p. 8, 1850. Differs only in its straw-coloured spikelets, therefore only a sub-var. *pallida*, G. C. DRUCE.

2713. *HOLCUS MOLLIS* L., var. *BIARISTATUS* Parnell Scot. Grasses 51, 1842. Killin, M. Perth, 1917, J. FRASER, *vide sp.* Parnell was at first inclined to think it a distinct species, but he described it afterwards as "a variety having fewer and larger spikelets, longer ligule, florets nearly of equal size, as long as the small glume of the calyx, acute at the summits, both furnished with a long dorsal awn which is rough throughout. Frequent in damp shady woods, and occasionally in open boggy situations."

2725. *ARRHENATHERUM TUBEROSUM** (Gilib.) Druce, sub-var. *BIARISTATUM* Fraser. Flowers with two awns, analogous to the var. *biaristatum* of *A. elatius*. Craignavie, Killin, M. Perth; Levenhall, Edinburgh, August 1918, J. FRASER.

2729 (4). *CHLORIS VIRGATA* Swartz Fl. Ind. Occ. i., 203. Alien, tropical America. Bradford, 1918, J. CRYER. Det. at Kew.

Gen. 673 (3). *DIPLACHNE* Beauv. Agrost. 80. 1812.

2732 (10). *D. REPTATRIX* (L. Sp. Pl. 103, 1762) as *Festuca* comb. nov. Druce. Alien, Orient. Bradford, York, J. CRYER, 1918. Det., as *D. fusca*, at Kew.

2733. *PHRAGMITES VULGARIS* Druce, forma *RAMOSA* (Gross in Kneucker Gram. Exsicc. 1914-15, n. 878 under *Arundo*). Culmi

erecti in nodis nonnullis mediis et superioribus, singulos ternosve ramos steriles suberectos 1-12 dm. longos ferunt. Nostra forma valde differt a *Ph. stolonifera* G. F. Meyer culmis ramisque non repentibus, nodis nunquam radicantibus.

2733. *P. VULGARIS* Druce, nov. var. vel forma *HIRSUTA* A. R. Horwood. Vagina hirsuta et foliis hirsutis. Little Broad, Norfolk, A. R. HORWOOD.

2744. *KOELERIA ADVENA* Stapf in Trans. Bot. Soc. Edin. 303, 1917-18. See paper by J. Fraser. New to Science. Discovered by our member, Mr J. Fraser, who sent me a specimen in 1916. It was unknown to me and also to Dr Thellung who thought it was an African species. It was found near Edinburgh, growing among surroundings and under conditions which indicated that its seeds must have come into this country with esparto grass.—Affinis *K. scabriusculae* Hack., sed valvis obtusiusculis vel minute emarginatis (haud acuminatis biaristulatis) muticis vel sub apice mucronulatis valvam aequantibus (eâ haud conspicue longioribus) distincta. Gramen gracile annuum. Culmi fasciculati, erecti vel geniculato-ascendentes, graciles, 10-13 cm. alti, glabri vel internodiis inferioribus apicem versus minute puberulis 2-5-nodi nodo summo longe infra medium sito. Foliorum vaginae arctae, tenues tenuiter pubescentes vel summa subglabra, praeter infimas internodio breviores; ligulae breves, membranaceae, rotundatae; laminae patentes anguste lineares, superne attenuatae, acutae, 8-30 mm. longae, 1-15 mm. latae, molles, pubescentes, ad margines scabriusculae vel basin versus etiam ciliatae. Panicula angusta, contracta ambitu sublinearis, inferne interrupta vel lobata, 3-5 cm. longa, 6-10 mm. diam., ramis ramulis pedicellis glabris, laevibus vel superne scabriusculis; pedicelli perbreves, raro 2 mm. longi. Spiculae, ambitu obovatae, 4-5 cm. longae, superne 2-3 mm. latae, 3-4 florum, glabrae, nitidulae. Glumae aequilongae spiculam subaequantes a latere visam oblongae, obtusiusculae, 3-nerves, plus minusve pallide purpureo-suffusae. Rhachilla internodiis minute pilosulis circiter 1 mm. longis. Anthoecia 3 mm. longa, sursum perpaulum minora, summo ad squamulas minutas reducto. Valva a latere visa anguste oblonga, obtusiuscula vel minute emarginata, saepe sub apice tenuiter mucronulata, in dorso

tenuissime scaberula, tenuiter 3-nervis. Valvula valvam aequans, 2-dentata, hyalina albo-nitens. Antherae 2 mm. longae.

2744 (5). *K. SCABRIUSCULA* Hackel in Oestr. Bot. Zeitschr. 123, 1877. Among esparto aliens at Levenhall, Edinburgh, 1918, J. FRASER. Det. W. B. TURRILL.

2748 (7). - *ERAGROSTIS CURVULA* Nees Fl. Afr. aust. 397. Alien, S. Africa. Bradford, York, 1918, J. CRYER. Det. at Kew.

2769. *POA ANNUA* L., var. *EXILIS* Tomm. ap. Freyn in Z.-B.G. 469, 1877. *P. remotiflora* Murbeck in Act. Univ. Lund. xxxvi., Afd. 11, 2, no. 1, 22 (non Ruprecht which is *P. Laestadii*). *P. annua*, var. *remotiflora* Hackel in Batt. & Trab. Fl. d'Alg. ii., 206. *P. exilis* Murb. in A. & G. Syn. 390 as a sub-species. This small grass I found in June 1906 at Petit Bò, Guernsey, and referred it to "a small form in fruit" in *Journ. Bot.* 427, 1907. Subsequently Prof. Hackel named it *P. annua*, forma *crinita*. See *Rep. B.E.C.* 42, 1914. As I could not see in this grass any specific differences from *P. annua* I put it under that species in Hayward's *Botanist's Pocket Book* 274, 1914. M. Rouy *Fl. Fr.* xiv., 268 places it as a race of *P. annua*. Mr C. E. Salmon published its occurrence in Jersey in 1914. See also *Rep. B.E.C.* 257, 1917.

2776. *GLYCERIA MARITIMA* × *BORRERI* = × *G. BURDONI*, hybr. nov. [Ref. No. V 755]. With both the assumed parents at Pagham, W. Sussex and, when fresh and unpressed, looking a good intermediate. It has mostly flat, glaucous leaves, the spikelets broader and less enrolled than in *maritima*, the panicle branches arranged on the axis so as to simulate *Borreri*, and it is a more slender and a taller plant. The glumes and spikelets of the upper branches approach the Kentish *Foucaudii* of which it has (usually) the ciliate pales which seem to occur in various *maritima* forms. See *Rep. B.E.C.* 258, 1917. G. C. DRUCE.

2776. *G. MARITIMA* × *DISTANS*, hybr. nov. Pagham, W. Sussex. [Ref. No. V 724]. See *Rep. B.E.C.* 259, 1917. This has the stout habit of *hibernica*, but the leaves are mostly flat, the panicle branches more slender, longer, the lowest 3-4 cm., naked for 1-1.2 cm. from the

base, the branches straddling or spreading nearly at right angles. This is near to var. *deflexa*. G. C. DRUCE.

2776. *G. MARITIMA* Wahl., sub-var. *AMETHYSTINA* (Meyer Chlor. Hann. 629. [Ref. No. V 747]. Pagham, July 1917. [Ref. No. V 731]. Chichester Harbour, W. Sussex, July 1917, the latter forming a passage to *hibernica* in its larger size and more caespitose habit. G. C. DRUCE.

2776. *G. MARITIMA* Wahl., sub-var. *SUBCAESPITOSA*. [Ref. No. V 760]. An intermediate between *maritima* and var. *hibernica*, having a loosely caespitose habit, but usually a smaller plant than *hibernica*. Gravelly soil, Chichester Harbour, W. Sussex., July 1917. Ref. No. V 782 from Pagham, W. Sussex, scarcely differs but is slightly nearer *hibernica*. G. C. DRUCE.

2776. *G. MARITIMA* Wahl., var. *DEFLEXA* (Syme E. B. xi., 103 under *Sclerochloa*). [Ref. No. V 741 as f. *distansiformis*]. This suggests a possible hybrid with *distans* which however was not growing near, nor could positive evidence of it be detected in the plants. This also occurred as the sub-var. *amethystina*. Chichester Harbour, W. Sussex, July 1917, G. C. DRUCE.

2776. *G. MARITIMA* Wahl., var. *HIBERNICA* (Druce). See *Rep. B.E.C.* 258, 1917. [Ref. No. V 740]. Chichester Harbour, W. Sussex, July 1917. This differs from Hackel's type *Foucaudii* from Kent in the enrolled leaves, caespitose growth, absence of runners, &c. Also [Ref. No. V 735] from Pagham, W. Sussex, July 1917, with smaller spikelets having some resemblance to *peisonis* from Corfu. G. C. DRUCE.

2782. *FESTUCA ELATIOR* L., var. *INTERMEDIA* Hackel. Ardtal-naig, M. Perth, G. C. DRUCE in *Ann. Scot. Nat. Hist.* 235, 1900.

2782. *F. ELATIOR* × *GIGANTEA* = × *F. SCHLICKUMI* Grantzow Fl. d. Uckerm. 340, 1880. Plant tall, about 8 dm.; leaves flat, pale green above and below, about 5 mm. broad, with rather prominent ribs and scarious margins, gradually tapering for two-thirds of their length to the apex; ligule broader than long; panicle about 25 cm. long, somewhat secund, with the branches about 7 mm. long, having

florets throughout, that is not naked at base; outer glume and pales with a broad hyaline margin, minutely ciliate; awn about 3 mm. long; spikelets pale green, turning to a pinkish-brown, nearly sterile. This differs from *gigantea* in the much more sessile panicle-branches and spikelets, the flowers of which are much less definitely aggregated into a spikelet, in the leaves being firmer and narrower, and in the sheaths being less scabrid. From *elatior* it is distinguished by the broader leaves, the longer awned pale, and the presence of the conspicuous dark band on the culm above the nodes. Nyman (*Consp.* 824) records this hybrid from Prussia and Bohemia. It was sent to me for determination in 1918 by Mr F. ROBINSON who found two or three specimens growing in a fence at Watton, W. Norfolk. It is a new hybrid to the British Flora.

2787. *F. OVINA* L. var. *ALPINA* Gren. & Godr. Fl. Fr. iii., 571, 1856. Abundant on the limestone of Inchnadamph, W. Sutherland. G. C. DRUCE in *Ann. Scot. Nat. Hist.* 109, 1908.

2823. *LOLIUM ARISTATUM* Lag. Gen. & Sp. 5, 1816, var. *vel lusus RAMOSUM*. *L. Boucheanum* Kunth Gram. ii. t. 220, 1829; Enum i., 436, 1833. *L. italicum* Koch Syn. 956, 1844 and A. Braun in Flora xvii., 259, 1834, var. or *lusus ramosum* (Gussone Fl. Sic. i., 59, 1842 as a var. of *L. temulentum*). *L. perenne*, var. *aristatum* Coss. & Germ. Fl. Par. 656, 1845. This monstrous condition has a large, compound, open panicle. It was brought me from Goring, Oxon, by Mr T. GAMBIER PARRY in 1918. Bristol, 1918, Mrs SANDWICH; Slough, Bucks, 1899, G. C. DRUCE.

2885. *ASPLENIUM ADIANTUM-NIGRUM* L., var. *CUNEIFOLIUM* (Viv.), comb. nov. *A. cuneifolium* Viv. Fl. It. Fragm. i., 16, 1806. *A. Forsteri* Sadl. Diss. Inaug. 29, 1820. *A. Serpentina* Tausch in Flora xxii., 77, 1839. Sub-sp. *cuneifolius* Christensen Ind. Fil. 99. Sub-sp. *Serpentina* Milde Fil. 86. *A. Adiantum-nigrum*, var. *obtusum* Moore in Seeman's Journ. Bot. 128, 1864. *A. obtusum* Presl, not Kitaibel. Fig.: Milde Nova Acta xxvi., p. 11, t. 43, 44. Seemann's Journ. Bot. 130, 1864. Croatia, Dalmatia, Serbia, Hungary, Bohemia, Saxony, Italy, Corsica, S. Africa, Abyssinia and Scotland. First discovered by the Rev. Andrew Christie in 1862 on the serpentine range dividing the counties of Banff and Aberdeenshire and re-

corded by T. Moore in Seemann's Journ. Bot. 184, 1863. This interesting fern was observed by myself and Mrs Wedgwood last August on a serpentine hill to the east of the Buck of Cabrach growing in some quantity with *A. Adiantum-nigrum* and transitional forms. In outline the fern approaches *Onopteris* but the colour is dull, not lucid green, and the segments are not so narrow, nor the frond so elongated and gracile. Compared with *Adiantum-nigrum* the frond has usually a relatively longer stipe, the base of the segments are normally recurvate, the lamina is more divided with the ultimate segments less approximate and more or less bent away from the central rachis. Not only were transitional forms found but examples with singularly undivided fronds, as well as others which could not be separated from *Adiantum-nigrum*. Although Milde threats it as a sub-species, a grade retained by Christensen, he says "formas in *A. Adiantum-nigrum* transientes saepe cum *A. serpentinei* in eodem rhizomate inveni," which induces me (as well as from my own observations in Aberdeenshire) to give it only varietal rank. It may be well to quote an analysis by Ebner of the serpentine soil on which it grows (*Verh. Zool.-Bot. Ges. Wien* 377, 1861)—Magnesia 31.22, Lime 18.77. Potash 30.05, Chloride of Sodium 8.89 parts in 100. The large percentage of potash came as a surprise to me, and suggests the mineral as a source of supply for that valuable alkali.

2896. DRYOPTERIS FILIX-MAS Schott. A beautiful foliose form in which the frond is compoundly divided into very broad and deeply cut pinnae was found by Mrs WEDGWOOD in Ludlow Great Wood. Salop, but Dr Stansfield thinks that as it is only fertile in the upper part of the frond it would probably revert if grown in a more open situation.

2905. CYSTOPTERIS REGIA Presl, var. DICKIEANA (Sim) Druce. *C. Dickieana* Sim Gard. Journ. 308, 1848. *C. fragilis*, var. *Dickieana* Moore Hand. Brit. Ferns 81; Bot. Gaz. i., 310, 1849. Moore & Lindley Nat. Printed Ferns of Gt. Britain and Ireland, t. 46, fig. 5, 6. *C. dentata*, forma *Dickieana* Bab. Man. 412, 1851. Sowerby Ferns of Great Britain 39, t. 22. *C. alpina*, var. *Dickieana* Milde Fil. Europ. 151. The sori in this beautiful variety are close to the margin and the spores are slightly verrucate or tuberculate, not echinate-

tuberculate. It was found by (teste Moore *Bot. Gaz.* 310, 1849) Dr Dickie, Professor of Botany at Aberdeen, near that city, but in Kincardineshire, in 1846, on dripping rocks, and as *C. fragilis* he recorded it in the *Flora*. It is also stated by Moore to have been found by Dr Balfour near Dunkeld, but Buchanan White in the *Flora of Perthshire* makes no allusion to it. Lowe also mentions it from the Great Isle of Aran, Galway, but it is not included in the *Cybele Hibernica*. It is stated to have been destroyed in its original station near Aberdeen, where Mrs Wedgwood and I failed to find it. Subsequently it was our good fortune to meet with it in another place in August last, and it afforded a beautiful sight. The delicate green fronds, with their broad, deflexed, continuous pinnae far remove it from any form of *fragilis*. Newman (*Brit. Ferns* 93) says "It is a perfectly healthy plant, not monstrous or distorted and it produces its like from seed for many generations, becoming a perfect weed, whereas *fragilis*, under similar treatment, rarely reproduces itself. Cultivated in the same soil and in the same pot with *fragilis*, the latter becomes larger and more vigorous, *Dickieana* smaller and less vigorous, and the more care the cultivator bestows on these two plants, the more he will find they recede from each other whereas all differences between the so-called *fragilis*, *angustata* and *dentata* are speedily lost in cultivation." Syme gives the credit of its discovery to Professor Knight of Aberdeen and says the spores are precisely similar to those of *C. alpina*, a statement which led me to put it as a variety of that species in the *British Plant List*. Syme considered *alpina* to be only a sub-species after many years experience of its culture. Dr Stansfield believes it to be a distinct species, but speaks with some reserve considering the extreme localisation of the plant. Milde (*Fil. Europ.* 151) also puts *Dickieana* to *alpina*, while Nyman, without giving it any grade, places it under *C. regia* Presl and only cites Aberdeen (*sic*) as its habitat.

NOTES ON PUBLICATIONS, NEW BOOKS, ETC., 1917-18.

(Owing to exigencies of space and war restrictions only the more important are given in this Report.)

ADAMSON, R.H. On the Relationship of some Associations of the Southern Pennines in *Journal of Ecology*, 97, 1918.

ALLEN, C. E., and GILBERT, E. M. TEXT-BOOK OF BOTANY. Illustrated. D. C. Heath & Co., Boston, 1918; 1 dollar 48 cents.

ANCIURE, M. M., and PRESTAT. Catalogue des Plantes de la Région Bayonnaise, pp. 1-85, 1918. Société Bayonnaise d'Etudes Regionales. Bayonne.

ANNALS OF BOTANY. Subscription £2 12/- annually. H. Milford, Oxford University Press, Amen Corner, E.C.

ARNELL, H. WILK. Varfloran vid Harnösand in *Bot. Notiser*, Haft 4, p. 169, 1918.

ASHE, W. W. Notes on Southern Woody Plants in *Torreya* xviii., pp. 71-74, 1918.

BAKER, J. GILBERT, our Hon. Member, gives a very readable paper in the *Gardeners' Chronicle* for December 23, 1917, on "The Botany and Physical Geography of the Holy Land." He says the region of Syria and Palestine forms one of the most wonderful in the world. In a tract about the size of England or the State of New York are to be found 3500 plants not going below the Ferns and he thinks that when the hills on the east side of the Jordan are thoroughly investigated the number of 4000 will be reached. Mr Baker gives the total number of British species as 1500, which is on Benthamian lines, and in the whole of Europe as 10,000. But this number would be nearly doubled according to more modern segregation. I may add that in the recently published *Flora of the Vicinity of New York* which comprises Connecticut and parts of Pennsylvania Mr Norman Taylor enumerates 2038 native and 613 adventitious plants, so that Mr Baker's statements are borne out. Nor need we wonder at this number con-

sidering that the area is a seat of ancient civilisation and intensive culture and has a most varied soil and climate as well as a great altitudinal range from the coast level to over 10,000 feet. Mount Hermon, on which wild wheat has been found, rises to 6400 feet. The Bracken grows on Lebanon at 6000 feet and at 8000-9000 the beautiful blue-flowered *Vicia canescens* forms large tufts.

BALFOUR, Prof. I. BAYLEY. New Species of *Primula* in the Proceedings of the Botanical Society of Edinburgh, xxviii., p. 231. The Genus *Nomocharis* and New Species of *Rhododendron* in Notes from the Royal Botanic Garden Edinburgh, Nos. xlvii. and xlviii., April 1918.

BAR, P. Die Vegetation des Val Onsernone (Kanton Ticino) pp. 80. Ruscher & Co., Zürich, 1918; 3 francs.

BASTIN, S. LEONARD. BRITISH FERNS AND HOW TO KNOW THEM. Methuen, London, 1917; 1/6 nett.

BATTEN, LILY. Ecology of *Epilobium hirsutum* in Journal of Ecology, vol. vi., No. 3, 1918.

BAYFORD, E. G. A Floral Film of 1831. (Flora of the Brampton and Wath Area). The Naturalist, pp. 89-92, March 1918.

BECCARI, O. Origin and Dispersal of *Cocos nucifera*. Philipp. Journal of Science, xii., 27, 1917. Asiatic or Polynesian, rather than American, origin is suggested.

BECK VON MANNAGHETTA und LERCHENAU, G. Flore Bosne, Hercegovine, &c. Glas. Zem. Muz. Bosn. & Herc., xxviii., p. 41, 1916.

BENNETT, ARTHUR. *Ceratophyllum demersum* in Orkney and *Ulex nanus* in Caithness in the Transactions of the Botanical Society of Edinburgh, xxvii., 134, 1917.

BERNHARD, Prof. NOEL. L'EVOLUTION DES PLANTES. 8vo., pp. xxxii., 314, tt. 29. Felix Alcan, Paris; 4 francs 55 cents.

BLAKE, S. F. On the Flora of New Brunswick in Rhodora, xx.,

p. 101, 1918. A Revision of the Genus *Viguiera* in Contributions to the Gray Herbarium, Harvard University, new series, liv., 1918.

BONAPARTE, PRINCE ROLAND. NOTES PTERIDOLOGIQUES. Paris, Imprimé pour l'auteur. Fasc. i. and ii., 1915; iii., 1916; iv. and v., 1917. For some years past His Highness has been specialising on the Ferns and their allies and these valuable publications contain some of the results of his investigations. They contain a large number of new species. The nomenclature is based on Christensen's *Index* and its supplement.

BORNMULLER, J. Zur Flora des Nord Syrien in Notizbl. Berl. Dahlem. vii., 1-44, 1917.

BOTANICAL ABSTRACTS. A monthly serial, furnishing abstracts and citations of publications in the international field of Botany in its broadest sense. Williams & Wilkins Company, Publishers, Baltimore, U.S.A.; annual subscription 6 dollars 50 cents.

BOTANICAL MAGAZINE. China still continues to pour out a never-failing supply of showy plants. The plate t. 8782 figures *Mezembryanthenum edule* L., which few people would recognise as the distorted scrap displayed in the *Cambridge Flora* for that species.

BOWER, Prof. F. O., Sc.D., F.R.S. Studies in the Phylogeny of the Filicales. VII. Pteroideae. Annals of Botany, 1918.

BRENCHLEY, WINIFRED E. Organic Plant Poisons. II. Phenols. Annals of Botany, xxxii., p. 259, 1918. Survival of Weed Seeds. Gardeners' Chronicle, November 16, 1918.

BRITTON, NATHANIEL LORD. FLORA OF BERMUDA. 8vo., pp. xi., 585, figs. 519. Scribner's Sons, New York, 1918; 4 dollars 50 cents.

BRUNKER, J. P. A New Station for *Lathraea Squamaria* in Co. Dublin in Irish Naturalist xxvii., No. 7, p. 110, 1918.

BULLOCK-WEBSTER, Rev. Canon G. R. The Characeae of the Rosses in Irish Naturalist, xxvii., No. 1, p. 7, 1918.

BURNHAM, S. H. Flora of the Indian Ladder and Vicinity of the Helderberg Mountains in *Torreyia*, xviii., pp. 101, 127, 1918.

CLAYE, Rev. Canon A. H., D.D. Cranberry and Bilberry in *Lincolnshire* in *Selborne Magazine* 24, 1918. *Vaccinium Myrtillus* occurred in Broughton parish and the Cranberry was found in Appleby parish. Both had long been thought to be extinct. The latter species had not been seen since 1863, although at one time the berries were of economic value from their abundance.

COCKERELL, T. D. A. Notes on the Flora of Boulder County Colorado in *Torreyia*, xviii., p. 177, 1918.

COKER, DOROTHY. Revision of N. American Eucalypti in *Bull. Torr. Bot. Club*, xlv., p. 433, 1918.

COLGAN, NATHANIEL, M.R.I.A. Lusitania and Kerry—a Botanical Parallel, includes *Lepidium perfoliatum*, in *Irish Naturalist*, xxvii., No. 2, p. 20, 1918. Notes on Alien Plants of Co. Dublin in *Irish Naturalist*, xxvii., No. 6, p. 86, 1918.

CORREYON, H. et P. R. LA FLORE ALPINE, ed. 2, pp. 341. Genève 1917.

COULTER, J. M., and M. C. PLANT GENETICS. 8vo., pp. ix., 214, 40 diagrams. Chicago University Press, July 1918; 1 dollar 50 cents nett.

CRAIB, W. GRANT, M.A. Primulae Novitates Nonnullae, and Gesneracearum Novitates Nonnullae in Notes from the Royal Botanic Garden Edinburgh, Nos. xlix. and l., November 1918.

DALLMAN, A. A., F.C.S., and LEE, W. A., M.A. An old Cheshire Herbarium in *Lancashire and Cheshire Nat.*, 192, 1917. This was made by Miss Barbaña Townshend of Wincham Hall, Cheshire, who was born in 1781 and died in 1816. The herbarium includes 104 Cheshire plants.

DICKSON, JAMES. List of Naseby Plants, Northants, 1792, G. C. DRUCE in *Journ. Northants Nat. Hist. Society* 116, 1918.

DOMIN, K. Eine Decade neuer Adventivpflanzen aus Böhmen in Mag. Bot. Lap. 112, 1917.

DRUCE, G. CLARIDGE. "Exhibition of New British Plants in Proceedings of the Linnean Society p. 58, June 1918. These have been described in the *Reports of the Botanical Exchange Club*.

ELLIS, DR D. HERBS AND POISONOUS PLANTS, pp. xi., 179. Blackie & Son, London; 2/6 nett.

EMERSON, A. I., and WEED, C. M. OUR TREES: HOW TO KNOW THEM, ed. 5, pp. xxi., 295, 149 illustrations. J. B. Lippincott Co., Philadelphia and London, 1918; 3 dollars 50 cents.

EWART, ALBERT, D.Sc., and DAVIES, OLIVE B., M.Sc. THE FLORA OF THE NORTHERN TERRITORY (of Australia), pp. 387, 1917. M'Carraon, Bird & Co., Melbourne. Mr J. H. Maiden contributes separate Synopses of the species of *Acacia* and *Eucalyptus*, Mr Edwin describes the Myrtaceae, and Mr A. Hamilton the Cyperaceae. A map is appended showing the route of the Barclay Expedition and characteristic vegetation. About 36 new species are described and there are 27 plates. It is published by the authority of the Minister for Home and Territories and we are indebted to the Minister of the Commonwealth for a copy.

FALCONER, W. Botanical Notes, mainly from the Colne Valley in *The Naturalist*, p. 379, December 1918.

FARROW, E. P. Ecology of the Vegetation of Breckland in *Journal of Ecology* vol. v., 183, 1917, vol. vi., 114, 1918.

FERNALD, M. L. American variations of *Epilobium* in *Rhodora*, vol. xx., p. 1, 1918. North American *Littorella* in *Rhodora*, vol. xx., p. 61, 1918.

FISCHER, C. G. S. The Flora of the Anamalais (Notes). August 1918, in *The Botanical Bulletin*, Presidency College, Madras.

FOSTER, NEVIN H. *Draba muralis* in Co. Down in *Irish Naturalist*, xxvii., No. 7, p. 110, 1918. *Spiranthes Romanzoffiana* in Co. Armagh in *Irish Naturalist*, xxvii., No. 10, p. 163, 1918.

GAMBLE, J. S., C.I.E. FLORA OF THE PRESIDENCY OF MADRAS. 8vo., pp. 201-390, pt. ii. Adlard & Son, London, 1918; 8/-.

GARDENERS' CHRONICLE. This ably edited periodical, amid much of interest, has an account of Kew Gardens by "W. W.," an able review by Mr H. J. Elwes of Hooker's Life and Letters and an article on Lovage by Major G. Hurlstone Hardy. January 26. Plant Collecting in China, George Forrest. The description of the myriad species of Rhododendrons and Primulas makes one's mouth water. Of the latter a new species with large trumpet flowers of purple-blue and of the former, *R. glischrum*, with big trusses of large campanulate blooms of plum-rose with crimson markings and a deep crimson blotch at base, seem singularly attractive. March 2. Collecting Tree Seed. As might be expected the number of seeds in a pound varies immensely, and a useful table is given showing average numbers varying from 36 in the Horse Chestnut and Walnut to Oak 100, Sycamore 4624, Hornbeam about 10,000, Beech 2700, Ash 6800, Cedar of Lebanon 10,800, *Pinus Pinaster* 12,000, Silver Fir 15,000, Larch 65,000 and Scots Fir 75,000. November 16. Survival of Weed Seeds, Winifred E. Brenchley. An article of extraordinary interest in which the writer says it is an undoubted fact that when grass land or old waste land is broken up large crops of such plants as Charlock or Poppy are wont to appear. . . . In many cases a previous history of cultivation can be proved, and then it is quite feasible that the crops of weeds have arisen from long-buried seeds. Some experiments recently carried out at Rothamsted have proved conclusively that seeds of some of the common weeds of cultivated land can survive even when they are buried in soil that has been laid down in grass for periods of as long as 59 years. Orache, Knot-grass, Field Speedwell, Charlock and Black Bindweed are among the weeds that were obtained from an old ploughed field that was turned into a meadow in 1859. In another case land was grassed over in 1885 so that it had not been cultivated for more than thirty years. Nevertheless quite a large number of living arable weeds were present. From a cube of soil 1 foot square by 1 foot deep seventy-four such seeds were obtained, every one of which germinated and produced a healthy seedling. No fewer than fifty-two of these were seeds of Knot-grass but Pimpernel, Sandwort, Orache and Poppy were well

represented, and Black Bindweed, Wild Pansy and Field Speedwell occurred in less quantity. There was evidence to show that when the field was under arable the Knot-grass was in abundance. Most of these arable seeds are found at some depth in the soil, mainly from 5 to 12 inches below the surface. While a large number of seeds rot, a certain number retain their vitality and are able to start into growth when favourable conditions arise. It must not be assumed that fifty-nine years represents the limit of time that life can be maintained under such conditions. More evidence of a direct nature is needed, but sufficient data exist to show that the buried seeds may constitute a very real danger to farmers when grass land is broken up or ploughed more deeply than usual.

GIBBS, Miss L. S. A CONTRIBUTION TO THE PHYTO-GEOGRAPHY AND FLORA OF THE ARFAK MOUNTAINS, &c. (New Guinea). pp. lv., 226. Taylor & Francis, London, 1917; 12/6. In this work, treating of the north-western portion of New Guinea, Miss Gibbs has shown what an important focus of distribution lies in this little-explored area since in it occur types hitherto considered to be of Polynesian or Australian origin. Out of 330 plants collected 100 were new to science, one of them—*Libocedrus arfakensis*—belonging to a new genus to the country.

GRAEBNER, P. SYNOPSIS DER MITTEL-EUROP. FLORA. 94 Lief. 625-704, 1918. This will be noticed later on.

GREENMAN, J. M. Two Exotic Compositae in N. America in Annals of the Missouri Bot. Garden, vol. iv., No. 4, 1917. Monograph of N. & Cent. American Senecio in Annals of the Missouri Bot. Garden, vol. v., p. 37, 1918.

GROVE, W. B. The British Species of *Melanconium* in Kew Bulletin, No. 5, p. 161, 1918.

GROVES, JAMES, and BULLOCK-WEBSTER, Canon G. R. Characeae of Ireland in Irish Naturalist, 134, 1917.

GUPPY, H. B. PLANTS, SEEDS AND CURRENTS IN THE WEST INDIES AND AZORES. pp. viii., 531. Williams & Norgate, London, 1917; 25/-.

HAKANSON, J. W. Floristiska bidrag. från södra Lidingö (Floristische Beiträge aus dem Sudtiel von Lidingö, in Svensk Botanisk Tidskrift, Haft 3, No. 12, p. 372, 1918.

HANBURY, F. J., F.L.S. A Sussex Rock-Garden in Journ. Royal Hort. Soc. xlii., 271, 1916. A delightful description illustrated with charming photographic reproductions of one of the most beautiful and most richly furnished rock-gardens in Britain. It may be noted that Mr Hanbury has growing a large number of the rarest British species.

HARSHBERGER, Prof. J. W. A TEXT-BOOK OF MYCOLOGY AND PLANT PATHOLOGY. pp. xiii., 779, tt. 271. J. & A. Churchill, London, 1918; 15/-.

HAYEK, Dr A. von. Über einige Kritische Pflanzen der Alpenkette. III. (*Senecio aurantiacus*.) Bot. Zeitschrift, xxiii., Jahrg., Nos. 1-4, 1917. Beiträge des Flora des Albanisch-Monten. Grenzbeites in Dansk. Ac. Wiss. Wien Math-Nat., xcix., 127, 1917.

HEGI, G. Illustr. Fl. von Mitt.-Europa. Band iv. and Band vi. J. F. Lehmann, München, 1918.

HEMSLEY, W. BOTTING. The Palms of the Seychelles and Mascarenes in Nature, 73, 1918.

HESLOP-HARRISON, J. W. A Survey of the Lower Tees Marshes in Nat. Hist. Soc. Northumberland, Durham and Newcastle-on-Tyne. vol. v., pp. 89, 140, 7 maps, 1917. A fascinating account of the ecology of that important marsh system which will doubtless be profoundly changed in the not distant future.

HIERN, W. P., F.R.S. Presidential address in Trans. Devon Assoc. xlix., pp. 27-59, 1917. This gives (1) A list of the Fossil Plants of the county. (2) The Devon Myxomycetes and Fungi. (3) Lichens. These include the rare *Rachodium rupestre* and the new *Polyblastia mortensis* Watson. (4) Eleven species of Characeae. (5) 490 species of Marine Algae and 149 species of Fresh-water Algae. (6) 122 species of Hepaticae. (7) 345 species of Mosses. Our mem-

ber, Mr C. P. Hurst, has recently added *Grimmia subsquarrosa* Wils., *Coscinodon cribrosus* Spruce, and *Bryum lacustre* Brid. to the flora. (8) Ferns, 32 species; Equisetaceae, 6; Lycopods, &c., 5, and *Pilularia*. (9) Spermatophytes, 1348 species as against 2030 for the British Isles. (10) The rare plants of the eight Devon county divisions are given as well as the curious absentees. Among the special plants mentioned are *Ranunculus tripartitus*, *Mathiola sinuata*, *Helianthemum polifolium*, *Viola meduanensis*, *Ononis reclinata*, *Rubus saxatilis*, *Danaea cornubiensis*, *Eryngium campestre*, *Erica ciliaris*, *Lobelia urens*, *Cicendia filiformis*, * *Rhinanthus hirsutus*, *Euphrasia minima*, *E. Vigursii*, *Teucrium Scordium*, *Corrigiola littoralis*, *Euphorbia hyberna*, *Empetrum nigrum*, *Acorus Calamus*, *Sagittaria heterophylla*, var. *iscana* (discovered by Mr Hiern), *Potamogeton salignus*, *Lilium pyrenaicum*, *Romulea Columnae*, *Scirpus triquetus*, *S. Holoschoenus*, *Carex montana* and *Melica nutans*. Among other interesting species (not specially mentioned by Mr Hiern) for the county are *Stellaria nemorum*, *Hypericum linariifolium*, *Viola epipsila*, *Geranium striatum*, *Bupleurum aristatum*, *Polygonum maritimum*, *Linaria arenaria* (planted), *Euphorbia Peplis* and *Juncus acutus*—a galaxy of riches of which Devon may well be proud. Mr Hiern then gives an able note on the Carices of which he has prepared a clavis of the Devon species based on the material published in Mr Crawford's book on the *Anatomy of British Carices* dated 1910. By Mr Hiern's kindness we are allowed to have his clavis published here. It must be remembered it refers to Devon species only. It will be noted that *C. Pairaei* recently found by me in the county is not included. The address as a whole is a masterly compilation and is full of valuable information. One would like to see a complete Flora of the county from one so well qualified to produce it. Ninth Report of the Botany Committee (of Devonshire) in Trans. Devon Assoc., xlix., pp. 99-108, 1917. This contains, among other records, a notice of *Cotula anthemoides* L., from Plymouth, a new alien.

HILL, ARTHUR W. The Genus *Caltha* in the Southern Hemisphere in *Annals of Botany*, xxxii., p. 421, 1918.

HOLLAND, M. Some Cork Aliens in *Irish Naturalist*, xxvii., No. 4, p. 63, 1918.

HOLMBERG, OTTO R. *Carex diandra* × *paniculata*, en för Skandinavien ny hybrid, in Bot. Notiser, Haft 5, p. 249, 1918.

HOPPNER, H. *Orchis Wirtgenii*, ein Konstant gewordener Bastard vom Niederrheins. *Orchis incarnatus* form × *O. maculatus* form in Abh. Ver. Nat. Erforsch. der Niederrheins, ii., 55, 1916. *Orchigymnadenia Hahnei*=*Gymnadenia conopsea* × (*O. incarnatus* × *maculatus*), l.c., ii., 51, 1916.

HORT, SIR ARTHUR, Bart., M.A. THEOPHRASTUS' ENQUIRY INTO PLANTS, AND MINOR WORKS ON ODOURS AND WEATHER SIGNS. With an English translation. 2 vols., 10/-. See *Rep. B.E.C.* 77, 1917. Although written by Theophrastus nearly 400 years before Christ there are parts of it which might well have been written in the nineteenth century. The main structure of plants, their stems, roots and leaves, are recognised and described, and at least one term, pericarp, used by him is still employed. Due recognition of the genius of Theophrastus was made by Sir John Hill in the introduction to his enormous work, *The Vegetable System*, but thanks mainly to the pernicious influence of Sachs the work of the great Greek botanist was belittled and undue prominence given to the German students whom he called the "Fathers of Botany." We know to our cost how the same pernicious system pervaded our class-rooms and museums, and how so many of our incompletely educated teachers and curators followed on the same trail. It is well, therefore, that a more fitting perspective and a truer insight into the origin of the science of Botany should be placed within the reach of all. Is it yet too late to entreat those who have sat at the feet of German thought to leave our classification so far as our public herbaria are concerned on the Bentham and Hooker basis, and not to boom a system such as Engler and Prantl's which in many ways is as imperfect as the one which it is intended to supplant?

HUMBERT, E. P. A Striking Variation in *Silene noctiflora* in Bull. Torr. Club xlv., 157, 1917.

HUMPHREYS, JOHN. A Survey of the Flora of East Worcestershire in Proc. Birmingham Nat. Hist. Soc., xiv., pt. ii., pp. 61. This gives a valuable historical summary of the plants recorded in three

of the four botanical districts into which the county has been divided in Amphlett & Rea's *Flora of Worcestershire*. Many of the plants mentioned for the Lickey division are now extinct. *Ranunculus Baudotii* still grows in an inland situation at Bilberry Hill, and *Geranium phaeum* and *Scrophularia vernalis* are naturalised at Hewell where Don once worked. Are *Diplotaxis tenuifolia* (railway embankment) and *Silene nutans* (cornfield) correctly identified? The biennial form of *D. muralis* and *S. dichotoma* may have been mistaken for them. The description of *Orchis latifolia*, near Stanklin Pool, suggests that the plant is *O. praetermissa*. In 1907 Mr Humphreys noticed two plants of *Senecio squalidus* at Droitwich. "Now it covers both sides of the line for half a mile showing as a sheet of gold in June."

HURST, C. P. East Wiltshire Mosses, Hepatics and Land Shells in Wilts Arch. & N. H. Mag. xl., 231, 1918

HUXLEY, LEONARD. LIFE AND LETTERS OF SIR JOSEPH D. HOOKER, O.M., G.C.S.I. Based on materials collected and arranged by Lady Hooker. 2 vols., i., pp. xii., 546, ii., pp. viii., 569, 1918. John Murray, London; 36/- nett. "Dedicated to the memory of many friendships." A very valuable review from the pen of our member, Mr H. J. Elwes, appears in the *Gardeners' Chronicle*; another, not less happy, written by Mr G. W. E. Loder, appears in the *Kew Bulletin* p. 349, 1918. From this a sentence or two may be quoted—"Hooker stands out as the greatest authority the world has yet produced on the subject of the distribution of plants; although he did much other work, this alone confers on him immortality." Three Essays of his—*On the Distribution of Arctic Plants*, 1860, *His Introductory to the Flora of New Zealand*, 1853, and *The Introductory Essay to the Flora of Tasmania* in 1861 are of the highest order. His great botanical work was that of the *Genera Plantarum* which, with the collaboration of Bentham marks, as Mr Huxley his godson says, an epoch in Botany. Hooker regarded the much vaunted Engler's system "in the abstract as neither better nor worse than De Candolle's and far more troublesome to apply for practical purposes." With Mr Loder we agree that "this is comforting to the many who hold that until Science can supply something nearer finality it is

better to adhere to a widely accepted and established arrangement." Every British botanist, indeed every naturalist who can afford it, ought to purchase these two handsome volumes, which, even in war times, are well printed and displayed on the high standard long ago set by the publishers. In them we see Evolution as a theory in the making, and to every follower of Darwin they are indispensable. His extant correspondence with Darwin extends to 700 sheets and that of Darwin to Hooker to 800 sheets. Of these a wise selection has been made. Hooker was indeed a great man and his dominating influence in Botany for over half a century was unquestioned. His first scientific essay was written when he was nineteen, his last at 94. Not only was he a great botanist, he was a great explorer and scientific voyager. Without this world-wide experience he could never have attained his supremacy. Then his range of learning was not only comprehensive but he had the rarer faculty of effective concentration. These points in his wonderful career are well brought out by the able Editor. Hooker, although not of robust health as a youth, rather may we say that because he was not of robust constitution in his early years, was yet able to keep himself mentally sound to his latest days. After he was ninety, when staying with him at The Camp, I saw him busily engaged in teasing out the vexingly delicate flowers of an *Impatiens* for a microscopical examination. His memory was remarkable. He then told me he well remembered coming to Oxford as a boy of fourteen when his father examined the Dillenian mosses and the fact of the sheets being bordered with a strip of wall-paper was recalled. To this accurate memory Oxford is indebted for he remembered seeing some Wedgwood medallions of Banks and Linnaeus in Daubeny's house. A subsequent search revealed them safely packed away. They now hang over the fire-place in their original position. Hooker had, as any one who reads these volumes will see, the great gift of making friends. Naturally such a gift also brings the power of making enemies. The account of his duel with Ayrton is told afresh in an age to which its echoes hardly reach. Hooker was fortunate in his married life, and these volumes could never have reached the completeness they attain had it not been for the assiduous care in preserving and collating material displayed by Lady Hooker. Very pleasant accounts are given of his travels. One wishes there was space for more, but from them we gather that the splendours of the

Antarctic world affected him very deeply. In answer to a question once put by the writer as to what he considered the most impressive scenery of the world from a botanical point of view Sir Joseph said, without doubt, the Nepalese Himalayan slopes with their wealth of Rhododendrons. His maps made in his journey through Sikkim, as we gather from Huxley's book, were so good that in 1903 the Boundary Commission telegraphed their congratulations from the front on the accuracy of his labours, Hooker then being eighty-six. One of the senders of the telegram is now in all appropriateness the Director of Kew. On his journey Hooker looked down into Tibet from a height of over 15,000 feet. Among Hooker's life-long friends was Huxley, and in his support and in defence of Darwin Hooker scarified Bishop Wilberforce at the meeting of the British Association at Oxford. There are various versions but what is quite certain is that Huxley in his epigrammatic reply, splendid though it was*, was scarcely heard throughout the room so that Hooker's speech, which was well delivered, was most effective. It fell to my lot to hear Huxley himself propose a vote of thanks to Lord Salisbury for his address at another meeting of the Association, an address which Hooker did not applaud, and this led to the previous meeting being discussed by ear-witnesses to the episcopal discomfiture. So far as British Botany is concerned we find but little mention in these volumes. The distant scenery of Madeira reminded him of some of the Argyllshire islands and the romantic view from the Curral (lucky was he to see it in that mist-haunted spot) recalled that obtained "as you suddenly emerge upon the Glen of the Doll [not Dale], and Glen Phee [not Dhu] stretches away on one hand and on the other you look down into the broad valley of Clova." The references to the *Student's Flora* are not numerous. In 1877 he writes to Asa Gray—"nothing strikes me as

*The Bishop had insolently asked if Huxley traced his descent from a monkey through his grandfather or grandmother. Huxley replied that a man had no reason to be ashamed of having an ape for his grandfather. "If there were any ancestor whom I should feel shame in recalling it would rather be a man of restless and versatile intellect who, not content with an equivocal success in his own sphere of activity, plunges into scientific questions with which he has no real acquaintance only to obscure them by an aimless rhetoric and distract the attention of his hearers from the real point at issue by eloquent digression and skilled appeals to religious prejudice."

so curious as the contrast with your *Manual* in respect of the limits of species. Will you ever be bothered with the sub-species and varieties that drive me frantic and in my view are not worth the time they take to elucidate? ” This too is the opinion of many, even at the present time, but it strikes one as a little inconsistent coming from so earnest an exponent of evolution, since that is the course which nature is supposed to take, and without these trifling intermediate stages, many of which like way-side stations deserve to have distinguishing names, the whole theory of Evolution is jeopardised. Probably Asa Gray might have replied to the question asked by saying that so long as our country has 15,000 big species to describe the others will have to wait. Anent the British Floras there seems to be a slip. On p. 275 there is an allusion to a *fourth* edition of the *Student's Flora* in 1897. This is unknown to me. Perhaps it refers to Hooker's edition of his friend Bentham's *Handbook*. At the end of the volumes there is a portentous list of the honours showered upon Hooker. Even this is not exhaustive. A very minor one is omitted—that of his Hon. Membership of the Northamptonshire Natural History Society in 1876. From this very humble one to the proud and restricted possessorship of the Order of Merit, the whole civilised world bears testimony to his powers. One more tribute is added in these two volumes written by his god-son. Besides the value the work has in throwing a search-light upon the mind of a great naturalist, and the mass of particulars given, there is a special feature in the brief and accurate memoirs of his fellow-workers which are included as footnotes. These will prove of permanent use. Hooker's motto was “ En la rose je fleuris.” When one remembers his *Flora Antarctica*, his *Flora of New Zealand and Tasmania*, his *Voyages and Travels*, his *Flora Indica*, his exploration of Marocco, his joint work in the *Genera Plantarum*, his geographical distribution for the *Index Kewensis*, and his own *Student's Flora* we may safely add “ by his fruits shall you know him.”

JACKSON, B. DAYDON, Ph.D. Notable Trees and Old Gardens of London in Trans. S.E. Union of Scientific Soc., 1917. The author gives as the first notice of a London Garden the reference of William Fitz Stephen or Stephanides who died about 1190—“ Undique extra domos suburbanum horti civium arboribus consiti, spatiosi et

speciosi, contigui habenter." Dr Jackson in his usually exhaustive and erudite manner gives a charming sketch of the various old-world gardens of London and their remains, special reference of course being made to those of Syon House, the trees in which have been recently catalogued by our member, Mr A. Bruce Jackson. He rather scornfully alludes to the garden of Sir John Hill at Bayswater as the place where he grew his "herbs for his quack medicines." It was more than that, but even if it were as Dr Jackson states he only forestalled a recent fashionable craze. We find in his introduction to the *Vegetable System* of 1761, which he dates from Bayswater, that the plants he describes "have furnished their own characters: not the accounts of those who had elsewhere seen them. They have been raised for this purpose in a garden where no manure has even been admitted: and where there are not single plants but whole beds of them. . . . I may therefore be allowed to hope the representations are to be depended on." He goes on to say that Lord Bute supports the garden where the plants are raised and he directs how the study of them may be made most useful. A restudy of Hill's works, or perhaps in some instances, a study of them, would lessen the amount of vituperation some botanists think it necessary to shower upon him.

JEFFREYS, Harold. On the Vegetation of four Durham Coal Measure Fells, in *New Phytologist* vol. v., 129, 1917.

JENSEN, C. H. Studies on the Morphology of Wheat. Bull. 150. State Coll., Washington, pp. 21., t. 5, 1918.

JOHNSON, Rev. W. An Addition to the British Lichen Flora, *Sarcopyrena gibba* Nyl., from St Bees, Cumberland in *Naturalist*. 103, 1918.

JOURNAL OF ECOLOGY. Vol. vi., 1918. Subscription £1 1/-. Cambridge University Press, Fetter Lane, E.C.

THE JOURNAL OF THE HORTICULTURAL SOCIETY is as usual full of interesting matter. At various meetings throughout the year Mr J. Fraser, F.L.S., exhibited *Anthoxanthum Puelii* (grounds of Holland House), seedling of *Alnus* (from near the Thames), forms of *Agrostis alba*, *Prunus spinosa*, *Pyrus Aria* from Surrey, *P. torminalis* and *Mentha rotundifolia* × *viridis* from near Swanage.

JUEL, H. O. von. PLANTAE THUNBERGIANAE. 8vo., pp. 462. A.-B. Akademiska Bokhandeln, Upsala, 1917.

JUNGE, P. Die formen der *Anemone*-Arten des Schelswig-Holst. Florengebeits in Allg. Bot. Zeit. xxi., 107, 1915. Describes several forms of *A. nemorosa*. One, *asepala*, may be the same as the var. *apetala* Salisb. (See *Rep. B.E.C.* 397, 1916). Others are forma *latisepala* and *stenosepala*.

KRAEPELIN, Dr Karl. Exkursionsflora für Nord und Mitteldeutschland. Drück und Verlag von B. G. Teubner in Leipzig und Berlin. 1917. 4.10 marks, Seiten; in Liv. geb. 4.80 marks.

LACAITA, C. C. Journ. Linn. Soc. xlv., 125, 1917. Two critical Plants of the Greek Flora, *Thymus Sibthorpii* Benth. and *Crepis rutilans* nova sp., the latter based on two specimens collected by J. Ball and G. C. Druce in Corfu. The latter is allied to *rhoadifolia* and *foetida*, but it lacks the bitter-almond smell of that species. Piante Italiane Critiche o Rare, x.-xlv. in Nuovo Giornale Botan. Italiano, vol. xxv., Nos. 1 and 2, pp. 1, 97, 1918.

LAUTERBACH, C. Beiträge zur Flora von Papuasien, vi., pp. 19-144. Botanische Jahrbücher, erstes heft, 1917.

LEECHMAN, ALLEYNE. The Genus *Rhizophora* in British Guiana in Kew Bulletin, No. 1, p. 4, 1918.

LEES, F. ARNOLD. Colonist Alien Heron-bills [*Erodium*] of Yorkshire in Naturalist 379-386, 1918. The Floral Sanctuary of a Meanwoodside Garden, *l.c.*, p. 373.

LEVEILLE, H., and Blin, C. Les Carex de France in Bull. Geographie Botanique, xxvii., p. 1, 1918.

LEVEILLE, H., and JAMIN, V. Les Herbes de nos Champs et de nos Prés in Bull. Geographie Botanique, xxvii., pp. 86 and 89, 1918.

LINNEAN SOCIETY TRANSACTIONS. January 17. Some Early Cape Botanists, based upon the material preserved in the Sloane and

Banksian collections in the British Museum by James Britten. Hybrid *Stachys*, C. E. Salmon. It originated in his garden at Reigate where only *S. germanica* and *S. alpina* were cultivated. It is *S. intermedia* Aiton Hort. Kew. ii., 301; 1789. February 7. The *Panphyton Siculum* of Francesco Cupani, a very rare botanical work issued in 1713. Described by Dr Daydon Jackson. An apparently unique copy of *L'Histoire et Pourtrait des Plantes* published at Lyon in 1561 was also shown. May 24. The President, Sir David Prain, gave his Presidential Address on "The Effects of the Business of Life on the Beginning of the Science of Natural History." This delighted the large and sympathetic gathering being a scholarly and thoughtful thesis full of touches of quiet and refined humour. It is to be regretted that the exigencies of war prevented it being as widely published as its intrinsic value demands. At the meeting the highest honour the Society can bestow was conferred on Dr F. Du Cane Godman, the father of one of our members, for his laborious services to Natural History not only in the Azores but in the gigantic fauna of the *Biologia Centrali-Americana*. Dr Godman had also served as the Treasurer of the Ray Society and is a Trustee of the British Museum. June 6. Mr C. C. Lacaita described five species of *Echium*, two being new—*E. judaeum* and *E. Coincyanum*. June 21. Mr Druce exhibited 21 of Bauer's drawings (See *Rep. B.E.C.* 143. 1917) and described and exhibited 10 British plants of which an abstract appears on p. 56 of the Transactions. They have been already published in the pages of our *Reports*. On p. 61 there is a very appreciative memoir by Beatrice Harraden of Kate Marion Hall who was for many years Curator of the Stepney Borough Museum and one of the founders of the School Nature Study Union. Miss Hall's energy and enthralling love of nature were used to pass on as far as possible a liking for Natural History to thousands of children who came within her ken. She took parties of children for rambles into the parks and open places teaching them to recognise the flowers and birds. This she did wisely so as to avoid wanton depredations which have done so much to create Nature Study into a destruction of Nature. As Miss Harraden says—"Her work has taught many thousands of children to note with intelligent eye the promise of spring, the fulfilment of summer, the decay of autumn and the sleep of winter."

MACBRIDE, J. F. New and Interesting Plants in Contrib. from Gray Herbarium, Harvard University, new ser. liii., 1918.

MACCAUGHEY, VAUGHAN. Strand Flora of Hawaiian Archipelago in Bull. Torr. Club, vol. xlv., p. 259, 1918. The Hawaiian Sumach in Torreyia, vol. xviii., p. 183, 1918. The Hawaiian Violaceae in Torreyia, vol. xviii., p. 1, 1918.

MACLEOD, Prof. JULIUS. Journ. Linn. Soc. xlv., 1917. Comm. Prof. Weiss. Quantitative Description of Ten British Species of *Mnium*. The author says "our method of describing animal and vegetable species has made little progress since the days of Lamarck and De Candolle. . . . The result of this state of things is that it is often very difficult—in fact impossible—to identify a specimen even by the best books. . . . Is it possible to adopt a better descriptive method? . . . Is it possible to describe and identify an animal or a vegetable species by means of numbers representing the values of the specific characters?" He replies by applying such a principle to the ten species of *Mnium* and he made thirty thousand measurements in order to prepare this article which systematic botanists will do well to study before answering in the negative the question he propounds.

MAIDEN, J. H. Weeds of New South Wales. *Ranunculus sceleratus*, of which a figure is given, is called the Poison Buttercup. Among others are *Lactuca serriola* and *Centaurea solstitialis*. New South Wales Agr. Gaz., xxvii., pp. 46-48, and xxviii., pp. 244-246.

MARTINEAU, Mrs P. THE HERBACEOUS GARDEN. 8vo., pp. xx., 298, 1917. Third edition. Williams & Norgate; 7/6.

MERRILL, E. D. AN INTERPRETATION OF RUMPHIUS'S HERBARIUM AMBOINENSE. Bureau of Printing, Manila, 1917.

MINOD, MARCEL. Contribution à l'Etude du Genre *Stemodia* in Bull. Soc. Bot. de Genève, ser. 2, vol. x., p. 155, 1918.

MOFFAT, C. B. Losses from Local Flora [Enniscorthy] in Irish Naturalist, 157, 1917.

MONCKTON, H. W., Treasurer of the Linnean Society. The Flora

of the District of the Thames Valley Drift between Maidenhead and London.

MORRIS, Sir DANIEL, K.C.M.G. The Mistletoe, its Life History and Associations with Primitive Religion, Folk-lore, and Superstitions. Reprinted from the *Bournemouth Guardian*, December 23, 1917. *Viscum* rarely grows on the Pear, but Sir Daniel gives an example from Belvoir Castle and from Brynwyn, Hereford, recorded in the *Flora of Hereford*.

MOSHER, EDNA. The Grasses of Illinois. III. Agr. Exp. Sta. Bull. 205, 261, 425, 1918.

THE NATURALIST, 1918, edited by T. Sheppard, M.Sc., and T. W. Woodhead, Ph.D., M.Sc. Famous Yorkshire Botanists. A Floral Film, J. Bayford. Colonist Heron-bills [*Erodium*] of Yorkshire, F. A. Lees.

NATURE, 1918. Published by Macmillan & Co., St Martin's Street, London, W.C.

NELSON, T. C. Addition to the Flora of Western Oregon in *Torreya*, vol. xviii., p. 21, 1918.

NEUMAN, L. M. *Rubus acupilosus* Liaf., och *R. nemoralis*, var. *Ruedensis* Liaf. in Bot. Notiser, Haft 5, p. 261, 1918.

NEW PHYTOLOGIST, edited by A. G. Tansley. Wesley & Sons; 15/-.

OESTRUP, E., and HESSELBO, AUG. The Botany of Iceland. Marine Diatoms and Bryophyta. J. Frimodt, Copenhagen, 1918.

OLIVER, F. W. THE EXPLOITATION OF PLANTS. By various writers, edited by F. W. Oliver. Imperial Studies Series, pp. 170, J. M. Dent & Co.; 2/6.

OLIVER, F. W., and CAREY, A. E. TIDAL LANDS: A STUDY OF SHORE PROBLEMS, pp. xiv., 284, tt. 29. Blackie & Son, London; 12/6.

OLIVER, W. R. B. Vegetation of Lord Howe Island in Trans. New Zeal. Inst. xlix., pp. 94-161, 1917. Although only of small

extent—not more than 5 square miles—the surface rises to 3000 feet. It has an annual rainfall of about 50 inches. It has about 70 endemic species and 4 endemic genera, the total number of genera being 169.

ORCHID REVIEW. Edited by R. A. Rolfe, A.L.S. 7s bi-monthly. × *D. Hepburnii* (see *Rep. B.E.C.*, 211, 1915) p. 151. British Marsh Orchids p. 162. This and my paper on Palmate Orchids were written quite independently. Mr Rolfe still retains the three old names *maculata*, *latifolia*, and *incarnata*. This paper is worth reading, and we hope to find room for it in a future *Report*. Meanwhile there seems nothing in it to induce me to change the views expressed in the paper referred to.

OSTENFELD, C. H. Smaa Bidrag til den Danske Flora, VII. Botan. Tidsk. Bind 36, Hefte I, 43, 1917. This includes *Rubus vulgaris*, var. *laciniatus* (Willd.), *Prenanthes purpurea*, *Anemone nemorosa*, var. *caerulea*, *A. apennina*, *Amsinckia spectabilis*, *Naias marina*, *Alisma graminifolium*, *Potamogeton panormitanus*, *Typha hybrida*, *Poa pratensis*, var. *irrigata*, var. *sub-biflora*, nov. var., *P. trivialis*, var. *pallescens*. *Scirpus lacustris* × *Tabernaemontani* is described at length and once again our Charad reappears under a new name, *Nitellopsis stelligera* (Bauer) Migula. Botan. Tidsk., l.c., Bind 34, 346, 1916. Nogle Bemaerkninger om vore Enaarige *Sonchus*-arter. In this suggestive paper Dr Ostenfeld mentions *Sonchus oleraceus*, var. *lacerus* (Willd.) from the Lizard, Cornwall, and Queenstown, Co. Cork, and var. *albescens* Neum. from Ireland, already mentioned in *Rep. B. E. C.* Randersdalens Plantevaekst in Randers Fjords Naturhistorie, Kap. iv., pp. 155-270, 1918. This is a valuable ecological study of the interesting area, well illustrated with vegetation maps and with excellent illustrations of the plants, notably *Saxifraga Hirculus*, *Stratiotes* and the grasses. The flora consists almost entirely of plants found in Britain, *Archangelica* and *Alisma graminifolia* being notable exceptions. *Phragmites* and *Typha angustifolia* are very luxuriant. Is *Statice Armeria* specifically distinct from our British *linearifolia*? There is also a valuable account of the Phytoplankton a subject on which Dr Ostenfeld speaks with authority. Contributions to West Australian Botany in Dansk. Bot. Forening, Bind 2, n. 8, 1918. Includes a Revision of

the W. Australian species of *Triglochin*, *Crassula* and *Frankenia*, and describes a new species, *Crassula Miriamae* from Perth. A useful clavis to the Frankenias is given, three new species being described. Bemaerkninger om Danzke Traeers og Buskes Systematic og Udbredelse. I. Vare Aeline-Arter. Dansk Skovforenings Tidssk. 1918. Treating of the Danish Elms the author gives leaf-figures of *U. laevis* Poll. (Liselund); *U. glabra* Huds. (Store Heslehave) [*montana*]; "*U. glabra* Huds., var. *nitida* Fr." (Vikso); *U. vegeta* (Loud.) Schneid. (Sjaelland); *U. campestris* L. (Lolland, &c.), which he calls *smaafadet Aelm*; the Engelsk Aelm, *U. sativa* Mill. (Sjaelland) and he gives a clavis to these species. It will be observed that he uses the name *U. campestris* L. instead of *U. nitens* Moench which is used in the *Cambridge Flora*. This name, selected by Dr Moss, is untenable for another reason: it is antedated, as Dr Williams points out, by *U. carpinifolia* Borck. At any rate Ostenfeld is nearer the fact than the *Cambridge Flora* which retains *campestris*. *U. sativa* is retained but whether the Cork Elm really belongs to this plant seems somewhat doubtful and as Prof. Henry, with great force, suggests that *U. sativa* Mill. means the English Elm, it can therefore scarcely be the same as Dr Ostenfeld says. The last word on Elm nomenclature has not yet been said. I see no reason for giving up *U. Plotii* for the graceful small-leaved tall Elm of Northants, Oxon, &c., a name which is free from the ambiguity which attaches to *minor* or *sativa*.

OSTENFELD, C. H., og DAHL, Ove. *Arenaria ciliata* in Nyt. Mag. for Naturvid. lv., p. 215, 1917. In this paper the author divides the Linnean species into three sub-species—(1) *hibernica* from Ben Bulben, (2) *pseudo-frigida* from Nova Zembla, Spitzbergen, Lapland, East Greenland, Arctic Norway and Dolgo Bay, (3) *norvegica* (Gunn.) Fries from northern Europe and Canada, but the Sutherland locality is omitted, nor is any reference made to *A. gothica* save a foot-note "hrer saale saaleded ikke med under dette kollektivbegreb."

PARISH, S. B. Notes on Southern Californian Plants in The Botanical Gazette lxx., p. 334, 1918.

PARKIN, J. Vitality of Seeds in Nature, 1918. Some forty acres

of Gorse and Heather-covered land. . . . in the plain of Cumberland were drained, cleaned and ploughed in 1893. This area was kept in arable rotation till 1904 when part of it was laid down in grass, the remainder in 1906. It soon became evident that this new pasture would rapidly revert to a Gorse-covered common unless drastic measures were taken to rid the ground of the numerous Gorse seedlings which had sprung from the seeds brought to the surface by the last ploughing. These were stubbed out and in two or three years time the ground was entirely free from Gorse and has continued so for the ten or more years it had been allowed to remain in permanent pasture. Last winter this land. . . . was sown with oats. The crop has now been reaped and Gorse seedlings, six inches or more in height, are to be seen scattered over the stubble, being especially abundant where the Gorse grew strongest. Evidently the last ploughing has brought to the surface a fresh lot of seed.

PAYSON, E. B. Notes on Certain Cruciferae in Annals of the Missouri Bot. Garden, vol. v., 2, p. 143, 1918.

PEARSALL, W. H. On the Classification of Aquatic Plant Communities in Journal of Ecology vi., 75, 1918. The Aquatic and Marsh Vegetation of Esthwaite Water, *l.c.* v., pp. 181-202, 1917, and pp. 53-74, 1918. This is a valuable contribution to the plant ecology of the area in which Mr Pearsall's father discovered *Hydrilla* and *Naias*. It contains not only a very clear and complete account of the vegetation and its associations but also the results of a considerable number of soil analyses. Esthwaite Water is much more turbid than Windermere. Objects, as Mr Pearsall says, cannot be recognised at a greater depth than 4 feet in the former but are easily made out at 12 feet in the latter. This may account for the *Hydrilla* remaining so long unnoticed. The water is loaded with peat and has an acidity ten times greater than Windermere or five times greater than that of Coniston, whereas the Norfolk Broads have basic reactions, and have much more mineral matter in solution.

PEGLER, A. On The Flora of Kentani in Annals of Bolus Herbarium, S. Africa. vol. ii., p. iv., 1918.

PICKARD, J. FRY. *Erinus alpinus* in W. Yorks and S. Lancs in Naturalist 347, 1917.

PRAEGER, R. LLOYD. Botanical Notes from Iniskioge in Irish Naturalist xxvii., No. 7, p. 103, 1918. Some Co. Down Plants, *l.c.*, xxvii., No. 8, p. 116, 1918. *Sedum Praegerianum*, *Rhodiola* in Proceedings of the Botanical Society of Edinburgh xxvii., p. 7.

PRAIN, Sir D. The Genus *Chrozophora* in Kew Bulletin, No. 2, p. 49, 1918. A New *Meconopsis* from Yunnan in Kew Bulletin, No. 5, p. 211, 1918.

RIDDELSDELL, Rev. H. J. *Rubus* in Gloucestershire in Proc. Cotteswold Nat. Field Club xix., 213-227, 1917. In this compact brochure 86 species, 40 varieties and nearly 20 hybrids are given for the county.

ROBBINS, W. W. THE BOTANY OF CROP PLANTS. pp. xix., 681, figs. 263. P. Blackiston's Sons & Co., Philadelphia; 2 dollars nett.

ROBINSON, BENJAMIN LINCOLN. A MONOGRAPH OF THE GENUS BRICKELLIA. Memoirs of the Gray Herbarium of Harvard University. Harvard University Press, pp. 151, tt. 95, 1917. Here is a model Monograph of a critical genus closely allied to *Eupatorium* in which are treated in a masterly manner 91 species: The clear and able definitions of the sections and species, the complete and accurate synonymy, the exhaustive citation of herbarium specimens, and the excellently drawn text-figures alike commend themselves. The dubious species are accounted for and all the available information supplied. A most valuable List of Exsiccatae is added. The paper and printing are alike of good quality. One only wishes the British Brambles, Roses or Hawkweeds could be dealt with in as useful and attractive a manner. The only point of criticism one ventures to make is in the choice of the generic name itself. As its author himself admits, *Brickellia* was only established by Elliott in 1822, but in 1817 Cassini in the *Bull. Soc. Phil.*, and in 1818 in the *Dict. des Sc. Nat.* x., 36, had established the genus under the name *Coleosanthus*. It is to be admitted that Cassini included in it plants that were not congeneric and that the genus was more precisely limited by Elliott. If this reason were sufficient to invalidate a generic name how few could stand. It is also urged that for many years *Coleosanthus* was passed over. Kuntze surely rightly

restored it in 1891. At the German-dominated Congress it was arbitrarily put in the "Nomina Rejicienda," but one would not be surprised if before this note appears the school of botanists which follow the American rules had transferred the new combinations under *Brickellia* to the genus *Coleosanthus*, so that that name is not unlikely in the whirligig of time once again to prevail.

ROCK, J. F. New Species of Hawaiian Plants in Bull. Torr. Club xlv., p. 133, 1918.

ROGERS, W. E. Notes on *Melilotus alba* in Proc. Iowa Ac. Sc. 415, 1917.

ROPER, IDA M. *Spartina* & Coast Erosion in Kew Bulletin, No. 1, p. 26, 1918.

RUBEL, EDOUARD, and BRAUN-BLANQUET, JOSIAS. Kritisch-syst. Not. . . . Arten. . . . Gatt. *Onosma*, *Gnaphalium* and *Cerastium* in Viertelj. der Naturf. Gesell. Zürich, 599, 1917. Several new subspecies of *Onosma* are described, and under *Gnaphalium sylvaticum* L. our common British form is described as forma *rectum* (Sm.) Br.-Bl. = *G. rectum* Sm. E.B. t. 124 = var. *rectum* Gaudin Fl. Helv. v. 243, 1829. The plant from Scotland I described as var. *nigrescens* seems to be the var. which these authors identify as var. b. *pumilum* Gaud. Fl. Helv. v., 244, 1829 = var. *minor* Godet Fl. Jura 370, 1852, var. *nigrescens* Gren. Fl. Jurass. 427, 1881, var. *alpestre* Brügger Jahresb. Nat. Ges. Graub. xxxix., 121, 1886, var. *spadiceum* Druce, Rep. B.E.C. 200, 1916. *G. supinum* has forma *fuscum* (Scop.) = var. *fuscum* Gaud., l.c. 241, forma *uniflorum* (Monnard Br.-Bl.), forma *elatum* Vacc., forma *congestum* Br.-Bl., forma *subcaule* Wahl., and forma *balcanicum* Br.-Bl. A critical description is given of *Cerastium latifolium* and its allies.

RUSSELL, E. J. SOIL CONDITIONS AND PLANT GROWTH. Third edition, pp. viii., 243. Longmans, Green & Co., London; 6/6.

RYDBERG, P. A. FLORA OF THE ROCKY MOUNTAINS. New York Bot. Garden, pp. xii., 1110, New York, 1917.

SALISBURY, E. J. Oak-Hornbeam Woods of Hertfordshire in

Journal of Ecology, 1918. Ecology of Scrub in Hertfordshire in Trans. Herts. Nat. Hist. Soc. xvii., 64, 1918.

SARGENT, C. S. Notes on N. American Trees. I. *Quercus*. Botanical Gazette lxx., p. 423, 1918. II. *Carya*. l.c. lxvi., p. 229, 1918. III. *Tilia*. l.c. lxvi., p. 421, 1918.

SCHUEERMANN, R. Beitr. zur Kenntnis der Adventivflora Hannovers in Jahr. Nied. Bot. Ver. Hannover, 62-80, 1915-1918.

SCHILLER, Z. Mitjelenka [What is] *Thalictrum nigricans* in Bot. Közlem. xv., 149-157, 1916. *T. minus* Jacq., non L. in Bot. Közlem. xvi., 91, 1917. Notes on American Willows in Bot. Gazette lxvi., pp. 117, 318, 1918

SCHNEIDER, CAMILLO KARL. ILLUSTRIRTES HANDWORTERBUCH DER BOTANIK, mit 396 Abbildungen in Text. W. Engelmann, Leipzig. 1917. 824 Seiten, preis 25 marks; in Liv. gebunden, 28 marks. Notes on American Willows in Bot. Gazette lxvi., pp. 117, 318, 1918.

SHREEVE, FORREST. The Establishment of Desert Perennials, in Journal of Ecology, 1917.

SCHROETER, C. *Euphorbia virgata* × *Cyparissias* in Ber. Zürcher Bot. Ges. xxxvi., 39, 1917.

SCHULZ, A. Ueber Praehistorische Reste des *Triticum monococcum* and *T. Spelta* aus S. Deutsch. in Berl. Deutsch. Bot. Ges. 726, 1918.

SCULLY, W., F.L.S. Reappearance of *Lathyrus maritimus* in Kerry in Irish Naturalist xxvii., Nos. 8 & 9, p. 113, 1918.

SHERRING, R. VOWELL, F.L.S. *Spartina* Report in Proc. Bournemouth Nat. Sc. Soc. ix., 1917. This treats of the extension of this grass in the Dorset and Hampshire coast.

SMALL, J. The Origin and Development of the Compositae in The New Phytologist xvii., 1918.

SMITH, ANNIE L., F.L.S. A MONOGRAPH OF THE BRITISH LICHENS.

edition 2, part I., 1918; 30/-. Trustees of the British Museum, Cromwell Road, S.W.7.

SMITH, C. P. Studies in the Genus *Lupinus* in Bull Torr. Club xlv., pp. 1-22, figs. 16, 1918.

SMITH, W. W., M.A., and SMALL, J., M.Sc. *Cavea*, A New Genus of Compositae in Proceedings of the Botanical Society of Edinburgh xxvii., p. 107, 1918.

SMITH, WILLIAM G. Distribution of *Nardus stricta* in Relation to Peat in Journal of Ecology, 1918.

SMITH-PEARSE, Rev. T. N. HART. A FLORA OF EPSOM AND ITS NEIGHBOURHOOD, pp. 107, 1918. L. W. Andrews & Son, Epsom; 3/6.

TANSLEY, A. G. On Competition between *Galium saxatile* L. (*hercynicum* Weig.) and *G. sylvestre* Poll. (*asperum* Schreb.) in Different Types of Soil in Journal of Ecology 173, 1917.

THELLUNG, Dr ALBERT. Neue Wege und Ziele der Systematischen Botanik erläutert am Beispiele unseren Getreidearten in Mitteil. der Naturw. Ges. Winterthur. Heft 12, pp. 44, 1917-18.

THISTLETON-DYER, Sir W. T., K.C.M.G. On Some Ancient Plant Names in Journal of Philology xxiv., pp. 290-312, 1918. These papers of the late Director of Kew contain much valuable matter as was to be expected of their erudite author. He identifies (with Sprengel) the *Ακορον* of Dioscorides with *Iris Pseud-acorus*. It had been often used wrongly for *Acorus Calamus*. Another of our British Plants (or an allied species) known to Theophrastus which he names *Αφια* and which had wrongly been suggested to be Coltsfoot, Dyer (with Sprengel) suggests is *Ranunculus Ficaria*. He also adopts the ingenious suggestion that *ἐλαιαγος* of Theophrastus, growing at Lake Copias, is *Salix caprea* not *Tamarix* or *Myrica Gale*, the latter being arbitrarily given by Linnaeus. It is not a southern species. Dyer himself pertinently suggests that the native Greek tree named six times as *ἀφάρκη* and once by Pliny as *apharce* is the hybrid *Arbutus andrachnoides* which I have seen on Pentelicon. The questions relating to Papyrus and Ebony are treated in a very

scholarly way. It is suggested that the former was introduced to the Nile from Nubia, and when its cultivation for economic purposes ceased the plant itself died out in the same way as *Persea*, identified by Schweinfurth as *Mimusops Schimperii*, from Southern Arabia. *Datura Stramonium* (Datourah is the Arabic name) is suggested to be, as Colonna long ago pointed out, the *πέρισιον*. Galen's plant of that name was probably *Hyoscyamus muticus*, which the Germans had recently cornered in Egypt as it yielded a larger percentage of Atropine than the British *Atropa Belladonna*. It was known to the Babylonians to produce madness. Schweinfurth says it is called in Arabic tatourah. The *Πόθος* of Theophrastus confused two plants one with blue the other with white flowers. Dyer suggests that the former is *Delphinium Ajacis* and the latter *Asphodelus ramosus*. The roots of the latter were a common food of the Greeks, and its funereal suggestion has an echo in its being planted on graves "as food for the dead." Certainly in these illuminating pamphlets the author has given us much food for the mind.

TRELEASE, W. Manual of Woody Plants, 16mo., pp. 204. Urbana, Illinois, 1917. Naming American Hybrid Oaks in Proc. Amer. Phil. Soc. xvi., 44, 1917.

TURRILL, W. B. Contributions to the Flora of Macedonia in Kew Bulletin No. 8, p. 249, 1918. The plants enumerated in this paper were obtained by Mr W. B. Turrill and others when on active service with the British Salonika Force. A sketch of the physical characters of the area and its climate are given. A maximum temperature in August of 105 deg. F., with a minimum in February of 15 deg. F. were experienced at Salonika. Allusion is made to agriculture. Maize, Tobacco, Cotton, and Grapes are grown. Trees are few, chiefly *Quercus conferta*, and there are Elms on the Struma Plain. He gives an excellent sketch of the three divisions—Hill and Footland Floras, Nullah Flora and Plain Flora, as well as of the floral succession. The spring flora of April and May was the more interesting. Turrill's own collections consisted of 550 specimens and 80 packets of seeds. Of the latter 40 germinated and flowered at Kew. A new species of *Silene*—*S. Harrissii*, is described from the Struma Plain. It is a rose-coloured species allied to

coniflora. A careful note on the habit and growth of *Trifolium subterraneum* is given. *Conium* grows 10 feet high on the hot plain. *Silybum marianum* (*Mariana lactea*) is one of the commonest and most conspicuous of Macedonian plants, growing as tall as eight feet. A form of *Hypochoeris glabra* had all the fruits with a sessile pappus. This character was transmitted to the first plant generation. *Cichorium* occurs as the var. *glabratum* Presl. It is this variety which often occurs on chicken-runs, doubtless introduced with "Turkish" Barley. A new variety, *lepidota*, of *Campanula Spruneriana* is described. "*Ulmus campestris* L." is said to be a common tree of the Struma Plain. *Nigella elata* seems to be an addition to the European Flora. *Anagallis platyphylla*, a native of N. Africa, may have been introduced with army fodder. We heartily congratulate Mr Turrill on his paper, which bears evidence of careful work, and in surviving to complete it.

Note on *Stevia Rubaudiana* Hemsl. in Kew Bulletin 343, 1918. Not without justification it has been called "the sweetest plant in the world. Two principles contained in it are a glucoside, estevin, and rebaudin. Each of these is said to taste 150-180 times sweeter than sugar. The dried leaves are said to possess 40-45 times the sweetening power of any other known natural substance. They are readily preserved and easily powdered. Of course the nutritive properties of sugar are lacking. The plant is a native of Paraguay and might, it is suggested, be readily grown in the West Indies.

VETTER, J. Neue *Festuca*-Hybriden. Verh. K.K. Zool.-Bot. Ges. Wien. lxxvii., 171-187, 1917.

VRIES, HUGO de. Opera Periodicis Collata, vol. i., pp. 630, 1918, Utrecht. This includes 20 valuable papers, chiefly on Physiology. *Oenothera Lamarckiana* mut. *velutina* in Bot. Ges. lxxiii., pp. 1-241, 1917.

WATSON BOTANICAL EXCHANGE CLUB REPORT, 1917-18. Hon. Secy., G. Goode. Distributor, Miss I. M. Roper, F.L.S. Contains a portrait of E. W. Hunnybun.

WATSON, W. Cryptogamic Studies of the Sand-dunes of the West Coast of England in Journal of Ecology, 126, 1918.

WEATHERWAX, PAUL. The Evolution of Maize in Bull. Torr. Club, xlv., p. 309, 1918.

WEBSTER, A. D. SEASIDE PLANTING FOR SHELTER, ORNAMENT AND PROFIT, pp. 156. T. Fisher Unwin, London; 18/- nett.

WESTER, P. J. The Coco-nut its Culture and Uses. The Philippine Agricultural Review, xi., No. 1, 1918.

WHELDON, J. A. Further Notes on the Manx Flora in the Lancashire and Cheshire Nat. August 1918. This includes the following aliens—*Linum usitatissimum*, *Lepidium Draba*; *Melilotus indica*, *Anthemis Cotula*, *Chrysanthemum Parthenium*, and *Leonurus Cardiaca*.

WILKINSON, H. J. Catalogue of British Plants in the Herbarium of the Yorkshire Philosophical Society in Naturalist 115, 1918.

WILLE, N. The Flora of Norway and its Immigration in Annals of the Missouri Bot. Garden, ii., 59, 1915.

WILLIS, J. C., M.A., Sc.D. The Sources and Distribution of the New Zealand Flora, with a Reply to Criticism in Annals of Botany. 339, 1918.

WILSON, A. *Malaxis paludosa* Sw. and *Salix herbacea* L. in North-West Yorkshire in the Naturalist, p. 335, October 1918.

WOODRUFFE-PEACOCK, Rev. E. A., F.L.S. The means of Plant Dispersal in Selborne Magazine, 20, 1918. Moisture and Mud Carriage. A most suggestive paper in which its capable author says that during the last twenty-four years he has seen practically the seeds of every pasture, meadow and tilth species carried by moist or muddy boots, &c., with two exceptions, *Cardamine pratensis* and *Ranunculus Ficaria*. These two species rarely produce ripe seeds which the author thinks is due "to the early spring night frosts." May the cause not be due to the easy way these plants have of propagating themselves, the one by its tubers, the other by its leaflets which develop root-fibres. Probably *Juncus tenuis* is frequently carried on the mud attached to cart-wheels, and I saw seeds of *Sisyrinchium*

californicum in Wexford in the pads of earth thrown off the feet of horses and cattle. This explains the frequent occurrence of plants of *Coronopus procumbens* in the bare places about gateways and pond margins.

WOOLSEY, T. S., jun. French Forests: Tunisia, Algeria and Corsica. The author states that Tunisia has 1,600,000 acres of forest (Zeen Oak, *Quercus Mirbeckii* and Cork Oak, *Q. Suber*), Algeria 7,000,000 acres, largely Cork and Aleppo Pine and Corsica about 350,000 acres, chiefly Corsican Pine.

WORKMAN, F. B. and WORKMAN, W. H. TWO SUMMERS IN THE ICE-WILDS OF EASTERN KARAKORUM, pp. 296, 1917. T. Fisher Unwin, London; 25/- nett.

YAPP, R. H., JONES, O. T. and JOHNS, D. The Salt Marshes of the Dovey Estuary in *Journal of Ecology* v., 27, 1917. This valuable contribution traces the geological history of the area, allusion being made to the submerged Borth forest. The distribution of Vegetation on the Flats of the Dovey valley follows. In the moorland grow, among others, *Rhynchospora fusca*, *Andromeda*, *Drosera anglica* and *longifolia* and *Utricularia* sp., probably *intermedia*, and *Oxycoccus*. *Pinus sylvestris* occurs as a discontinuous belt, and it is suggestive that the submerged forest, presumably consisting of the same species, may have been the ancestors of the present trees. As the authors say "the possibility of such a continuity cannot be ruled out on *a priori* grounds." An instructive figure is given of the root system of *Glyceria maritima*. This plant "when colonising bare silt, forms long creeping shoots which spread rapidly. Later as the sward becomes higher and denser, the mode of growth changes. The main shoots take up a more erect position and grow slowly or even die away, while a succession of lateral shoots of limited growth appears, giving the plant a close tufted habit." This has a bearing on such arbitrary characters of caespitose and non-caespitose as applied to specific differentiation of *Glyceria* species. An equally instructive diagram is given of *Statice maritima*. The earliest permanent coloniser of the mud-flats is *Glyceria* which extends horizontally, collecting silt and forming low, flat hummocks. The article is splendidly illustrated with photographs.

ZIMMERMANN, F. Neues aus der Adventivflora der Pfalz in Mitt. Bayer Bot. Ges. iii., 319, 350. München, 1916. *Ophrys Fuchsii* × *aranifera* in Ber. Bayer Bot. Ges. xvi., 86, 1917.

OBITUARIES.

AMPHLETT, JOHN, M.A., S.C.L., J.P., born at Clent House, Worcestershire, and died there, June 23, 1918. For the past two hundred years his ancestors had been connected with national and county affairs of Worcestershire. He graduated at Worcester College, Oxford, and was called to the bar in 1870. In 1909, in conjunction with our member, Mr Carleton Rea, he issued the *Botany of Worcestershire* in a handsome, well-printed volume of 651 pages, in which the previous records and work were most conscientiously and thoroughly incorporated. The local names, uses and other details relating to plant history form a useful and pleasing feature. Mr Amphlett was for several years a member of our Society.

“ In his earlier years he travelled a great deal and published a notable history of the fauna of the West Indies. He was one of the founders and for many years the editor of the publications brought out by the Worcestershire Historical Society. He brought out Habington's *Survey of Worcestershire* and also made a complete index to Nash's *History of Worcestershire*. He also published a model history of the village of Clent. He was deeply interested in antiquarian, archaeological, genealogical and botanical research. He joined the Worcestershire Naturalists' Club in 1871, and was President of that body from 1876—1878. He made several interesting additions to the flowering plants of Worcestershire. His death was deeply regretted by a large and admiring circle of friends who greatly esteemed his abilities and unflagging industry.”—CARLETON REA.

BAGNALL, JAMES E., born at Birmingham, November 7, 1830, died at 96 Witton Road, Birmingham, September 3, 1918. In 1844 he began his commercial life in his father's warehouse, where he re-

mained till 1853, when he was appointed to a responsible situation in the pen-manufactory of Messrs Hinks & Wells, whom he served for nearly 50 years. Like so many of our field botanists he had an early love for Natural History, but it was not until 1864 that he seriously commenced its study. The loan of a compound microscope induced him to examine a flower petal, and to correctly identify it he bought a copy of Purton's *Midland Flora* (now in the writer's possession) and later on Bentham's *Flora*, by which he was enabled to recognise the petal as belonging to the Herb Robert. The sight of a Hortus Siccus at a soir e of the Old Naturalists' Union started him on a pursuit which became for many years his main recreation. In 1866 he joined the Birmingham Natural History Society and subsequently became Secretary of the Botanical Section. He then commenced the investigation of the flora of Sutton Park, and published a list of the flowering plants, ferns and mosses in the *Proceedings of the Birmingham Natural History Society*, 1869. This suggested the preparation of a complete flora of Warwickshire which was originally published in the pages of the *Midland Naturalist* (vol. iv., 1881 et seq.). It met with the recognition of the Midland Union of Natural History Societies and so greatly impressed them that they conferred upon him the Darwin Gold Medal. In the first volume of the *Midland Naturalist* he wrote a paper on the *Distribution of the Genus Rosa in Warwickshire*. Roses and Brambles were long his favourite study. His name is associated with a Bramble, *R. mercicus* (*Journ. Bot.* 372, 1892), and its var. *bracteatus* (*l.c.* 187, 1894). To that Journal among other notes he contributed papers on *Agrostis nigra* With. (*l.c.* 65, 1882) and *Artemisia vulgaris*, var. *coarctata* Forsel. (*l.c.* 21, 1882). In 1886 Bagnall brought out an excellent little *Handbook of Mosses*, published at 1/- (Swan Sonnenschein & Co.), and in 1891 his *Flora of Warwickshire* (pp. 519) appeared. This work, when one considers it was prepared when he was employed at a business house with extremely limited leisure, speaks volumes for his assiduity, not only in the field but in literary research, since the older botanical history of the county is thoroughly dealt with. It earned well merited commendation and eventually the Associateship of the Linnean Society. This Flora is an extremely complete one and contains Mosses, Fungi and Lichens, in addition to the Phanerogams. As our Honorary Member, Mr J. G. Baker, says,—“ It is one of the

best county floras that has been written, and will stand as a permanent memorial of his diligence and ability." Mr Bagnall was an old member of the Botanical Exchange Club and for many years was a valued contributor, recording in the *Reports* many rare plants of his county. In the *Midland Naturalist* he also frequently printed papers. In 1888 appeared a paper on Stour Valley and its Flora, adding *Tolypella glomerata* to the county. In 1901 he published *The Flora of Staffordshire* as a Supplement of 74 pages to the *Journal of Botany*, and in Amphlett & Rea's *Botany of Worcestershire*, published in 1909, the Mosses and Hepatics were from the pen of Bagnall. In the seventies and early eighties I frequently lectured at Mason's College to the Birmingham Natural History Society and there made his personal acquaintance. I found him a delightfully keen worker and well read in general literature. He was specially fond of books on travel, poetry and philosophy. Under his guidance the special plants of the vicinity were seen and on one occasion, when M. C. Cooke was a fellow visitor, an amusing incident occurred. I asked him if he could direct me to *Epilobium roseum*. "That is very easy," he said. Opening the back door in a small yard, not many square feet in extent, he showed it me growing. "Well, if it grows in your back-garden, it may in mine," I replied, and surely enough on my return to Oxford I went into the rarely visited place and saw growing two or three plants of the same species. In 1888 we had a delightful expedition to Ufton Wood with Canon Tuckwell and Bolton King to see *Calamagrostis canescens* which grew there in great abundance. It was a curious gathering—Tuckwell, the genial and erudite radical parson, Bolton King, fresh from Balliol, a pioneer in social reform, Bagnall, a Tory of the old school, all however having the same love of nature and its surroundings. Tuckwell, now, alas, with wisdom at one entrance quite shut out, and I were only last October talking of that occasion, now 30 years ago. Bagnall came of Wesleyan parents and was an omnivorous reader of religious books. With advancing years he grew more and more a stay-at-home. In his books and his pipe he found solace. For some years his faculties had been gradually failing him and he passed peacefully away in his 88th year without actual bodily ailment. He was never married. In 1913 he gave his extensive Herbarium to the Natural History Department of the City of Birmingham Museum. His rather

large Library and MSS. have passed into the possession of the writer, to whom for many years he was a most valued correspondent and helper, and whose herbarium he enriched with many local species. Bagnall was one of our four corresponding members, and he richly deserved that place among us. An appreciative brochure, from which many of the foregoing details have been obtained, was published in 1897 for private circulation by our mutual friend, Mr E. W. Badger.

BICKNELL, CLARENCE, born at Herne Hill, 1842, died at Val Casterino, Italy, July 17, 1918. He entered Trinity College, Cambridge, later taking Orders. In 1879 he went to Bordighera where he acted as Chaplain. He was the author of *The Flowering Plants and Ferns of the Riviera and Neighbouring Mountains*, a quarto volume, tt. 80, 1885, and *A Flora of Bordighera and San Remo*, issued in 1896. His name is commemorated in *Pimpinella Bicknelli* from Majorca and *Euphrasia Bicknelli* from the Italian coast. His Herbarium is left to the Botanical Institute of Genoa, and his Museum to the Commune. Death came to him when on the verandah of his mountain chalet and whilst talking of his beloved mountains and the flowers around.

“ The death of Clarence Bicknell in July last at the age of 76 has removed one of the best known botanists of Southern Europe, a man of remarkable personal charm and gifted with scientific and artistic ability of the highest order. During his forty years residence at Bordighera he had systematically explored the Mediterranean region, publishing from time to time volumes on the flora of Bordighera and San Remo, and on the flowering plants and ferns of the Riviera and neighbouring mountains. These and likewise another book describing prehistoric rock-inscriptions found in the Italian Alpes-Maritimes are illustrated by hundreds of beautiful drawings. At his delightful summer residence high up in the Val Casterino di Tenda Bicknell hospitably entertained botanist friends of all nationalities, and there he died, as an Italian companion writes,—
“ Whilst talking of the mountains, the snows, and his adored flowers to which one might say he had devoted the chief energies of his life.”—
J WALTER WHITE.

BOYD, WILLIAM BRACK, born at Clifton, Roxburghshire, July 22,

1831, died at Faldonside, March 16, 1918, in his 88th year. He was the youngest son of Adam Brack Boyd of Cherrytrees, Yetholm, and was educated at the Grange School, near Durham, to which, before railways, he went by coach. He succeeded to the family estate on the Tweed, near Abbotsford, where he became an enthusiastic horticulturist and lived the life of a country gentleman. He married in 1862 Elizabeth Bell, only daughter of Mr James Wilson of Otterburn and Boughtrig, who, on the death of her uncle, succeeded to the estate of Faldonside. He was one of the original members of the Scottish Alpine Club, and on these occasions brought from the hills many of the rarities which he grew most successfully at Faldonside. The garden was an enchanted one to the writer for there, growing in ordinary garden loam, were *Carex Grahami*, *C. polygama*, *C. Vahlii* and *C. saxatilis* in rank profusion. From his earliest years he was fond of Natural History, and he fortunately had the time to foster his love, but it is to be regretted that he put so few of his experiences on record. His name is commemorated by Dr Buchanan White, who named a *Sagina*, *S. Boydii*, after him, (*Trans. Bot. Soc. Edin.* 33, 1887). It is at present one of the dubious plants of Britain. It was supposed to have been found by Boyd in 1878 in the Forest of Invercauld, Braemar. Unfortunately he did not remember gathering it there but only noticed it after his return home. The plant is unlike any British species, it does not seed and, although growing well at Faldonside where I saw it last September, it has only been multiplied by division. As it was only noticed subsequently in a potting shed there is just a chance that it may have had other than a British origin as Boyd was receiving plants from correspondents abroad at the same time. That is, I believe, the opinion of Professor Balfour, who made many enquiries shortly after its discovery, and of Mr A. H. Evans, who was at Faldonside just afterwards. I have seen no such plant in foreign herbaria. Next year I hope to make another attempt to find it on Ben A'an, where Mr Boyd on more than one subsequent occasion tried to re-find it. His name is connected also with a most curious Willow which he found in Glen Callater, not far from the waterfall, Forfarshire, and which Linton named *S. Boydii*, and which he thought was a hybrid of *reticulata*, *lapporum* and possibly *herbacea*. It is not given in the *Cambridge Flora*. I have it in cultivation, but am not satisfied that the suggested parent-

age is correct and Boyd also doubted it. It is a most curiously rigid plant and we both wondered if *S. nigricans*, which grows there, might not enter into the combination. To horticulturists the family name is connected with the beautiful hybrid *Burseriana Saxifrage*, which was raised at Cherrysides by his brother. In 1907 Boyd added to the Scottish Flora *Dryopteris remota*, if indeed the plant in cultivation proves to be identical with Braun's assumed hybrid of *Filix-mas* and *spinulosa*. Boyd was with the Alpine Club when *Carex atrofusca* was gathered on Ben Lawers by Dr Paul and *Saxifraga caespitosa* in the Abinger Forest in Westernness. He was appointed President of the Edinburgh Botanical Society, and was twice President of the Berwickshire Naturalists' Club, of which he lived to be the senior member. Even till recent years he was a most constant attender at the excursions of both Clubs. He was spare of frame, active to the last and keen as ever about his plants. He was for many years a Justice of the Peace for Roxburghshire. His two sons predeceased him, the younger being killed in France in 1916. One daughter alone survives. Mr Boyd was buried in the precincts of Melrose Abbey.

FRY, The Right Hon. Sir EDWARD, P.C., G.C.B., D.C.L., LL.D., F.R.S., F.L.S., born at Bristol, November 4, 1827, died at Failand House, near Bristol, October 18, 1918, aged ninety. Educated at Bristol College and University College, London, he was created a Judge of the High Court in 1877, and promoted to the Court of Appeal in 1883. He was a Member of the Permanent Court of Arbitration at the Hague. In later years he devoted much time to the study of Mosses, Liverworts and the Mycetozoa, and in 1892 published an original and very useful book on British Mosses. With Miss Agnes Fry in 1899 he wrote a work on the Mycetozoa, and in 1911 he published *The Liverworts, British and Foreign*. He had, however, a wide love of botany and a deep insight into nature's working. I well remember the delightful conversation in which he took a leading part at the Vernon Harcourt's—I am afraid to say how long ago—which was initiated by so prosaic a thing as a dish of the then rather unusual Chinese vegetable, *Stachys tuberifera*. His level mind and firm, yet conciliatory manner, made him an apt arbitrator, and among other important cases, he acted on the Casa Blanca dispute between France

and Germany. These powers justified his title of "The Great Pacifier."

GEAKE, JOSEPH JOHN, born at Guildford, June 12, 1890, died there September 24, 1917, aged 27 years. He was educated at the Royal Grammar School, Guildford, where he gained two scholarships, and then went to the City and Guilds Technical College, Finsbury, as student in the department of Technical Chemistry, where he remained for three years. On leaving college he went as assistant in the chemical laboratory at the Royal Veterinary College, where he remained to the time of his death. In 1916 he gained the Associateship of the Institute of Chemistry. He was an earnest botanical student and a keen observer. I owe to him and Mr Kennedy specimens of an *Orobanch*e which may be *O. reticulata*. One of his last bits of work was to send a gathering of plants which he had not strength left to pack without assistance, for he had valvular heart affection after acute rheumatism. His untimely death robbed us of a scientific worker and an affectionate friend, and his widowed mother of her only child.

GREEN, CHARLES BAYLIS, passed his life on the staff of the railway Clearing House, Euston. He occupied his spare time in the cultivation of some of the attractive varieties of British ferns, working for some years in close association with the late C. T. Druery, who gave Green's name as the authority for a plumose sub-variety of *Polystichum aculeatum*. In 1902 his interest in general field botany was excited on becoming a member of the Acton Natural History Society, and from its Middlesex district he made many records and photographs of important plants. His capabilities as a collector were much enlarged when he retired on pension in 1910 to live at Swanage. He proved an energetic and thorough worker, searching all parts in and around the Isle of Purbeck. His quick eyesight and painstaking habits resulted in the recording of new localities for most plants known there, as well as the addition of a number of rarities. The Bournemouth Natural Science Society benefits by receiving his local herbarium with excellent photographs and lantern slides, that should add much to the knowledge of future investigators. He died at Swanage on October 6, 1918, and was laid to rest in the cemetery there. I. M. ROPER.

In 1917 Mr Green sent a very large number of Dorset notes, many of which appear in our *Report*. One of his plants from Muddiford, Hants, I named as a new var. of *Geranium pusillum*. He also directed me to the locality at Bindon, where he said he discovered *Potamogeton upsaliensis*. See *Rep. B.E.C.* 131, 1917. Field botany loses an ardent worker by his death.

GREGORY, REGINALD PHILIP, born at Trowbridge, Wilts, June 7, 1879, died of pneumonia following influenza at Cambridge, November 24, 1918. Educated at his mother's preparatory school at Weston-super-Mare, he entered St John's College, Cambridge in 1898 and in 1904 obtained a fellowship at his college. In 1915 he became a Captain in the cadet corps, and eventually became a second-lieutenant in 1/6th Gloucestershire Regiment, but was gassed after about a fortnight's service at the front. Doubtless this led to his succumbing to the lung mischief this year. Mr Gregory was the son of our old member, Mrs Gregory, our authority on Violets, to whom we offer our deepest sympathy. His interest in Botany need not therefore be wondered at. He took up a line of research in the Primulas, the highly important results of which were published in the *Journal of Genetics* for 1911, and in a paper in the *Proceedings of the Royal Society* for 1914. See memoir by A. C. Seward in *Nature* 248, 1918.

HUNNYBUN, EDWARD WALTER, born November 20, 1848, died July 3, 1918. He was the son of Martin Hunnybun, a solicitor at Huntingdon, and was educated at Norwich Grammar School under Dr Augustus Jessopp, the delightful writer on East Anglian history. He was then articled to his father, passing his final law examination in 1872. He had a place in the second honours list and was awarded the Clements Inn Prize. He went into practice with his father until the death of the latter in 1883, when he continued with his brother, Mr Gerald Hunnybun. In 1876 he married Alice, the second daughter of W. E. Chapman, of Horbling, Lincolnshire. For nearly 40 years he was clerk to the Huntingdon Board of Guardians, an office he filled with great satisfaction to the members of that body. Asthmatic attacks, however, led him in 1913 to relinquish his practice and he tried many places in an effort to ward off the frequent and troublesome attacks of that trying disease. Eventually he

settled at Ventnor, but in the summer of this year a cerebral seizure laid him low from the effects of which he never rallied. He died on July 3, and was buried at Ventnor Cemetery. (See *Huntingdonshire Post*, July 12, 1918.). From very early days Mr Hunnybun was fond of sketching, and he gradually fixed upon the idea of making a complete set of pencil drawings of British plants. These are now being utilised in the *Cambridge Flora*. At Huntingdon he grew many interesting British species. In Wood Walton Fen he discovered in 1907 *Juncoides (Luzula) pallescens* which he distributed throughout the Club, of which for many years he was a valued member. The following year he conducted me to the place where it grew. This Fen has recently been given to the Society for the Preservation of Natural Areas by the Hon. N. Charles Rothschild. More recently our member, Lady Davy, found the same species in her grounds at Pyrford, where of course it may be of adventitious origin. (See *Rép. B.E.C.* ii., 312, 338, 521.). In the *Cambridge Flora* Dr Moss named a variety of the glabrous Elm after him as *Ulmus nitens* var. *hunnybuni*. On the occasion of our visit to Wood Walton we discovered a hybrid of *Galium verum* with *erectum*, independently found at Malvern Wells by our member, Mr Towndrow and Mr Rendall. Mr Hunnybun was of singularly acute mind, with a natural gift for drawing which he practised with unwearying assiduity, utilising the early hours of the morning, which he found most suitable for the work.

MARQUAND, ERNEST DAVID, born at La Brigade, Guernsey, February 8, 1848, died at Totnes, Devon, February 16, 1918. He was descended from an old Norman family which settled in Guernsey in the twelfth century, his parents being David and Margaret Marquand, who early in the fifties went to settle in New York. He was educated at one of the large public schools in that city, and on returning to England after his father's death received a legal training with the view of entering that profession. For several years he held an appointment as Confidential Secretary to a leading firm of London solicitors. Always a passionate lover of the country and a born naturalist, he gave up city life in 1876 and went with his mother and brother to reside at Brockenhurst, where he spent three or four years studying the fauna and flora of that charming region. It was dur-

ing that time he compiled the list of the New Forest Phanerogams which was afterwards embodied in Townsend's *Flora of Hampshire*. In 1879 he moved to Penzance, where for several happy years he enjoyed the intimate friendship of the two famous Cornish botanists, John Ralfs and William Curnow. For several years he was Hon. Secretary of the Penzance Natural History Society, to whose *Transactions* he contributed many papers on local Entomology. From Penzance the family migrated to Alphington, in Devon, where his mother died and the household was broken up. Subsequently he and his brother spent a twelvemonths travelling through Germany, Austria and Switzerland. In the autumn of 1888 he settled down in Guernsey. Very little was known at that time about the botany of Guernsey and the adjacent islands, so a fine field of investigation was open, and seven years of steady labour resulted ultimately in the publication in 1901 of the *Flora of Guernsey and the Lesser Channel Islands*. This volume is an extremely valuable addition to the list of Floras; and has many special points of interest. Among these may be mentioned the inclusion of patois names, the notes of local variation, the catalogues of Mosses, Lichens, Fungi, &c., and the plant lists of the smaller islands, each of which has its peculiar problems. In 1896 Mr Marquand married Miss G. E. Boley, daughter of J. Baker Boley, M.D., of Ealing, and they went to reside at Richmond, in Surrey. There for some time he worked at Kew Herbarium, and later at the Linnean Society. In 1899, with their infant son, Mr and Mrs Marquand went to live in the little island of Alderney, and subsequently in Guernsey. There in 1906 I made his personal acquaintance, and together we saw almost all the Guernsey plants. He was a delightful companion, as he knew not only the plants but insects and spiders as well as birds. His bright, cheery face, his trick of humming tunes as he walked, his eyes ever on the alert, come before me as I write. His happy home life, his devotion to his boy, who from his youngest years had his father's taste for the life outdoors, his genial references to his botanical confreres, his pertinent suggestions as to plant occurrences marked him out from the crowd. In later years he came to reside in Oxford, where he gave assistance at the Oxford Herbarium, but our murky skies were not agreeable to him, and one saw he was losing health. On his son's entering Christ's College, Cambridge, he went to reside

at Totnes, but his health was broken, and after a period of suffering he succumbed. He was interested in our Society to the last. Mr Marquand was one of the oldest members of the Conchological Society of Great Britain, being elected in 1885. Several contributions from his pen will be found in the *Proceedings*. He was awarded the First Bronze Medal of the Royal Cornwall Polytechnic Society in 1881 for an essay on the Beetles of West Cornwall, and the next year a silver medal for a large and full collection of Cornish Bees. In 1902 Mr Marquand was elected an Associate of the Linnean Society, in December 1904 a corresponding member of the Société des Sciences Naturelles et Mathématiques de Cherbourg, in 1906 a corresponding member of the Société d'Archéologique d'Avranches (in recognition of his essay on the Guernsey Norman Dialect and its Patois Plant Names), and in 1907 a corresponding member of the Cardiff Naturalists' Society. Two species of plants have been named after him—*Salvia Marquandi* Druce and *Verticillium Marquandi* Massee. He was one of the best all-round naturalists of his period. The following is a list of his botanical papers:—Notes on the Flora of Brockenhurst, Hants, in *Science Gossip*, December 1876; *Spiranthes aestivalis* in the New Forest, *l.c.*, June 1878; The New Forest, *l.c.*, May, June and July 1879; List of Plants of the Avon, Lymington and Beaulieu districts, contributed to Townsend's *Flora of Hampshire*, 1883; The Desmids and Diatoms of West Cornwall in the *Transactions of the Penzance Natural Hist. Soc.*, 1883; The Mosses on the Tramp, *l.c.*, 1884; The Freshwater Algae of the Land's End District, *l.c.*, 1886; Dartmoor, *l.c.*, 1887; On the Genus *Isoetes*, in the *Transactions of the Guernsey Soc. Nat. Science*, 1889; The Flora of Herm, *l.c.*, 1889; The Flora of Guernsey compared with that of West Cornwall in the *Transactions of the Penzance Natural Hist. Soc.*, 1890; The Flora of Jethou in the *Transactions of the Guernsey Soc. Nat. Science*, 1890; John Ralfs, the Botanist: a Biographical Memoir in the *Transactions of the Penzance Natural Hist. Soc.*, 1890; The Cryptogamic Flora of Kelvedon (Essex) and Neighbourhood, compiled from the Collections and Notes of the late E. G. Varenne, M.R.C.S., in *Essex Naturalist*, 1891; The Flora of Guernsey (Phanerogams) in the *Transactions of the Guernsey Soc. Nat. Science*, 1891; The Flora of Cornwall, published in I. H. Collins' new edition of the *History of Cornwall*; The Mosses, Hepaticae and Lichens of Guernsey in the

Transactions of the Guernsey Soc. Nat. Science, 1892; The Mosses of Guernsey in the *Journal of Botany*, 1893; Further Records for the Scilly Isles, *l.c.*, 1893; The Botany of Cornwall in Deacon's *Devon and Cornwall Court Guide and County Blue Book*, London, 1896; The Diatoms of Guernsey in the *Transactions of the Guernsey Soc. Nat. Science*, 1893; The Algae of Guernsey, *l.c.*, 1894; Wild Flowers in December, *l.c.*, 1895; Fresh-water Algae: their Structure, Distribution and Relationship in *Essex Naturalist*, 1897; The Fungi of Guernsey (two papers) in the *Transactions of the Guernsey Soc. Nat. Science*, 1897 and 1898; The Flora of Alderney, *l.c.*, 1899; The Botany of Guernsey: a Chapter in Miss Robin's *Guide to the Channel Islands*, 1902; Additions to the Flora of Alderney in the *Transactions of the Guernsey Soc. Nat. Science*, 1902; Annual Report of the Botanical Section of the Guernsey Soc. Nat. Science, 1903; The Mosses and Hepaticae of Sark in the *Transactions of the Guernsey Soc. Nat. Science*, 1903; Further Additions to the Flora of Alderney *l.c.*, 1903; Annual Report of the Botanical Section of the Guernsey Soc. Nat. Science, 1904; Additions to the Flora of Herm in the *Transactions of the Guernsey Soc. Nat. Science*, 1904; Synopsis of the Fauna and Flora of the Sarnian Islands, *l.c.*, 1904; Botanical Rambles in Guernsey in the *Journal of Botany*, July 1905; Annual Report of the Botanical Section of the Guernsey Soc. Nat. Science, in the *Transactions of the Guernsey Soc. Nat. Science*, 1905; The Guernsey Dialect and its Plant Names, *l.c.*, 1905; Annual Botanical Report, *l.c.*, 1906; The Mosses and Hepaticae of Jethou, *l.c.*, 1906; Annual Botanical Report, *l.c.*, 1907; Primrose Flowers: a Study of Pin-centres and Rose-centres, *l.c.*, 1907; Wild Flowers and Ferns of Sark in Toplis and Oxenham's *Book of Sark*, 1908; Annual Report of the Botanical Section of the Guernsey Soc. Nat. Science, 1908; Botanical Notes, *l.c.*, 1908; The Vegetation of Small Islets, *l.c.*, 1909; Rambles in Sark in Search of Flowers, *l.c.*, 1910. He wrote twenty-nine other papers on various scientific subjects.

MARTYN, Rev. T. W., M.A. He was educated at Magdalen College, Oxford, and took Orders. He was assistant curate of St Nicholas, Plumstead, 1874-76, of Stoke d'Abernon, 1876-79, of Buckingham, 1879-81, and Rector of Hethe, Oxon, 1881-87, and of Stoke Abbots, Bucks, 1887-1918. While at Buckingham Mr Martyn

made some notes on the Flora of the district, and at Hethe he sent some Oxfordshire records which are incorporated in the *Flora of Oxfordshire*. His few Buckinghamshire notes are inserted in my MS. of the Flora which still awaits publication. One of the most interesting of his discoveries was *Narthecium* in a marl-pit at Aston Clinton. Mr Martyn, who had been ailing in the spring, died suddenly on the railway platform at Oxford in 1918.

MILLER, WILLIAM FREDERICK, born at Edinburgh, September 18, 1834, died at Winscombe, Somerset, April 28, 1918. He added *Carex Buxbaumii* to the Scottish Flora from Arisaig, Westerness. See *Journ. Bot.* 345, 1895.

MITCHINSON, The Right Rev. Bishop JOHN, D.D., D.C.L., born at Durham, September 23, 1833, the posthumous son of John Mitchinson, a chaplain in the Merchant Service, died suddenly of angina at Gloucester Cathedral Gardens, September 25, 1918. Dr Mitchinson was educated at Durham School and entered Pembroke College, where he gained a scholarship. His brilliant Oxford career included first class in Moderations and a double-first in Classics and Natural Science. A youth of quick intelligence, charming manners, with a clear and delightful style of speaking, he was elected President of the Union, and on leaving Oxford embarked on a most successful educational career, acting first as assistant in 1857 at the Merchant Taylors' School, where he was ordained Deacon in 1858. In 1859, at the early age of 26, he became headmaster of the King's School at Canterbury. There he was extremely popular, as his natural kindness endeared him to successive relays of boys during his fourteen years' occupancy of that office. An instance of this kindness became known to me at a public dinner when seated next to him. There was a well-known headmaster of a public school present who referred to the pleasure he had in seeing Dr Mitchinson there. He said that when Dr Mitchinson was examining some schools near Canterbury the paper sent in by one of the boys struck him as of unusual merit. He therefore went to the town where the boy lived and learned that he was the son of a tradesman and destined for a business career. The Master, however, suggested that if he came to Canterbury he would forego all fees, and that he believed a successful professional future lay before him. The offer was however declined, and somewhat disappointed the Master

returned home. In the course of a few months the Master was approached, the boy came to Canterbury, and under the skilful and watchful tuition proved an excellent scholar, gaining a scholarship at a well-known Oxford College of which eventually he became Fellow and subsequently a prominent Public-school headmaster, the guest at the dinner that night. Dr Mitchinson was made Hon. Canon of Canterbury, and he filled the office of Select Preacher at Oxford in 1872, 1892, and 1903. In 1873 he succeeded Dr Parry as Bishop of Barbados and the Windward Islands, but the climate did not suit him, and it is probable that he found Barbados too small and too limited in geological interest for his activities and taste. But he brought back many pleasant reminiscences of his residence in the shape of shells and ferns, many given him by grateful people; both white and coloured, and he added greatly to his list of kindly friendships and sunny memories. On his return to England he acted as Assistant Bishop in the See of Peterborough and Archdeacon of Leicester and Rector of Sibstone in that diocese from 1881 to 1900 under that matchless pulpit orator, Dr Magee. In February 1899, on the death of Dr Bartholemew Price, he was elected Master of Pembroke College, which carries with it a Canonry of Gloucester. There his office was by no means without difficulty, but his calm judgment and kindly tact stood him in good stead. He was selected by the Hebdomadal Council to represent the University on the City Council, where his services were much appreciated, and to me he was a beloved colleague. He also was a governor of the Oxford High School. From his early years he had been fond of Natural Science, Botany, Conchology, Geology and Entomology being his favourite subjects. He made collections of each branch. He was an excellent photographer, beginning when wet plates were the order of the day, but he made this branch of science subservient to his most favoured subject which was to prepare a history of the monastic buildings of Britain. For this purpose he visited any remains of importance and his photographs and historic details were mounted up in huge volumes with all that neatness and laborious accuracy which were characteristic of the man. This, his *magnum opus*, he presented some time ago to the Bodleian Library. About that time he paid me the compliment of consulting me as to the destination of his collections, presenting me with the three cabinets containing his herbarium, which was well

mounted, accurately named, and culled from very many places in the British Isles. It contained two plants of especial interest, one an addition to the Irish flora, *Arctostaphylos alpina*, which he had gathered in Donegal in 1865 (*Rep. B.E.C.* 494, 1916) but was unaware that it was a new Irish specimen. On my going to inquire if he remembered the circumstance of gathering it, he consulted his diary, where we found the note, "July 14, 1865. Returned by Gweedore by car, gathering *A. alpina* on the way past Kilmacrennan to Letterkenny." The second plant was *Lilium pyrenaicum*, which he found between Haverfordwest and St David's, an addition to the Welsh flora. One may add that his copy of Sewerby was given to one of our members "where he knew it would be well housed," and that he wished me to have his copy of Moore's *Nature-Printed Ferns* which had been given him by a grateful pupil. He had many such for he loved teaching the young. In *Who's Who* "teaching" is given as one of his hobbies. He always had two or three boys staying with him in vacation, when they were taught many things which would fit them for their struggle with the world. Space does not permit one to do justice to this side of the Bishop's life. There has been given to us drawn by that master limner of Rembrandtish effects, in *Les Misérables*, the picture of the Roman Catholic Bishop Myriel. In the memory of many a man still living there is a not less beautiful and kindly image graven in ineffaceable lines representing Bishop Mitchinson. For the past five or six years he had attacks of angina, but he was extremely brave. He was to the last as keen as ever about plants. When our late member, Mrs Foord Kelcey, found *Daphne Mezereum* on the Bucks Chilterns he was delighted to go with me to see it, and that day he added to his pleasure by gathering *Asarum* in the same county. Almost the last occasion I called on him, was to show him the beautiful *Ajuga genevensis* just added to the British flora by Miss Fry from Berkshire. This delighted him not a little. He then told me he had taken three services the preceding Sunday, and incidentally mentioned that he had preached in every cathedral in England. No dread of death worried him as he said he had lived a lengthy life, packed with pleasures. He had fought a good fight; there were the happiest memories of multitudinous kindnesses to many people to lighten and to comfort him; he had no relations dependent on him or for whom he had to provide, so that he had

always given with an open hand during his life-time, and his legacies could necessarily be small. The world, which has lost so much of what is best and bravest during the last four years, is immeasurably the poorer from the loss of such an exemplar of all that was highest and noblest in thought, word and deed as the late Master of Pembroke.

SARGANT, ETHEL, F.L.S., born at 45 Regent's Park, London, October 28, 1863, died January 16, 1918. The death of Ethel Sargent (aet. 54), Honorary Fellow of Girton College, brings to memory not only the thoroughness and accuracy of her work and her vigorous and logical mind, but also Dr D. H. Scott's remark that she "was one of the few women who would undoubtedly have been elected a fellow of the Royal Society had the charter permitted." In 1892 she entered the Jodrell Laboratory at Kew, and shortly after published in conjunction with Dr Scott, a paper on *Discidia rafflesiana*, a plant whose pitchers serve simply to collect water and soil and not to catch insects. But her principal work while at Kew was the investigation of the details of the process of nuclear division. This work, which she began at Kew, she continued in her own well-equipped laboratory at home. In 1899 Miss Sargent confirmed in a communication to the Royal Society the discovery of Navaschin, that fertilisation in the higher flowering plants is double, the endosperm as well as the embryo being the product of a sexual union of nuclei. *Pari passu*, with her later work on nuclear division, Miss Sargent took up with enthusiasm the study of the comparative anatomy of seedlings, and finally devoted her whole time to this investigation. Her research led her to put forward a new theory as to the origin of Monocotyledons. She held that Monocotyledons had been evolved as an early off-shoot from an ancient simple Dicotyledonous stock. Prof. G. Henslow previously had held that the Dicotyledons were the more primitive group of the two, but while he had derived the Monocotyledons from aquatic plants, Miss Sargent derived them from geophilous ancestors. The single cotyledon was interpreted by her as a fusion of the two seed-leaves of a Dicotyledon. Bearing on this subject, her paper: "Reconstruction of a Race of Primitive Angiosperms" (1908) is of special interest on account of its originality and of the soundness of the reasoning. Col. Sir David Prain and Miss Sargent

were freshmen on the Council of the Linnean Society on the very same day—elected at the same meeting. Miss Sargant was the first woman to preside at a section of the British Association. It was at the Birmingham meeting in 1913 that she was President of the Botanical Section when her address, "A Critical Essay on Plant Embryology," showed the judicial quality of her mind. BEATRICE TAYLOR.

NEW COUNTY AND OTHER RECORDS.

ABBREVIATIONS.—*Fern Gaz.* = *The British Fern Gazette*, edited by F. W. Stansfield; *Gard. Chron.* = *The Gardeners' Chronicle*; *Hiern Rep.* = *Devon Assoc. Science, &c., Report*; *Ir. Nat.* = *The Irish Naturalist*; *Nat.* = *The Naturalist*; *Ridge Rep.* = *Report of Staffordshire Field Club*; *Wats. B.E.C.* = *Report of Watson Botanical Exchange Club*; Woodhall Spa = Plants gathered by the Rev. F. Alston at Tower o' the Moor Fowl-farm, N. Lincoln; † = Adventive; * = New County Record (in the case of adventive plants this is only rarely added); ! placed after a plant signifies that the compiler has seen a specimen; ! placed after a locality that the compiler has seen it there; × placed between two scientific names means that the plant is a hybrid; 52, &c., numbers following a county, refer to the Watsonian vice-county in Topographical Botany; [] enclosing a record mean that confirmatory evidence is needed.

*9. ANEMONE NEMOROSA L., var. CAERULEA DC. Birdlip; W. Gloster, Miss BUTLER.

†10. A. RANUNCULOIDES L. Ovington, W. Norfolk, ROBINSON.

†11. A. APENNINA L. Compton Wood, Berks, Miss FRY.

20. RANUNCULUS AGRIS L. A form of this with dark chocolate blotches on the base of the leaf-segments occurred at Early, Berks, DRUCE. Var. NATHORSTII (Berl.). Cliffs of Lochnagar, S. Aberdeen, 1918, DRUCE.

36. R. FLUITANS Lam. Newton St Loe, N. Somerset, I. M. ROPER in *Wats. B.E.C.* 50, 1917. Claimed as a N.C.R. but it is given by Watson in *Top. Bot.* on the authority of Thwaites. Near Druce, Dorset, 1917, DRUCE.

38. R. TRICHOPHYLLUS Chaix. Kenfig Pool, Glamorgan, WEBB.

40. R. HETEROPHYLLUS Web. Arnside, Westmorland, 1890; St Anne's, West Lancs, 1903, BAILEY.

41. R. FLORIBUNDUS Bab. Sidlesham, W. Sussex; Fostersbooth, Northants, DRUCE.

*41 (2). R. SPHAEROSPERMOS Boiss. & Blanche. Peaty drain, Rusland Moss, N. Lancs, 69b, PEARSALL.

43. R. TRIPARTITUS DC. Hennock, S. Devon, *Hiern Rep.*

47. R. FICARIA L., var. SINUATUS Horw. Swanage, Dorset. DRUCE.

49. CALTHA RADICANS Forst. Scotton, N. Lincs, WOODRUFFE-PEACOCK.

51. HELLEBORUS VIRIDIS L., var. OCCIDENTALIS Druce. Oxwich Bay, Glamorgan, Mrs BIGGS, ex WEBB.

†53. CAMMARUM HIEMALE Greene. Attleborough, W. Norfolk, REYNOLDS.

†60. DELPHINIUM AJACIS L. Slough, Bucks, 1917, DRUCE; Galashiels, Selkirk, I. M. HAYWARD.

*77. CASTALIA ALBA Wood, var. OCCIDENTALIS Ostenf. Arisaig, Westernness, DRUCE.

†79. PAPAVER SOMNIFERUM L. Kenfig sands, &c., Glamorgan, WEBB.

80. P. RHOEAS L., var. STRIGOSUM Boenn. Brixham, S. Devon, M. COBBE; Staffs, *Ridge Rep.*

80. *P. RHOEAS* × *DUBIUM*. Brixham, S. Devon; Pyrford, Surrey, M. COBBE.

†87. *ARGEMONE MEXICANA* L. Bradford, York, CRYER.

106. *FUMARIA PURPUREA* Pugsl. Tintern, Monmouth, Miss TODD.

107. *F. BORAEI* Jord., var. *BRITANNICA* Pugsl. Keswick, Cumberland, 1918, DRUCE.

108. *F. MURALIS* Sond., var. *DECIPIENS* Pugsl. Frating, Essex, Miss TODD, with some reservation, Pugsley. [Staffs., *Ridge Rep.* 110, 1917].

109. *F. BASTARDII* Bor. Belfast, Co. Down, KENNEDY.

*113. *F. VAILLANTII* Lois. Stow Bardolph Hall, W. Norfolk, LITTLE in *Rep. B.E.C.* 208, 1917; * Staffs, *Ridge Rep.* 1917.

†118. *MATHIOLA TRISTIS* Br. Ventnor, Isle of Wight, 1918; REDGRAVE.

122. *RADICULA NASTURTIUM* Druce, var. *SIFOLIA* Druce. Mayals, Glamorgan, WEBB.

124. *R. SYLVESTRIS* Druce. Carmarthen, HAMER, no pers. auth. in *Top. Bot.* ed. 2, p. 45.

*129. *BARBAREA VULGARIS* Aiton f. Barmouth, Merioneth, 1918, TOWNDROW. This completes the English counties.

*130. *B. ARCUATA* Reichb. Stansteadbury, Herts, DRUCE.

†131. *B. INTERMEDIA* Bor. Dundee, Forfar, 1916, DRUCE.

133. *ARABIS HIRSUTA* Aiton f., var. *GLABRATA* Syme. Friday Church Down, W. Sussex, BURDON.

†137. *A. ALBIDA* Stev. Merthyr Mawr Quarry, Glamorgan quite naturalised, WEBB.

- †138. *A. ALPINA* L. Welbeck, Notts, hortat, GOULDING.
142. *CARDAMINE PRATENSIS* L., var. *PALUSTRIS* W. & G., f. *ALBA*.
Loddon Bridge, Berks, DRUCE.
- †*155. *ALYSSUM ALYSSOIDES* L. Pitlochry, E. Perth, 1877, Dr
THOMAS THOMSON.
- †157. *A. INCANUM* L. Pyrford, Surrey; Bedminster, Bristol,
N. Somerset, M. COBBE; Welbeck, Notts, GOULDING.
- †158. *A. MARITIMUM* Lam. Barmouth, Merioneth, TOWNDROW.
162. *DRABA MURALIS* L. Manifold Valley, Staffs (only one pre-
vious record), BOYDON in *Ridge Rep.*
- †177. *WILCKIA MARITIMA* Scop. (*MALCOMIA*). Cadney, N. Lincs.
WOODRUFFE-PEACOCK.
- †184. *SISYMBRIUM ALTISSIMUM* L. Railway near Castle Hill, S.
Devon, COUNTESS FORTESCUE; Moulsoford, Berks, Miss NEILD;
Charterhouse, Surrey, LATTER; Barmouth, Merioneth, TOWNDROW;
covering four acres of the Stour Valley Furnace Works ash debris at
Kidderminster, Worcestershire, CARLETON REA.
- †185. *S. ORIENTALE* L. Castle Hill, Devon, with above, COUNTESS
FORTESCUE; Charterhouse, Surrey, LATTER.
- †188. *S. IRIO* L. Hull Docks, York, 1904, WATERFALL.
- †200. *CONRINGIA ORIENTALIS* Dum. Castle Hill, Devon,
COUNTESS FORTESCUE; Potterne, Wilts, GWATKIN; Welbeck, Notts,
GOULDING.
- †202 *CAMELYNA SATIVA* Cr. Castle Hill, Devon, COUNTESS
FORTESCUE; Tweedside, Selkirk, I. M. HAYWARD; Melmerby, Cum-
berland, MASON.
- †208. *BRASSICA RAPA* L., var. *BRIGGSII* Wats. Barmouth,
Merioneth, TOWNDROW.

- †212. *B. ELONGATA* Ehrh. Dewsbury, York, HALEY. Var. *PERSICA* (Pers.). Bedminster, Bristol, N. Somerset, M. COBBE.
- †218. *B. JUNCEA* Coss. Chilworth, S. Hants, RAYNER; Marston, Oxford, DRUCE; Welbeck, Notts, GOULDING.
- †224. *B. ERUCASTRUM* L. Beeston, York, 1916, PULLAN.
- †228. *ERUCA SATIVA* Mill. Marston, Oxford, DRUCE.
232. *BURSA PASTORIS* Web., var. *STENOCARPA-LYRATA* (Mott). Dalton-in-Furness, N. Lancs, PEARSALL.
- †237. *LEPIDIUM DRABA* L. Barmouth, Merioneth, TOWNDROW.
- †239. *L. PERFOLIATUM* L. Castle Hill, Devon, COUNTESS FORTESCUE; Lyndhurst, S. Hants, Miss TODD; Croft Castle, Hereford, Mrs ATHERLEY; Welbeck, Notts, GOULDING.
- †240. *L. RUDERALE* L. Barmouth, Merioneth, TOWNDROW.
- †247. *L. BONARIENSE* L. Wrentham, Pye Hall Farm, Suffolk, 1917, HORWOOD.
- †247. *L. DENSIFLORUM* Schrad. Watton, W. Norfolk, ROBINSON.
- †247. *L. VIRGINICUM* L. Bedminster, Bristol, N. Somerset, M. COBBE; Torquay, S. Devon, 1909, C. E. LARTER.
- †258. *VOGELIA PANICULATA* Horn. Wellington College, Berks, DRUCE; Rock Ferry, Cheshire, Dr F. A. LEES, ex TRAVIS.
- †260. *MYAGRUM PERFOLIATUM* L. Abingdon, Berks, GAMBIER-PARRY.
- †262. *BUNIAS ERUCAGO* L. Woodhall Spa, ALSTON.
- †267. *RAPISTRUM ORIENTALE* DC. Sandal, York, HORRELL.
- †268. *R. RUGOSUM* All. Abingdon, Berks, DRUCE and GAMBIER-PARRY; Carmarthen, HAMER. In the greatest abundance for

a quarter of a mile on a bank near Burpham, W. Sussex, shown to me by Prebendary Burdon 1918, completely naturalised, not quite typical, verging towards 269, DRUCE.

†269. R. LINNAEANUM B. & R. Abingdon, Berks, DRUCE and GAMBIER-PARRY.

287. HELIANTHEMUM BREWERI Planch. Lady Verney tells me she has found this in another locality about three miles from the "locus classicus" in Anglesey.

*293. VIOLA SYLVESTRIS Kit. Staffs, *Ridge Rep.*

296. V. CANINA × RIVINIANA. Stokeinteignhead, S. Devon, 1916, C. E. LARTER. Var. LANCEOLATA Martr.-Don. Dunsford, S. Devon, 1914, C. E. LARTER.

297. V. LACTEA Sm. The earliest evidence for Dorset seems to be a specimen found about 1840 near Poole, by Dr N. TYACKE.

298. V. DUMETORUM Jord. Birdlip, W. Gloster, Miss BUTLER.

299. V. HIRTA L., var. HIRSUTA Lange, f. LUTEO-CANESCENS Greg. St Mary Church, S. Devon, C. E. LARTER. Drawn by E. W. HUNNYBUN. Var. PINETORUM Wiesb. Brixham, S. Devon, 1917, C. E. LARTER.

301. V. EU-PALUSTRIS L. Methuen, M. Perth; Mallaig, Westernness, DRUCE. No *epipsila* seen although the locality seemed eminently suitable.

†302. V. CORNUTA L. Large clump on road-side at Alvah, Banff; Grantown, Easternness, well naturalised, A. E. MAHOOD, in *lit.*

303. V. LEJEUNEI Jord. Low Wood, Haverthwaite, N. Lancs, 69b, PEARSALL.

303. V. LEPIDA Jord. Lampeter, Monmouth, RIDDELSDELL in *Rep. B.E.C.* 211, 1917; Matlock, Derby, 1852, A. DIXON. Seems first record.

304. V. LLOYDII Jord. Llandaff, Glamorgan, RIDDELSDELL,
L.c.

*308. POLYGALA SERPYLLACEA Weihe, var. VINCROIDES Chodat.
Bracknell, Berks, DRUCE.

310. P. OXYPTERA Reichb. auct. ang. Cabrach, N. Aberdeen,
DRUCE.

*318. DIANTHUS DELTOIDES L. Golf Course, Woodhall Spa, N.
Lincs, ALSTON.

†324. D. CARYOPHYLLUS L. Hortal. Shingle, Ballater, S. Aber-
deen, with *Lupinus nootkatensis*, DRUCE and Mrs WEDGWOOD.

†325 (2). TUNICA SAXIFRAGA Scop. Still at Tenby, 1918,
ARNETT. Quite naturalised. See *Rep. B.E.C.* 440, 1909.

†328. GYPSOPHILA PANICULATA L. Near Bury St Edmunds,
Suffolk, 1918, J. RASOR.

†331. SAPONARIA VACCARIA L. Croft Castle, Hereford, 1918,
Mrs ATHERLEY.

342. SILENE GALLICA L. Clover field, Trimmingham, Norfolk.
S. quinquevulnera L. was in an adjacent field, HORWOOD.

†344. S. QUINQUEVULNERA L. Cultivated field, Finchampstead,
Berks, 1918, KING.

†350. S. MUSCIPULA L. Ovenden, York, HORRELL; Boiling Well
Tip, Bristol, 1918, Mrs WEDGWOOD.

354. S. DUBIA Herbich. Gravelly bank near the Thames,
Surrey, BRITTON, vide sp.; Donbridge, Jersey, 1907, DRUCE.

370. CERASTIUM VULGATUM L., var. HOLOSTEOIDES Wahl. Thames
above Richmond, Surrey, 1916, BRITTON. Just the Tay-side plant.

372. C. PUMILUM Curt. Berry Head, S. Devon, 1918, DRUCE.

377. STELLARIA AQUATICA Scop. On the banks of the Team, Durham, HESLOP-HARRISON.

*382. S. DILLENIANA Moench. North Stoke, &c., W. Sussex, DRUCE and BURDON; Stow Bedon, W. Norfolk, DRUCE and ROBINSON. In each instance with var. *palustris*.

†387. ARENARIA BALEARICA L. On a wall at Whitchurch, Oxfordshire. Hortal. STANSFIELD.

396. A. VERNA L. On serpentine near Buck of Cabrach, N. Aberdeen, 1918, DRUCE and Mrs WEDGWOOD, as a form approaching *Gerardi*, if not a distinct variety.

406. SAGINA APETALA Ard. Ballater, S. Aberdeen, 1918, DRUCE; Furness Abbey [Ref. No. 57], N. Lancs, PEARSALL.

407. S. MARITIMA Don. Furness, L. Lancs, 1917, LUMB and PEARSALL.

409. SPERGULA ARVENSIS L. Blackpill, Glamorgan, WEBB.

412. SPERGULARIA MEDIA Presl, var. GLANDULOSA Druce. Blythburgh, E. Suffolk, HORWOOD.

414. S. ATHENIENSIS Heldr. & Sart. Charlestown, near St Austell, Cornwall, TRESIDDER.

415. S. RUBRA Presl. Luxuriant plants on clinkers, Grovesend Station, Glamorgan, WEBB.

421. MONTIA FONTANA L. (LAMPROSPERMA), var. BOREO-RIVULARIS Druce. Near the Buck of Cabrach, N. Aberdeen; Arisaig, Westerness, DRUCE and Mrs WEDGWOOD.

435. HYPERICUM QUADRANGULUM L., var. EROSUM Schinz, f. PUNCTATUM Schinz. Callander, W. Perth, 1918, DRUCE.

436. H. PERFORATUM L., var. ANGUSTIFOLIUM DC., sub-var. LINEOLATUM R. & F. Molesey Hurst, 1917, BRITTON.

†443. *ALTHAEA HIRSUTA* L. Swaythling, S. Hants, 1918, RAYNER.

†447. *LAVATERA THURINGIACA* L. and †448. *L. PUNCTATA* All. Swaythling, S. Hants, 1918, RAYNER.

452. *MALVA SYLVESTRIS* L., var. *LASIOCARPA* Druce. Malvern Wells, Worcester, TOWNDROW. Var. *ANGUSTILOBA* Celak. Bodorgan, Anglesey, 1917, DRUCE.

†454. *M. PUSILLA* With. Swaythling, S. Hants, RAYNER; Shapwick, N. Somerset, Miss TODD; Wellington College, Abingdon, Berks, DRUCE.

[469. *LINUM PERENNE* L. Staffs, *Ridge Rep.* 1917.]

†483 (3). *GERANIUM DIVARICATUM* Ehrh. Near Exeter, S. Devon, M. COBBE.

490. *ERODIUM LACINIATUM* Willd. and 494. *E. MOSCHATUM* Ait. Stubble field, Byfleet, Surrey, M. COBBE.

497. *E. PIMPINELLIFOLIUM* Sibth. Near Newchurch, Isle of Wight, REDGRAVE; in great abundance in sandy field near Byfleet, Surrey, ! M. COBBE.

504. *OXALIS ACETOSELLA* L., var. *SUBPURPURASCENS* DC. Melmerby, Cumberland, MASON.

†506. *O. STRICTA* L. Pyrford, Surrey, A. B. COBBE.

†513. *IMPATIENS GLANDULIFERA* Royle. Quite naturalised on banks of the Tawe, Ponardawe, Glamorgan, 1914, LLEWELLYN; by the Usk, Brecon, 1918, BROTHERS; Fairborne, Merioneth, TOWNDROW.

526. *ACER CAMPESTRE* L., f. *DISSECTIFOLIUM* Melv. [Ref. No. 1930]. Hook, Surrey, 1918, BRITTEN.

*539. *ULEX MINOR* Roth. Ben Alisky, 800 feet, Caithness, LITTLE, ex A. BENNETT in *Trans. Bot. Soc. Edin.* 135, 1917. The most northern locality in Europe.

541. *ONONIS RECLINATA* L. Flowering in two stations, Berry Head (!), S. Devon, 1918, Misses COBBE.

†562. *MEDICAGO FALCATA* L. Whitby, York, JOHNSON. Var. *TENUIFOLIOLATA* Vuych. Bedminster, Bristol, N. Somerset, M. COBBE.

†564 (2). *M. VARIA* Martyn. Dean Clough, Halifax, York, HORRELL; Woodhall Spa, ALSTON.

†567. *M. SCUTELLATA* Mill. Byfleet, Surrey, 1918, M. COBBE.

†571. *M. TRIBULOIDES* Desr. Meanwood, Leeds, 1916, PULLAN. Det. W. B. TURRILL.

†572. *M. TRUNCATULA* Gaertn. Meanwood, Mirfield, York. HORRELL.

†573. *M. LITTORALIS* Rhode. Kirkstall, York, HORRELL.

†574. *M. TUBERCULATA* Willd. Mirfield, York, HORRELL.

†581. *M. MINIMA* Desr. Found by Misses COBBE in great quantity in a sandy field at Byfleet, Surrey, with other aliens, introduced with shoddy-wool containing foreign seeds. With it also the var. *RECTA* Burnat (*LONGISETA*); the latter also at Twerton, N. Somerset, T. H. GREEN.

†584. *M. CILIARIS* Willd. Bradford, York, 1918, CRYER; Leith, Midlothian, 1906, FRASER.

†595. *MELILOTUS ALBA* Desr. Swaythling, S. Hants, with *M. arvensis*, RAYNER; Barmouth, Merioneth, TOWNDROW.

†597. *M. INDICA* All. Chiselhurst, Kent, ALLEN; Staffs, *Ridge Rep.*

598. *TRIFOLIUM MEDIUM* Huds. A small form with the facies of *pratense*. Gimingham, W. Norfolk, HORWOOD.

†602. *T. OCHROLEUCON* Huds. Port Clarence, Durham, HESLOP-HARRISON; Turvey, Beds, MASON.

- †605. *T. LAPPACEUM* L. Near Byfleet, Surrey, M. COBBE.
- †606. *T. ANGUSTIFOLIUM* L. Ashton Gate, Bristol, A. B. COBBE; Dewsbury, York, HALEY.
- †608. *T. INCARNATUM* L. Quite naturalised on turf of Pairland Cliffs, near Port Eynon, Glamorgan, WEBB.
- †625. *T. SPUMOSUM* L. Byfleet, Surrey, A. B. COBBE.
- †630. *T. NIGRESCENS* Viv. Near Byfleet, Surrey, M. COBBE.
633. *T. SUFFOCATUM* L. Rhossilly, Glamorgan, 1910, E. M. WAKEFIELD.
- †634. *T. PATENS* Schreber. Welbeck, Notts, GOULDING.
- †635. *T. AGRARIUM* L. Byfleet, Surrey, M. COBBE.
638. *T. FILIFORME* L. Melmerby, Cumberland, MASON.
648. *LOTUS CORNICULATUS* L., sub-sp. *TENUIFOLIUS* (L.) Thell. Turvey, Beds, MASON; Bradford, York, CRYER. Var. *INCANUS* Gray. Wool, Dorset, 1918, DRUCE.
- †656. *ASTRAGALUS HAMOSUS* L. Halifax, York, HORRELL.
- †665. *SCORPIURUS SUBVILLOSA* L. Galashiels, Selkirk, I. M. HATWARD.
- †667. *CORONILLA SCORPIOIDES* Koch. Byfleet, Surrey, M. COBBE.
- †668. *ORNITHOPUS COMPRESSUS* L. Byfleet, Surrey, with above, in some plenty, M. COBBE; Dean Clough, Halifax, York, HORRELL.
679. *VICIA CRACCA* L. Mr Robinson's beautiful Vetch from Saham Toney, W. Norfolk, (see *Rep. B.E.C.* 336, 1915), Dr Thellung places between the sub-species *incana* and *tenuifolia*. It is referred to var. *argentea* Coss. & Germ. in the *Report*.
- †680 (2). *V. BENGHALENSIS* L. (*V. ATROPURPUREA* Desf.). Morley, York, 1916, PULLAN. Det. TURRILL.

†683. *V. VARIA* Host. Byfleet, Surrey, M. COBBE; St Philip's, Bristol, 1918, Miss TODD.

688. *V. SEPIUM* L., var. *OCHROLEUCA* Bast. Caterham, Surrey, Hon. Mrs INGILBY.

691. *V. LUTEA* L. With whitish flowers at Weymouth, Mrs WEDGWOOD. The pods are hairy and the plant is not *laevigata* Sm.

698. *V. ANGUSTIFOLIA* Reichb. Melmerby, Cumberland, MASON. Var. *GARLANDI* Druce. Plants closely* approaching this grew in a sandy field, Pyrford, Surrey, LADY DAVY and DRUCE.

700. *V. LATHYROIDES* L. * Cardigan, CLARKE; Halifax, York, HORRELL.

†709. *LATHYRUS LATIFOLIUS* L. Caswell, Glamorgan, WEBB; Barmouth, Merioneth, TOWNDROW.

†717. *L. INCONSPICUUS* L. Kirkstall, York, HORRELL.

†718. *L. HIRSUTUS* L. Par, Cornwall, 1918, WISE, in *lit.*

†726. *L. APHACA* L. Byfleet, Surrey, M. COBBE; Staffs, *Ridge Rep.*

†739. *PRUNUS DOMESTICA* L. Mumbles, &c., Glamorgan, WEBB.

†744. *SPIRAEA SALICIFOLIA* L. Newbottle Spinney, Northants, 1878, S. A. RUSHER.

746. *S. ULMARIA* L., var. *DENUDATA* Boenn. Melmerby, Cumberland, MASON.

*748. *RUBUS IDAEUS* L., var. *OBTUSIFOLIUS* (Willd.). Stow Bedon, W. Norfolk, 1918, DRUCE and ROBINSON.

850. *R. INFECUNDUS* Rogers. Stow Bedon, W. Norfolk, DRUCE.

*883. *GEUM INTERMEDIUM* Ehrh. Staffs, *Ridge Rep.* 1917.

†892. *POTENTILLA RECTA* L. Goring, Oxford, GAMBIER-PARRY; Wyardisbury, Bucks, MONCKTON.

†*896 (2). *P. INTERMEDIA* L. Waste ground, Denham, Bucks, REDGRAVE.

909. *ALCHEMILLA MINOR* Huds. Matlock, Derby, 1851, A. AITKIN, an early record; Belfast, Co. Down, KENNEDY.

909. *A. PRÆTENSIS* Schmidt. Alford, Corgarff, N. Aberdeen; Ballater, S. Aberdeen; Arisaig, Mallaig, Westernness; Callander, W. Perth; Bridge of Allan, Stirling, DRUCE.

909. *A. ALPESTRIS* Schmidt. Alford, &c., N. Aberdeen; Ballater, S. Aberdeen, DRUCE; Barmouth, Merioneth, TOWNDROW.

914. *AGRIMONIA ODORATA* Mill. Staffs, *Ridge Rep.* 1917.

925. *ROSA SYSTYLA* Bast. Abundant about Burpham, Amberley, W. Sussex, 1918, DRUCE.

926. *R. TRANSITORIA* group. Burpham, W. Sussex; Mongewell, Oxon, 1918, DRUCE.

927. *R. DUMALIS* Bechst. Flint, 1845, Dr BIDWELL; Benthall Edge, Staffs, 1842, Dr BIDWELL; Upmonden, Sussex, Rev. G. SMITH. Var. *ERIOSTYLA* (Rip. & Déség.). Corgarff, N. Aberdeen, 1918, DRUCE.

928. *R. ANDEGAVENSIS* Bast., var. *AGRARIA* (Rip. & Déség.). Bodorgan, Anglesey, 1918, DRUCE. Var. *ROUSSELI* (Rip.), and near this (as *R. caesia*), Hort. Kew, J. BAKER.

929. *R. VERTICILLATA* Mérat, var. *INCONSPICUA* (Déség.). Myton, Warwick, 1864, H. BROMWICH, as *verticillacantha*.

932. *R. DUMETORUM* Thuill., var. *JACTATA* (Déség.). Bodorgan, Anglesey, 1918, DRUCE. Var. *TRICHONEURA* (Rip.). Wootton, N. Somerset, Miss TODD. Var. *HEMITRICHA* (Rip.). Richmond, York, as *arvatica* Baker, J. WARD.

934. *R. GLAUCA* Vill., var. *SUBCANINA* Christ. Bridge of Allan, Stirling, 1918, BARCLAY and DRUCE.

937. *R. EGLANTERIA* L. Oaken, Staffs !, 1838, Dr BIDWELL.

940. *R. BORRERI* Woods. Bodorgan, Anglesey, 1918, DRUCE. The *R. Borreri* of Bromwich from Woodloes, Warwick, is an *eglantaria* hybrid.

941. *R. FOETIDA* Bast., var. *CONFUSA* (Puget). East Marden, Kent, Rev. G. SMITH in *Hb. Druce*. To this group belongs *R. Jundzilliana* from Tabley, Cheshire, collected by the Hon. J. WARREN, teste WOLLEY-DOD.

Exchange Club Roses, 1917. See *Report* 220-222.

Lieut.-Col. Wolley-Dod's criticisms on the Roses sent in were not available for insertion in the *Report*. They are now appended.

ROSA CANINA L., sub-gr. *DUMALIS*, var. *RECOGNITA* Rouy. Miss I. M. Roper. "The fruit is that of *recognita* but not the leaflets. It is really nearer *R. insignis* Déség., and I should place it there provisionally."

ROSA — ? [1487]. C. E. Britton. "Nearest *sphaerocarpa* Pug. but leaflets almost glabrous beneath bring it near *R. curticola* Pug."

R. BORRERI Woods. [1609]. C. E. Britton. "I should say this has nothing to do with *Borreri* nor with the *tomentella* group. To me the leaflets are glabrous beneath. The petioles are almost, of not quite so, and the pubescence always (?) appears on them first. I place it in the dumales nearest *R. Carioti* Chab. or *R. glaberrima* Dum."

R. GLAUCA Vill., of group *FUGAX* Gren. W. Barclay. "I agree."

R. SUBCORIIFOLIA Barclay. R. & M. Corstorphine. "Quite correct. It is one of the plants which would formerly have been referred to var. *incana* Borrer."

R. RECONDITA Pug. H. J. Riddelsdell. "This is *R. pomifera* Herrm. I have dropped *recondita*."

†954. *PYRUS COMMUNIS* L. Pitlochry, E. Perth, 1877, Miss

THOMSON. Var. *ACHRAS* (Gaertn.). Singleton Burrows, Glamorgan, WEBB.

966. *CRATAEGUS MONOGYNA* Jacq., vel *OXYACANTHA* L. p.p., var. *CUNEATA* Druce. Albury, Oxford; Uxbridge, Middlesex, DRUCE; Berechurch, N. Essex, D. BROWN; Loch Assynt, Sutherland, SHOOLBRED; Alford, N. Aberdeen, 1918; Arisaig, Westernness; Callander, W. Perth; Campden, E. Gloster, DRUCE. Var. *QUERCIFOLIA* Loudon. Orme's Head, Carnarvon, 1918; Asthally, Oxon; Alford, N. Aberdeen, DRUCE. Var. *PTERIDIFOLIA* Loudon. Arundel, W. Sussex; Littlemere, Marston, Oxon, DRUCE. Var. *LACINIATA* Wallr. Blackpill, Glamorgan, WEBB.

967. *C. OXYACANTHOIDES* Thuill. Near Manchester, about 1870, JOHN HARDY, ex BAILEY; Watton, W. Norfolk, DRUCE.

†970. *C. CRUS-GALLI* L. In hedges near Lower Sketty Iska, and beyond Taibach, Glamorgan, Webb. Quite established.

†970. *C. TANACETIFOLIA* Pers. Moreton, Dorset, LEACH; Clyne Valley, 1911, E. M. WAKEFIELD.

†972. *COTONEASTER FRIGIDA* Wallich. At Sketty, and near Sketty Iska, Glamorgan, WEBB. Naturalised.

†972. *C. SIMONSI* Baker. Near Blackpill, Glamorgan, 1918, WEBB.

†1004. *RIBES SANGUINEUM* Pursh. Near Bridge of Allan, Stirling, DRUCE.

1007. *COTYLEDON UMBILICUS-VENERIS* L. Alien. On a wall, Basford, Staffs, very rare, I. CHALLINOR in *Ridge Rep.* 1917.

1010. *SEDUM FABARIA* Koch. Barf, Cumberland, DRUCE.

†1016. *S. ALBUM* L. Near Barf, Cumberland; Llanwryst, Carnarvon; Ballater, Aberdeen, DRUCE.

†1020. *S. CEPAEA* L. Edge of Hambledon Common, Surrey, 1912, BISHOP.

- *1028. *DROSERA LONGIFOLIA* L. Pembroke, ARNETT.
1032. *MYRIOPHYLLUM SPICATUM* L. Arthog, Merioneth, TOWN-DROW.
1033. *M. ALTERNIFLORUM* DC. Alford, Corgarff, N. Aberdeen; Drum, &c., S. Aberdeen; Arisaig, Westernness, DRUCE.
1036. *CALLITRICHE OBTUSANGULA* Le Gall. Staffs, *Ridge Rep.* 1917.
1037. *C. PALUSTRIS* L. (VERNA). Cheddar, N. Somerset, Miss TODD.
1039. *C. INTERMEDIA* Hoffm., var. *ANGUSTIFOLIA* (Hoppe). Lyndhurst, S. Hants, DRUCE.
- *1041. *C. TRUNCATA* Guss. Chesterfield canal, Notts, Carr, ex GROVES; near Clumber, Notts, Mrs SANDWICH.
1052. *EPILOBIUM ROSEUM* Schreb. Dolgelly, Merioneth, TOWN-DROW.
1057. *E. PALUSTRE* × *PARVIFLORUM*. Melmerby, Cumberland, MASON, vide sp.
- †1060. *CLARKIA PULCHELLA* Pursh. Welbeck, Notts, 1918, GOULDING.
- †1061. *OENOTHEBA BIENNIS* L. Bristol, (No. 6), I. M. ROPER; Barmouth, Merioneth, TOWN-DROW; Staffs, *Ridge Rep.*
1073. *CIRCAEA ALPINA* L. Meole Brace, Salop, MELVILL. See *Rep. B.E.C.* 225, 1917.
- †1091. *BUPLEURUM LANCIFOLIUM* Hornem. (PROTRACTUM). Abingdon, Berks, DRUCE and GAMBIER-PARRY; Iffley, Oxford, DRUCE.
1094. *B. TENUISSIMUM* L. Three miles inland, Greatham Salt-marsh, Durham, extinct in old stations, HESLOP-HARRISON.

†1099 (2). *APIUM LEPTOPHYLLUM* F. v. Muell. Bedminster, W. Gloster, M. COBBE.

†1109. *PRIONITIS FALCARIA* Dum. Port Talbot, Glamorgan, 1910-13, WEBB.

1113. *PIMPINELLA MAJOR* Huds. By the Teith, Callander, W. Perth, looking quite native, 1918, DRUCE.

1114. *P. SAXIFRAGA* L., var. *DISSECTA* With. Barmouth, Merioneth, TOWNDROW.

1126. *ANTHRISCUS SYLVESTRIS* Hoffm., var. *ANGUSTISECTA* Druce. Glen Nevis, Arisaig, Westernness; Methuen, M. Perth; Callander, W. Perth; Blair Athol, E. Perth; Ballater, S. Aberdeen; Alford, Corgarff, N. Aberdeen; Cove, Kincardine; Bridge of Allan, Stirling, DRUCE. Var. *LATISECTA* Druce. Dartmouth, S. Devon; Burpham, Lewes, W. and E. Sussex; Chertsey, Surrey; Chiselhurst, Kent; Rugby, Warwick; Bangor, Carnarvon, DRUCE.

†1128. *A. CEREFOLIUM* Hoffm. Trewsbury, Gloster, TALBOT; Marston, Oxon, DRUCE.

1136. *OENANTHE SILAIFOLIA* Bieb. (MEDIA). Amberley, W. Sussex, BURDON and DRUCE. Recorded in *Top. Bot.* on faith of specimen in *Winch Herb.*, and from Amberley *New Bot. Guide* in *Fl. Sussex* where Arnold says not recently recorded.

1138. *OE. FISTULOSA* L., var. *TABERNAEMONTANI* Gmel. Amberley, W. Sussex, DRUCE.

†1153. *HERACLEUM VILLOSUM* Fisch. Waste ground, Denham, Bucks, REDGRAVE.

†1157. *CORIANDRUM SATIVUM* L. Port Talbot, Glamorgan, WEBB.

*1169. *CAUCALIS NODOSA* Scop., var. *PEDUNCULATA* (R. & F.) Druce. Burpham, W. Sussex, DRUCE; Pinton Hook Lock, Middlesex, 1917, BRITTON.

- †1171. *C. LATIFOLIA* L. Welbeck, Notts, GOULDING.
- †1177. *SAMBUCUS RACEMOSA* L. Arisaig, Westernness, DRUCE and Mrs WEDGWOOD.
1193. *GALIUM MOLLUGO* × *VERUM*. Berry Head, S. Devon I, M. COBBE.
1194. *G. ERECTUM* Huds. Burpham, W. Sussex, 1918, BURDON and DRUCE; Bleakdown Golf Links, Surrey, M. COBBE and LADY DAVY.
- †1219. *KENTRANTHUS RUBER* Druce. Barmouth, Merioneth, TOWNDROW.
- †1225. *VALERIANELLA CARINATA* Lois. Ide, Devon, 1918, Miss TODD, vide sp.
- †1229. *DIPSACUS FULLONUM* L., var. *SATIVUS* L. Woodhall Spa, Lincoln, ALSTON.
- †1242. *GRINDELIA SQUARROSA* Dunal. Woodhall Spa, Lincoln, ALSTON.
- †1244. *SOLIDAGO LANCEOLATA* L. Near Byfleet, Surrey, LADY DAVY and DRUCE.
- †1245. *S. CANADENSIS* L. Brechin, Forfar, DRUCE.
1248. *BELLIS PERENNIS* L., a discoid and a proliferous form. Mundesley, W. Norfolk, 1918, HORWOOD; discoid form near Farley Green, Surrey, BRITTON.
- †1250. *ASTER SALIGNUS* Willd. Marston, Oxford, DRUCE; near Byfleet, Surrey, LADY DAVY and DRUCE.
- †1259. *A. LINOSYRIS* Bernh. Port Clarence, Durham, HESLOP-HARRISON.
- †1264. *ERIGERON MUCRONATUS* DC. Wall at St Lawrence, Isle of Wight, REDGRAVE. Perfectly naturalised.

†1271. *ANAPHALIS MARGARITACEA* Clarke. Newton Blossomville, Bucks, MASON.

1277. *GNAPHALIUM SUPINUM* L., var. *FUSCUM* Scop. In good condition on the cliffs of Lochnagar, S. Aberdeen, 1918, DRUCE.

1279. *INULA HELENIUM* L. Turvey, Beds, MASON; Aldermaston, in a copse far from houses, Berks, for some years, KING.

†1291. *AMBROSIA ARTEMISIFOLIA* L. Woodhall Spa, Lincoln, ALSTON; Woodstock, Oxford, COLES.

†1292. *A. TRIFIDA* L. Guildford, Surrey, KENNEDY; Welbeck, Notts, GOULDING.

†1302. *HELIANTHUS RIGIDUS* Desf. Botley, 1915-17, Marston, Oxford, 1914-18, DRUCE.

†1302 (2). *H. SCABERRIMUS* Elliott. Galashiels, Selkirk, I. M. HAYWARD.

†1306. *GUIZOTIA ABYSSINICA* Cass. Swaythling, S. Hants, 1918, RAYNER.

†1311. *BIDENS PILOSA* L. Bradford, York, CRYER.

†1314. *MADIA SATIVA* Molina. Elland, York, HORRELL. Det. A. THELLUNG.

†1344. *ANTHEMIS RUTHENICA* Bieb. Slough, Bucks, DRUCE; Woodhall Spa, Lincoln, ALSTON; Mirfield, York, HORRELL.

1347. *A. COTULA* L., forma *DISCOIDEA*. Wrentham, W. Suffolk, HORWOOD.

†1356 (7). *CHRYSANTHEMUM MAXIMUM* DC. Kirkstall, York, 1917, HORRELL.

1359. *MATRICARIA MARITIMA* L. Cove, Kincardine, 1918, DRUCE.

†1362. *M. SUAVEOLENS* Buch. Melmerby, Cumberland, MASON;

Cove, Kincardine; Alford, N. Aberdeen, DRUCE; Barmouth, Merioneth, TOWNDROW.

†1363. *M. DECIPIENS* Koch. Hull, York, WATERFALL.

1367. *ARTEMISIA ABSINTHIUM* L. St Anne's-by-the-Sea, W. Lancs, 1908, BAILEY.

†1380. *A. BIENNIS* Willd. Bedminster, M. COBBE; St Philip's, Bristol, DRUCE.

1401. *SENECIO VULGARIS* L., var. *RADIATUS* Koch. Barmouth, Merioneth, TOWNDROW, in *lit.*; Bridgwater, Somerset, M. COBBE.

†1411. *CALENDULA ARVENSIS* L. Waste ground, Denham, Bucks, REDGRAVE; Bedminster, Bristol, M. COBBE.

†1412 (6). *ECHINOPS SPHAEROCEPHALUS* L. Goring, Oxford, in a hedge, GAMBIER-PARRY.

1418. *ARCTIUM LAPPAL* L. Staffs, *Ridge Rep.* 1917.

1424. *CARDUS ACANTHOIDES* × *NUTANS*. A magnificent specimen at Burpham, W. Sussex, 1918, BURDON and DRUCE.

1425. *C. TENUIFLORUS* Curt. Welbeck, Notts, GOULDING.

1433. *CIRSIIUM ARVENSE* Scop., var. *MITE* Koch. Potterne, Wilts, GWATKIN, vide sp.

†1449. *CENTAUREA JACEA* L. Port Talbot, Glamorgan, 1911, WEBB.

†1459 (2). *C. ORIENTALIS* L. Woodhall Spa, Lincoln, ALSTON.

†1462. *C. SOLSTITIALIS* L. Port Eynon, Port Talbot, Glamorgan, WEBB.

†1470. *C. SALMANTICA* L. Eastville, Bristol, M. COBBE.

†1477. *CARTHAMUS TINCTORIUS* L. Byfleet, Surrey, A. B. COBBE; near Fenton, N. Staffs, *Ridge Rep.* 1917.

- †1478. *SCOLYMUS HISPANICUS* L. Welbeck, Notts, GOULDING.
1480. *CICHORIUM INTYBUS* L. Arthog, Merioneth, TOWNDROW.
Var. *GLABRUM* Presl. St Philip's, Bristol, Miss TODD.
1483. *ARNOSERIS MINIMA* Link. Abundant in stubble fields,
Byfleet, Surrey I, A. B. COBBE.
1497. *CREPIS CAPILLARIS* Wallr., var. *AGRESTIS* (W. & K.). Burp-
ham, W. Sussex, DRUCE.
1502. *C. TARAXACIFOLIA* Thuill. Potterne, Wilts, GWATKIN.
- †1512. *HIERACIUM AURANTIACUM* L. In considerable quantity
on a railway bank near Coventry, Warwick, 1918, DRUCE.
1548. *H. HYPOCHAEROIDES* Gibs. Melmerby, Cumberland,
MASON.
1599. *H. VULGATUM* Fr. Gowerton, Grovesend, Skewen to
Neath, Glamorgan, WEBB.
- *1614. *H. DIAPHANOIDES* Lindeb. Norton, Rhyd y defaid, Hen-
drefoilan, Glamorgan, WEBB.
1629. *H. TRIDENTATUM* Fr. Fforest Newydd, Glamorgan, WEBB;
* Staffs, *Ridge Rep.*
1630. *H. RIGIDUM* Hartm. Clyne valley, Pont Lliw, &c., Glam-
organ, WEBB.
- *1633. *H. SALICIFOLIUM* Lindeb. Arisaig, Westernness, DRUCE.
- *1637. *H. BOREALE* Fr., var. *RIGENS* (Jord.). Crowthorne, Berks,
DRUCE.
1644. *LEONTODON TARAXACOIDES* (Vill.), var. *LEIOLENA* (Bisch.)
comb. nov. Gt. Orme, Carnarvon, 1918, DRUCE.
1645. *TARAXACUM OBLIQUUM* Dahlst. Pyrford, Surrey; Brack-
nell, Berks, DRUCE.

1646. *T. PALUDOSUM* Schlecht. Loddon Bridge, Berks, DRUCE; Barrow Hill, N. Somerset, Mrs SANDWITH.

1646. *T. SPECTABILE* Dahlst. N. & S. Aberdeen, 1918, DRUCE.

1657. *SONCHUS ASPER* Hill, var. *LACINIATUS* Lej. Falmouth, Cornwall; Berry Head, Devon; Swanage, Dorset; Eye Green, Northants, DRUCE. Var. *PUNGENS* Bisch. Woodhall, N. Lincs, ALSTON; Mullion, Cornwall, 1904; Dartmouth, S. Devon; Burpham, W. Sussex; Goring 1896, Studley, Oxford, 6 feet high; Holme Fen, Hunts; Rescobie, Forfar; Glen Spean, Westernness; Ware, Herts; Northampton; Wilsford, Wilts; Wytham, Berks, DRUCE; Fairford, Gloster; Lighthorne, Warwick, C. E. PALMER. Var. *INTEGRIFOLIUS* Wallr. Hambledon, Bucks; Welwyn, Herts; Tilehurst, Berks; Bangor, Carnarvon; Oxford, DRUCE; Odiham, N. Hants, C. E. PALMER. Var. *GLANDULOSUS* (Coss.). Watton, W. Norfolk; Blakeney, W. Gloster; Burpham, W. Sussex, DRUCE.

1658. *S. OLERACEUS* L., var. *ALBESCENS* Neum. Cold Arbor, Oxford; Bangor, Carnarvon, 1918, DRUCE.

†1670. *CAMPANULA MEDIUM* L. Railway bank near Newcastle, Durham, HESLOP-HARRISON.

1672. *C. LATIFOLIA* L. Fairbourne, Merioneth, TOWNDROW.

1673. *C. TRACHELIUM* L., with glabrous calyx. Caterham, Surrey, Hon. Mrs INGILBY.

†*1674. *C. RAPUNCULOIDES* L. Sittingbourne, Kent, 1918, RIDLEY; Staffs, *Ridge Rep.*

†1679. *LEGOUSIA SPECULUM-VENERIS* Fisch. Elland, York, DIXON.

†1691 (2). *PERNETTIA MUCRONATA* Gaudich. Pyrford Rough, Surrey, seeded from the garden of the late Sir Charles Dilke to the adjoining heath. Doubtless bird-carried. DRUCE.

†1700. *ERICA MEDITERRANEA* L. Plants quite established on wild heathy ground near Rhododendrons in the East Riding, York, 1918, A. E. GREAVES, in *lit.*

†1705. *LEDUM PALUSTRE* L. Still lingering on its old habitat, but not flowering this season. The point has been raised as to whether this Stirlingshire plant is the true *palustre* or *latifolium*. Unfortunately the available material leaves me uncertain. As it occurred last August the leaves of the barren shoots measured 15-17 mm. by 30 mm. and were not marginally enrolled.

1709. *PYROLA MINOR* L. Melmerby, Cumberland, MASON.

1722. *STATICE MARITIMA* Mill. In magnificent growth at Berry Head, S. Devon, DRUCE.

1723. *S. LINEARIFOLIA* Lat. A form with broader and more erect leaves growing in small tufts at Hamsworthy, Dorset, DRUCE and GODFREY; St Cyrus, Cove, Kincardine, DRUCE.

1723 (2). *S. PLANIFOLIA* Druce. Cairn Gaudr, Inverness, *Hb. H. C. Watson.*

1732. *LYSIMACHIA THYRSIFLORA* L. Callander, W. Perth, DRUCE.

1743. *ANAGALLIS FEMINA* Mill. Byfleet, Surrey, M. COBBE.

†1748. *FRAXINUS ORNUS* L. Grafted early in the 19th century on the butt of a large elm near S. Elkington, N. Lincoln, J. CLARE HUDSON.

1757. *CENTAURIUM RAMOSISSIMUM* (Pers.) Druce = *C. PULCHELLUM* (Sm.) Druce. Lower Tees Marsh, Durham, HESLOP-HARRISON. Forma *ELONGATUM* (Wittr.). Tees Marshes, Durham, HESLOP-HARRISON.

1763. *GENTIANA AMARELLA* L. A pretty deep-flowered plant at Gooderstone, W. Norfolk, REYNOLDS.

*1765. *G. CAMPESTRIS* L. On White Leaf Cross Hill, Bucks, MASON. Confirms it as a Bucks plant.

1777. *POLEMONIUM CAERULEUM* L. Scrivelsby, N. Lincs, ALSTON.
- †1781. *HELIOTROPIUM EUROPAEUM* L. Mirfield, York, HORRELL.
- †1783. *OMPHALODES VERNA* Moench. In a wood near Chiselhurst, Kent, known there for many years, 1917, ALLEN, vide sp.
- †1787. *LAPPULA ECHINATA* Gilib. Welbeck, Notts, GOULDING.
- †1789 (3). *BENTHAMIA (AMSINKIA) LYCOPSIODES* Lindl. Charlbury, Oxford, POWELL; Charterhouse, Surrey, EVANS; Bosahan, Cornwall, C. VIVIAN; Welbeck, Notts, GOULDING.
- †1789 (5). *B. INTERMEDIA* (F. v. M.) Druce. Kirkstall, York, HORRELL.
- *1790. *SYMPHYTUM OFFICINALE* × *DENSIFLORUM* Buckn. Marston, Oxford, 1918, DRUCE.
1791. *S. TUBEROSUM* L. Alford, N. Aberdeen, DRUCE.
- †1793. *S. ORIENTALE* L. Chipstead, Surrey, long established, BRITTON.
- †1800. *ANCHUSA OFFICINALIS* L. Hayle, Cornwall, RILSTONE; Aberavon, Glamorgan, WEBB; Woodhall Spa, Lincs, ALSTON; Dean Clough, Halifax, HORRELL.
- †1801. *A. HYBRIDA* Tenore. Ovenden, York, 1916, PULLAN.
- †1808. *PULMONARIA OFFICINALIS* L. Penlegare, Glamorgan, in hedges, 1918, WEBB.
- †1812. *PNEUMARIA VIRGINICA* Hill. Pewley Hill, Guildford, KENNEDY, ex BISHOP.
- †1817. *MYOSOTIS SYLVATICA* Hoffm. Adventive at Mayals, Parkmill, Glamorgan, WEBB.

1820. *M. COLLINA* Hoffm., var. *MITTENII* Baker. Wigginton, Oxon, RIDDELSDELL.

†1852. *NICANDRA PHYSALOIDES* Gaertn. Ashton Gate, Bristol, A. B. COBBE.

†1864. *VERBASCUM BLATTARIA* L. Mudstone Bay, S. Devon, M. COBBE.

†1864 (3). *V. SINUATUM* L. Portmadoc, Carnarvon, 1916, M. COBBE.

1866. *V. LYCHNITIS* L. Woodhall Spa, Lincoln, ALSTON; Kirkstall, York, as a hybrid, 1916, PULLAN. Det. TURRILL.

†1868. *V. AUSTRIACUM* Schott. Kirkstall, York, HORRELL.

†1872. *CALCEOLARIA GRACILIS* H. B. K. (*GLUTINOSA*). Beddgelert, Carnarvon, DRUCE.

†1874 (4). *LINARIA DALMATICA* Mill. Ashwater, Devon, Harvey. Var. *MACEDONICA* Vel. Highbridge, Somerset, 1918, M. COBBE.

1883. *L. MINOR* Desf. Near Castle Hill, N. Devon, COUNTESS FORTESCUE; Barmouth, Merioneth, TOWNDROW.

1884. *L. SPURIA* Mill, an albino form. Copley Wood, N. Somerset, Miss TODD.

†1886. *L. CYMBALARIA* Mill. Barmouth, Merioneth, TOWNDROW.

†1898. *MIMULUS GUTTATUS* DC. Dolgelly, Merioneth, TOWNDROW.

†1899. *M. MOSCHATUS* Dougl. Stourbridge, Worcester, ex. G. CHESTER. Originally found in the county by CARLETON REA. New Mill, Clyne Valley, Glamorgan, WEBB.

†1904. *ERINUS ALPINUS* L. "Following apparently upon the "agger" making labours of the Romans, this occurs in many places from Chatburn to Bolton-by-Bowland and appears to be increasing in

W. York, but most of the stations are just within the S. Lancashire boundaries, on natural rock-faces left after making bridges. *Rumex scutatus*, of alien origin, occurs with it." J. FRY PICKARD in *Nat.* 347, 1917. This record strengthens the case as a remote introduction. It is now, I believe, generally conceded that it was intentionally sown on the Roman Wall near Hexham. The name of its introducer was given to me.

*1905. *VERONICA SPICATA* L. Specimen not to be distinguished from the eastern counties plant, Heathwaite, Westmorland, 1916, PEARSALL. Det. TURRILL. The two plants, *hybrida* and *spicata*, can scarcely be separated as species.

1907. *V. OFFICINALIS* L., var. (vel forma) *INTEGRA* Druce. The Glen, Peebles, DRUCE and S. TENNANT. A plant approaching *hirsuta* Hopk. was sent from the vicinity of Edinburgh in 1918 by LADY DOUIE.

*1909. *V. MONTANA* L. Barmouth, Merioneth, TOWNDROW.

1910. *V. SCUTELLATA* L., var. *VILLOSA* Schum. Blackpill, Glamorgan, WEBB.

*1912. *V. AQUATICA* Bern. Burpham, W. Sussex, DRUCE.

1931. *EUPHRASIA STRICTA* Host. Highfield, Dalton-in-Furness, 69b; Hawkshead Moor, N. Lancs, PEARSALL.

1932. *E. BOREALIS* Wettst. Lower meadows of Snowdon, Prof. VINES; Beddgelert, Carnarvon; Holyhead, Anglesey; Berry Head, S. Devon; Alford, Cabrach, N. Aberdeen, DRUCE.

1933. *E. BREVIPILA* B. & G. Holyhead, Anglesey; Mallaig, Westernness; Ballater, S. Aberdeen, DRUCE; Wellington College, Berks, 1913, MONCKTON. Forma *EGLANDULOSA* Buckn. Perranporth, Cornwall, RILSTONE.

*1933 (2). *E. FENNICA* Kihlm. Near Cabrach, N. Aberdeen, a tall plant occurred which probably belongs here.

1934. *E. NEMOROSA* Pers. Little Tollingham, W. Norfolk, 1917, ROBINSON, with forma COMPACTA. A tall, branching, slender form, Pyrford, Surrey, Lady DAVY and DRUCE, belongs to the type. Quarries near Afonwen, Flint, WATERFALL. Var. CILIATA. Holyhead, Anglesey, DRUCE; Wellington College, &c., Berks, MONCKTON; Pyrford Rough, Surrey !, 1917, Lady DAVY.

1935. *E. CURTA* Fr., var GLABRESCENS Wettst. Hawkshead Moor, N. Lancs, 69b., PEARSALL, teste BUCKNALL.

1939. *E. GRACILIS* Fries. For this name Mr Williams uses *E. micrantha* Reichb. Fl. Germ. Excurs. 358, 1831. Garboldisham, W. Norfolk, ROBINSON. See *Rep. B.E.C.* 240, 1917. This Bucknall names *gracilis*, but Pearsall refers it to *E. curta*, var *glabrescens*. Lumb thinks it is *gracilis* Fr. Ben Nevis, Westernness, 1918, DRUCE. S. Pickenham, W. Norfolk, ROBINSON; Coxhill Green, Surrey, MONCKTON. Var. PRIMARIA Fr. The Glen, Peebles, DRUCE, teste BUCKNALL. Pearsall thinks it *Kernereri*, Lumb *borealis*.

1940. *E. SCOTTICA* Wettst. Arisaig, Mallaig, Westernness, DRUCE.

1940 (2). *E. MINIMA* Fr. Moel Hebog, Cwm Meillionen, Carnarvon, 1917, DRUCE; Crib Goch, Carnarvon, 1918, Prof. VINES; Cabrach, N. Aberdeen, DRUCE. Lumb and Pearsall think the latter is *minima*, Bucknall a stunted *gracilis*, which however did not suggest itself to me when gathering it. The Crib Goch plants Bucknall thinks are *curta* (one glabrescent *curta* was in the gathering). Bigland, N. Lancs, PEARSALL; Holyhead, Anglesey, 1917, DRUCE.

1940 (2). *E. MINIMA* Fr., var. ARBUSCULA Buckn. Aberfraw Common, Anglesey, Mrs WEDGWOOD and DRUCE, teste Bucknall, but Pearsall thinks it *occidentalis*.

1941. *E. ROSTKOVIANA* Hayne. This Mr Williams makes the type *E. officinalis* L. In the *Linnean Herb.* two out of the three specimens on the sheet labelled *officinalis* by Linnaeus are *Rostkoviana*, the middle one is *nemorosa*. Methuen, M. Perth; Lochnagar, S. Aberdeen; Cabrach, N. Aberdeen, DRUCE; Wellington College, Easthampstead, &c., Berks; Yately, N. Hants. MONCKTON.

1950. *PEDICULARIS SYLVATICA* L., with the centre stem erect as in *palustris*. Pyrford Heath, Surrey, Lady DAVY and DRUCE.

*1955. *RHINANTHUS MONTICOLA* Druce. Lochnagar, S. Aberdeen, DRUCE.

*1966. *OROBANCHE RETICULATA* Wallr., var. *PROCERA* (Koch) Druce. Parasitic on *Cirsium lanceolatum* or *Carduus nutans*, near Chester, but the sender, Mr A. DALLMAN, who has done so much in investigating the flora of that area, was unable to visit the spot to see which species of thistle it was attached to. Mr Kennedy sent me from Guildford in 1916 an *Orobanche* growing on *C. nutans* which possibly belongs to *reticulata*. It is not quite identical with var. *procera* from Yorkshire.

1966. *O. MAJOR* L. Shown to me growing in his garden by Mr F. Robinson, Watton, W. Norfolk, 1918.

1971. *O. MINOR* Sutt. Potterne, Wilts, GWATKIN; Hamsworthly, Dorset; Watton, W. Norfolk; Berry Head, S. Devon, DRUCE.

†1974. *LATHRAEA CLANDESTINA* L. Roosthole Pond, near Horsham, Sussex, planted there two years ago, WEBSTER, in *lit.* Recorded in order to avoid mistakes about its origin.

*1976. *UTRICULARIA MAJOR* Schmid. Staffs, *Ridge Rep.* 1917.

1977. *U. INTERMEDIA* Hayne. Strensall Common, York, 1916, Corporal ANDREW TEMPLEMAN, H. J. Wilkinson in *Nat.* 160, 1918.

1978. *U. MINOR* L. In abundance in a pond near Pyrford, Surrey, Lady DAVY, but not flowering. Nearly extinct in Glamorgan, but found by W. C. LLEWELLYN at Rhydypardy, 1913, WEBB, in *lit.*

*1980. *PINGUICULA VULGARIS* L. Prescelly Mountain, Pembroke, 1918, ARNETT.

1988. *MENTHA ROTUNDFOLIA* Huds. Near Drum, in a ditch far away from houses, S. Aberdeen*, 1918, Mrs WEDGWOOD and DRUCE;

Hambledon, S. Hants, H. BUTLER; Sudbury, Staffs*, but adventitious, BOYDON in *Ridge Rep.*

1989. *M. ALOPECUROIDES* Hull. Alford, N. Aberdeen, DRUCE.

1990. *M. LONGIFOLIA* × *SPICATA*. Near Holyhead, Anglesey, 1917, DRUCE.

1990. *M. LONGIFOLIA* Huds., var. *NICHOLSONIANA* (Strail). In cultivated fields, Glen Lea, Hindhead, Surrey, 1905, BAILEY.

1990. × *M. VILLOSA* Huds. Under this hybrid comes a plant from Little Barrington Green, E. Gloster, 1918, BISHOP.

1993. × *M. PIPERITA* L. Alford, N. Aberdeen; Drum, S. Aberdeen, DRUCE. Var. *CITRATA* (Ehrh.). Chiddingfold, Surrey, in great quantity in a swamp of over an acre, BISHOP, in *lit.*

1994. *M. AQUATICA* L., var. *SUBSPICATA* Weihe. Peat Moors, Shapwick, N. Somerset, Miss TODD.

1997. × *M. GENTILIS* L. Callander, W. Perth, DRUCE. Var. *GRACILIS* Briq. Woking, Surrey, M. COBBE; near Pyrford Rough, Surrey, Lady DAVY and DRUCE.

1999. × *M. RUBRA* Huds. Musselburgh, Edinburgh, J. H. BALFOUR, in *Hb. Druce.*

2007 (2). *THYMUS ALPESTRIS* Tausch. Widdy Bank, Durham; Ben Laoigh, Argyll and M. Perth; Ben Lawers, M. Perth; Glen Brittle, Skye, DRUCE.

2011. *SATUREIA CALAMINTHA* Scheele. Brean Down, N. Somerset, Miss TODD. Var. *BRIGGSII* Druce. Kenton, S. Devon, Miss TODD.

†2017. *MELISSA OFFICINALIS* L. Naturalised by stream, Parkmill, Glamorgan, WEBB; Barmouth, Merioneth, TOWNDROW.

†2019 (2). *SALVIA SOLAREA* L. Among lucerne, Sibford, Oxford, LAMB, vide sp.

2023. *S. PRATENSIS* L. Burpham, W. Sussex, BURDON.

†2024. *S. SYLVESTRIS* L. Woodhall Spa, Lincoln, ALSTON.

†2025. *S. NEMOROSA* L. Guildford, Surrey, KENNEDY.

2026. *S. VERBENACA* L., the large-flowered form. Burpham, W. Sussex, DRUCE.

†2039. *DRACOCEPHALUM PARVIFLOSUM* Nutt. Guildford, Surrey, CLARKE; Swaythling, S. Hants, RAYNER, vide sp.; Welbeck, Notts, GOULDING; Bristol, Mrs SANDWITH.

2042. *SCUTELLARIA GALERICULATA* L., var. *LITTORALIS* Druce. Mallaig, Westernness, DRUCE.

2044. *PRUNELLA VULGARIS* L., var. *NEMORALIS* Beg. Burpham, W. Sussex, DRUCE.

*2051. *STACHYS ALPINA* L. Near a field path near Cuckmere River, E. Sussex, WESTELL in *Boys' Own Nature Book*, 1917. Has this been corroborated?

†2055. *S. LANATA* Jacq. Marston, Oxford, DRUCE.

2056. × *S. AMBIGUA* Sm. Brixham †, S. Devon, M. COBBE.

†2059. *S. ANNUA* L. Welbeck, Notts, GOULDING; Mirfield, Hunslet, York, HORRELL.

2062. *GALEOPSIS TETRAHIT* L., var. *NIGRICANS* Bréb. Belfast, Co. Down, KENNEDY.

2062. *G. SPECIOSA* × *TETRAHIT* = *G. SULFUREA*. Near Aberystwith, Cardigan, FOX, in *lit.*

2063. *G. DUBIA* Leers. Near Thorne, Notts, in plenty, NOEL SANDWITH.

2064. *G. INTERMEDIA* Vill. Yiewsley, Middlesex, DRUCE. Plants approaching this were found by T. H. GREEN in fields near Avebury, Wilts, in 1918.

+2065. *LEONURUS CARDIACA* L. In some quantity at Sutton's Trial Grounds, Reading, Berks, MURRAY.

+2069. *LAMIUM MACULATUM* L., var. *LAEVIGATUM* Ait. Great Orme, Carnarvon, DRUCE; Great Haywood, Staffs, BOYDON in *Ridge Rep.*

2079. *TEUCRIUM SCORODONIA* L., var. *DENTATUM* Bab. Killay, Glamorgan, PHOEBE SIMONS.

2090. *PLANTAGO CORONOPUS* L., var. *MARITIMA* Gren. & Godr. Blackpill, &c., Glamorgan, WEBB.

2091. *P. MARITIMA* L., var. *LATIFOLIA* Syme. Salt marsh, near Newcastle, Durham, HESLOP-HARRISON.

2092. *P. LANCEOLATA* L., var. *ELLIPTICA* Druce. Wickham, Berks, Miss TODD.

+2096. *P. LAGOPUS* L. Sandal, York, HORRELL.

*2101. *LITTORELLA UNIFLORA* Asch. Tockenham Park, N. Wilts, HURST.

+2110. *AMARANTHUS RETROFLEXUS* L. Meanwood, York, HORRELL; Oxford, TROLLOPE. Var. *DELILEI* Thell. Guildford, Surrey, KENNEDY. Det. THELLUNG.

+2113. *A. DEFLEXUS* L. St Philip's, Bristol, 1916, A. B. COBBE. Det. THELLUNG.

+2114. *A. CHLOROSTACHYS* Willd., var. *ARISTULATUS* Thell. Gala-shiels, Selkirk, 1918, I. M. HAYWARD.

+2116. *A. HYBRIDUS* L. St Philip's, Bristol, M. COBBE.

†2116 (7). *A. DINTERI* Schinz, var. *UNGINATUS* Thell. Thetford, 1916, ROBINSON, (as *Ambrosia*); Shipley, York, CRYER; Meanwood, York, HORRELL.

*2117. *CHENOPODIUM RUBRUM* L. Patshull, Staffs.

2124. *C. LANCEOLATUM* Muhl. Dingley, Northants; Rugeley, Staffs, READER, vide sp.

*2124. *C. ALBUM* L., var. *PSEUDOPOLYSPERMUM* (Murr). Botley, Oxon, DRUCE.

†2125. *C. LEPTOPHYLLUM* Nutt. Welbeck, Notts, GOULDING; Byfleet, Surrey I, A. B. COBBE.

†2127. *C. GLAUCUM* L. Byfleet, Surrey, in some quantity. Shown me by Lady DAVY.

*2128. *C. VULVARIA* L. Staffs, *Ridge Rep.*

*2129. *C. POLYSPERMUM* L. (*CYMOSUM* Moq.). Staffs, *Ridge Rep.*

†2131. *C. STRIATUM* (Kras.). Guildford, Surrey, KENNEDY; Goring, Oxford, GAMBIER-PARRY.

†2132 (3). *C. HIRCINUM* Schrad. Welbeck, Notts, GOULDING.

†2136. *BETA TRIGYNA* W. & K. Dewsbury, York, HALEY.

2144. *ATRIPLEX PATULA* L., var. *BRACTEATA* Weste. Ashton Gate, Bristol, M. COBBE.

†2145. *A. TATARICA* L. Bristol, Mrs SANDWITH and T. H. GREEN.

*2150. *A. MARITIMA* Hall. (*LACINIATA*). Caithness coast, LILLIE, ex BENNETT.

†2153. *AXYRIS AMARANTHOIDES* L. Woodhall Spa, Lincoln, ALSTON; Welbeck, Notts, GOULDING; Guildford, Surrey, CLARKE.

†2168. *SALSOLA TRAGUS* L. Bristol, I. M. ROPER.

2175. *POLYGONUM PERSICARIA* L., var. *ELATUM* G. & G. Bar-
mouth, Merioneth, TOWNDROW.

2176. *P. TOMENTOSUM* Schrank. Edenbridge, Kent, 1918,
TALBOT; Staffs*, *Ridge Rep.*, 1917.

2179. *P. MINUS* Huds., var. *INTERRUPTUM* (Meisner). Abingdon,
Berks, DRUCE.

†2183. *P. PATULUM* M. Bieb. (*BELLARDII* auct.). Ware, Herts,
HIGGENS; North Wales, 1917, DALLMAN; Dean Clough, Halifax,
York, HORRELL; Bradford, York, CRYER.

2184. *P. AEQUALE* Lindm. Teignmouth, S. Devon, Miss TODD,
vide sp.

*2184 (2). *P. CALCATUM* Lindm. Pond-side, Dunsfield Common,
Surrey, 1917, BISHOP. Later on we hope to obtain Lindman's cor-
roboration of this name.

†2191. *P. CUSPIDATUM* S. & Z. Marston, Oxford; Tay-side, M.
Perth; Teith-side, Callander, W. Perth; Don-side, N. Aberdeen;
Ballater, S. Aberdeen; Tweedside, Selkirk, DRUCE; Wye, Monmouth,
GAMBIER-PARRY; abundant and quite naturalised in Tawe Valley,
Glamorgan, WEBB.

2195. *RUMEX MAXIMUS* Schreb. Burpham, W. Sussex, DRUCE.

[2200. *R. SYLVESTRIS* Wallr. Staffs, *Ridge Rep.* 1917.]

2201. *R. SANGUINEUS* L. Rhydyfro, Llanynog, Swansea Valley,
Glamorgan, WEBB.

2203. *R. CONGLOMERATUS* × *OBTUSIFOLIUS* = × *R. ABORTIVUS*
Ruhm. Bodorgan, Anglesey, 1918, Mrs WEDGWOOD and DRUCE. In
this place a most instructive series of the hybrids occurred as hand-
some plants growing with both parents and varying towards one or
other of them.

2205. *R. PULCHER* L. Ware, Herts, DRUCE; Sandal, York, HORRELL; Carmarthen, HAMER; Sketty, Glamorgan, WEBB.

†2210. *R. SALICIFOLIUS* Weinm. Swaythling, S. Hants, a forage introduction, RAYNER; St Philip's, Bristol, 1918, Miss TODD.

†2210 (2). *R. DENTATUS* L. Plants near this, Elland, Sandal and Tingley, York, HORRELL.

†2213. *ARISTOLOCHIA CLEMATITIS* L. Growing on the roadside of a garden wall, Bridge of Allan, Stirling. The roots had spread from the garden and penetrated the wall as I found by examination, DRUCE.

†2230. *EUPHORBIA CYPARISSIAS* L. Near Simple Druid, Maenclochog, Pembroke, ARNETT; Aberavon, &c.; Glamorgan, PHOEBE SIMONS.

2236. *E. EXIGUA* L., var. *RETUSA* DC. Port Clarence, Durham, HESLOP-HARRISON.

2237. *E. LATHYRUS* L. Crawley Woods, Glamorgan, looking native, WEBB.

2242. *MERCURIALIS PERENNIS* L. Monoecious form from Mickleham Down, Surrey, 1916 [Ref. No. 1559], BRITTON.

2244. *ULMUS MONTANA* Stokes, var. *GRANDIDENTATA* (Dumort.). Cheney Lane, Oxford, DRUCE.

2245. *U. NITENS* Moench, var. *HUNNYBUNI* Moss. Near Mount End, Essex, 1914, BRITTON.

2246. *U. PLOTII* Druce. Sketty, Glamorgan, WEBB, judging by leaf-characters.

2256. *BETULA PUBESCENS* Ehrh. Studland, Dorset, 1917, C. B. GREEN.

2258. *ALNUS GLUTINOSA* Gaertn. The typical plant with medium size catkins, Lligwy, Anglesey; Arisaig, Westernness, DRUCE.

2259. *CARPINUS BETULUS* L. Barmouth, Dolgelly, Merioneth, TOWNDROW. Doubtless planted.

2262. *QUERCUS ROBUR* × *SESSILIFLORA*. Barmouth, Merioneth, TOWNDROW.

2267. *SALIX PENTANDRA* L. Tewkesbury, W. Gloster, BISHOP.

2268. *S. FRAGILIS* × *TRIANDRA*. Thames bank, below Medmenham, Bucks, FRASER.

2271. *S. PURPUREA* L. Corgarff, N. Aberdeen; Arisaig, Westerness, DRUCE.

2275. *S. AURITA* × *CINEREA* = × *S. LUTESCENS* A. Kern. Melmerby, Cumberland, MASON.

2275. *S. AURITA* × *CINEREA* = × *S. LUTESCENS* A. Kern. Quair, Peebles, DRUCE, nearer *cinerea*.

2276. *S. AURITA* L., var. *MINOR* Syme. Near Cabrach, N. Aberdeen, DRUCE.

*2277. *S. CINEREA* × *PHYLICIFOLIA*. Staffs, *Ridge Rep.* 1917.

2277. *S. CINEREA* L., var. *OLEIFOLIA* (Sm.). Shapwick, N. Somerset, Miss TODD.

*2285. *S. HERBACEA* L. On the Coniston Grit crags of Cantley Crag, 2100 feet, N. W. York, WILSON.

†2288. *POPULUS ALBA* L. Large trees at Burpham, W. Sussex, BURDON and DRUCE.

†2294. *P. TACAMAHACCA* Mill. Melmerby, Cumberland, MASON; Galashiels, Selkirk, I. M. HAYWARD.

*2297. *CERATOPHYLLUM DEMERSUM* L. Graemshall Loch, Orkney, MAGNUS SPENCE, ex BENNETT in *Trans. Bot. Soc. Edin.* 134, 1917.

[2300. STRATIOTES ALOIDES L. Planted at Madeley, Staffs, *Ridge Rep.*]

2301. MALAXIS PALUDOSA Sw. Bog near the Lakes, Arthog, * Merioneth, TOWNDROW; on a moor near Sedbergh, N.W. York, very rare species in the county, WILSON.

2315. HELLEBORINE PALUSTRIS Schrank. Tenby, Pembroke, ARNETT; Watton, W. Norfolk, ROBINSON and DRUCE.

2319. H. ATROPURPUREA Druce (*MEDIA* Fries, p.p.). Arnside Knot, Westmorland, PEARSALL. Var. *CROWTHERI* Druce. Flowered well this year in Grassington Wood.

2325. ORCHIS PRAETERMISSA Druce. Veryan, St Enoder; Newquay, *Herb. E. Thurston*; Bantham, S. Devon, Miss TODD; Amberley, Sussex; Woking, Surrey, DRUCE; Yiewsley, Middlesex. DYMES; near Bangor, Carnarvon, GRIFFITH; Stow Bedon, Watton, W. Norfolk, DRUCE; Margam, Kenfig, Baglan, Glamorgan, WEBB; Alvie Lodge, Easternness, 1905, Miss THOMSON.

2325. O. PRAETERMISSA × FUCHSII. Watton, Stow Bedon, W. Norfolk, DRUCE; Durham, HESLOP-HARRISON.

2325. O. PRAETERMISSA × MACULATA. Near Tenby, Pembroke, Mrs WEDGWOOD; Woodbury, Devon, Miss TODD; Sussex, BEDFORD, as *latifolia*.

2326. O. INCARNATA L. Yiewsley, Middlesex, DYMES.

2326. O. INCARNATA × PRAETERMISSA. Yiewsley, Middlesex, DYMES. Var. *PULCHELLA* Druce. Hamworthy, Dorset, DRUCE; woods between Kinraig and Milehead, Easternness, 1904, Miss THOMSON.

2327. O. MACULATA L. vera. Ide, S. Devon, Miss TODD.

2327. O. FUCHSII Druce, small-flowered form. Burpham Downs, W. Sussex, 1918, DRUCE.

*2331. *O. HIRCINA* Sw. Three plants found in St Ouen's Bay. Jersey, 1918, ATTENBOROUGH. A most interesting addition to the Channel Island Flora. It occurs on the dunes of Dragey, Normandy and at Dinan, from whence seeds have probably been wind-borne. It flowered this year in Kent and Sussex.

2334. *OPHYRS SPHEGODES* Mill. Slopes of a hill between Llandrillo and Colwyn, Denbigh, May 1891, BICKHAM. An interesting addition to the flora of the Principality. Quenvais, Jersey, L. GARLAND and ATTENBOROUGH.

2335 (2). *O. TROLLII* Heg. Brading, Isle of Wight, 1918, MAUD NEAL.

2336. *O. MUSCIFERA* Huds., a form with suppressed petals. Canterbury, WALKER; Plympton, S. Devon, BRIGGS 1876 in *Hb. Wats.*

2338 (2). *HABENARIA DENSIFLORA* (Wahl.). Upper Marsh of the Lower Tees, HESLOP-HARRISON.

2340. *H. VIRIDIS* Br., var. *BRACTEATA* A. Gray. Felton Meads, W. Gloster, THWAITES; Sapperton Keynes, E. Gloster, TALBOT; Clova, Caenlochan, Forfar, 1844, *Hb. Wats.* Var. *OVATA* Druce. Unst, Shetland, *Hb. Wats.*

†2360 (2). *SISTRINCHIUM ANGUSTIFOLIUM* Mill. As a spontaneous garden-weed at Gateshead, Durham, TEMPERLEY.

†2363 (10). *TRITONIA CROCOSMIFLORA* Nicholson. Near Lyme Regis, Dorset, 1917, REDGRAVE.

†2375. *NARCISSUS TAZETTA* L. Yiewsley, Middlesex, 1918, DYMES, as the garden-form, "Paper White," teste CHITTENDEN.

2385. *POLYGONATUM MULTIFLORUM* All. Stated by Watson (*Top. Bot.*) to be dubiously indigenous in Cumberland, for which county a few records are given in the Lake District Flora. It has been sent this year by the Rev. W. WRIGHT MASON from Melmerby in that county.

†2390. *ASPHODELUS FISTULOSUS* L. Oxford, TROLLOPE; Woodhall Spa, Lincoln, WOODRUFFE-PEACOCK.

2396. *ALLIUM VINEALE* L., var. *COMPACTUM* (Thuill.). Broad Mayne, Dorset, 1918, Hon. F. R. H. HENLEY; Billingshurst, Sussex, as a large four-headed form, 1918, WEBSTER.

†2414. *ORNITHOGALUM NUTANS* L. Besilsleigh, Berks, in considerable quantity and great beauty, a relic of Speaker Lenthall's garden, DRUCE.

2420. *GAGEA LUTEA* Ker. Birdlip, W. Gloster, H. BUTLER.

2422. *COLCHICUM AUTUMNALE* L., forma *VERNALE*. See Syme *E.B.* t. 1545. The specimen for the plate came from Devizes, Wilts. It flowered in April and May. This year Miss BUTLER found it in April at Birdlip, W. Gloster.

2429. × *JUNCUS DIFFUSUS* Hoppe. Shapwick, N. Somerset, Miss TODD.

†2441. *J. TENUIS* Willd. Abundant at Pyrford, Surrey, Lady DAVY; in quarry, Barmouth, near the lake above Arthog, Merioneth, TOWNDROW; still at Wellington College, Berks, where Mr Monckton first found it; Ballater, S. Aberdeen, on the river shingle near a cart-track, Mrs WEDGWOOD; Arisaig, Westernness, in a cart-track leading to the mansion, Mrs WEDGWOOD and DRUCE. Doubtless this is shaken out of American forage. It may be distributed along tracks by the mud adhering to cart-wheels or on the feet of cattle, &c.

2442. *J. BUFONIUS* L., var. *FASCICULATUS* Koch. Arthog, Merioneth, TOWNDROW.

*2444. *J. CAPITATUS* Willd. Near Rhosneigr, Anglesey, BOLTON KING. This important addition to the Principality was discovered by our member last August. It occurred in good quantity over a limited area but assuredly native, growing with the usual damp heath vegetation.

2453. *JUNCOIDES FORSTERI* (Sm.). Near Dartmouth Castle, S. Devon, A. B. COBBE.

2454. *J. MULTIFLORUM* Druce, var. *CONGESTUM* (DC.) Druce. Barmouth, Merioneth, TOWNDROW.

2460. *TYPHA LATIFOLIA* × *ANGUSTIFOLIA*. Scoulton Mere, W. Norfolk, ROBINSON, who showed it me there in 1918.

2475. *WOLFFIA ARRHIZA* Wimm. In several places between North Stoke and Burpham, W. Sussex, abundant, BURDON and DRUCE.

*2479. *SAGITTARIA SAGITTIFOLIA* L. By a secluded spring, growing out of the dripping moss on the bank of a runnel in Lansallos parish, Cornwall, RILSTONE, in *lit.*

2489. *POTAMOGETON ALPINUS* Balb. In considerable quantity in the Don near Alford, N. Aberdeen, growing with *P. gramineus*. Some plants seemed to be the hybrid of these species, Mrs WEDGWOOD and DRUCE; near Newash Abbey, Surrey !; Lady DAVY.

2507. *P. FRIESII* Rupr. Cirencester, E. Gloster, GREENWOOD; brick-pits, near Gloucester, a slender form, Miss TODD; Staffs, *Ridge Rep.* 1917.

[2510. *P. TRICHOIDES* C. & S. Staffs, *Ridge Rep.* 1917.]

2511. *P. INTERRUPTUS* Kit., var. *SCOPARIUS* (Fryer). In abundance and in fine condition, Scoulton Mere, W. Norfolk, DRUCE.

2515. *RUPPIA MARITIMA* L. (*SPIRALIS*). Teesmouth, Durham, HESLOP-HARRISON.

2518. *ZANNICHELLIA MARITIMA* Nolte. Walstead Park, Whiston, S. Lancs, TRAVIS; Teesmouth Marsh, Durham, HESLOP-HARRISON.

2518. *Z. GIBBEROSA* Reichb. Pool near canal, Bridgewater, Somerset, Miss TODD. Already recorded for the county.

2521. *ZOSTERA NANA* Roth. Llanmorlais Mudflat, Glamorgan, 1916, WEBB.

2533. *SCRIPUS MARITIMUS* L. A small, condensed form about a foot high, with 1-3 sessile spikelets in immense quantity, Teesmouth, Durham, HESLOP-HARRISON, nearest *monostachys* Sonder; near St Heliers, Jersey, ATTENBOROUGH, a similar form best coming under var. *compactus*; also with large sessile spikelets at Hayling Isle, S. Hants, DRUCE.

2539. *S. PAUCIFLORUS* Lightf. Bagshot Heath, Surrey, 1913, Lady DAVY.

2547. *ERIOPHORUM PANICULATUM* Druce (*LATIFOLIUM*). Melmerby, Cumberland, MASON.

*2554. *SCHOENUS NIGRICANS* L. Faskally, near Pitlochry, Perth, July 1877, Miss THOMSON. This corroborates one of my own doubtful records. (See *Rep. Bot. Rec. Club* 23, 1883). With Mr T. F. Richards in 1882 I visited Perthshire, and we marked all the plants noticed in E. Perth in journeying from Pitlochry to Braemar. Among them was *S. nigricans* but we could not remember its exact locality, but believed it was in Glen Shee. The List was handed to Buchanan White for his forthcoming Flora, but he, however, doubted its occurrence in the county and as we had no clear recollection of the locality, we suggested querying it, and therefore in the *Flora of Perth* it is only alluded to, but not admitted as a Perthshire species. Among the plants sent home, however, were two or three specimens, but as I had collected it that year from another source it was thought that some specimens might possibly have been left in the drying paper. Recently Miss Thomson presented her herbarium to the University of Oxford and in it was a sheet of *S. nigricans* labelled as above. The plant may therefore now be admitted as a Perthshire species. Faskally is on the East side of the river and therefore the record belongs to E. Perth. It was also found by Lady DAVY on Bagshot Heath, Surrey, in 1913.

2560. *CAREX ACUTIFORMIS* × *RIPARIA*. Loddon Bridge, Berks, 1918, DRUCE.

2561. *C. VESICARIA* × *INFLATA*. Esher, Surrey, 1866, *Hb. Wats.*
2561. *C. VESICARIA* × *RIPARIA* = × *C. CSOMADENSIS* Simonk. Near North Stoke, W. Sussex, with both parents, 1918, DRUCE.
- *2565. *C. LASIOCARPA* Ehrh. Arisaig, Westernness, collected in 1903, but omitted to record. Still there in 1918, DRUCE.
- *2570. *C. HELODES* Link. Symonds Bath, N. Somerset, at 1000 feet, Lady DAVY; Walridge Fell, Durham, HESLOP-HARRISON, in *lit.*
2573. *C. DISTANS* L. Blackpill, Glamorgan, WEBB.
2575. *C. FULVA* Host. Ide, S. Devon, Miss TODD; Great Bedwyn, Wilts, HURST.
2576. *C. FLAVA* L. Watton, W. Norfolk, DRUCE. Var. *OEDOCARPA* Anders. Clyne Valley, Glamorgan, WEBB.
2577. *C. OEDERI* Retz., var. *ELATIOR* And. Shapwick and Calcott, N. Somerset, 1918, Miss TODD.
2578. *C. EXTENSA* Good. Blackpill, Glamorgan, WEBB; [*Staffs, Ridge Rep.* 1917. Surely an error.].
2586. *C. TOMENTOSA* L. Sussex*, F.A.M., about 1840, *Hb. Tyacke*. Still at Chertsey, Surrey, Lady DAVY and Miss TULK; Somerford, Keynes, Sapperton, E. Gloster, TALBOT. Mr C. P. Hurst informs me that Mr H. H. Knight has found it within 8 miles of Cheltenham.
2600. *C. ELATA* × *GOODENOWII*. Stow Bedon, W. Norfolk, 1918, DRUCE.
2602. *C. AQUATILIS* WAHL. Plentiful by the Don at Alford, N. Aberdeen, Mrs WEDGWOOD and DRUCE.
2604. *C. GOODENOWII* Gay, var. *RECTA* A. & G. Near Woking, Surrey, a very caespitose form; Watton, W. Norfolk; Methuen, M.

Perth, DRUCE. Var. CHLOROSTACHYA (Reichb.). Blackpill, Glamorgan, WEBB. Var. STENOCARPA Kuk. Methuen, M. Perth, DRUCE.

2608. C. LEPORINA L., var. ARGYROLOCHIN Koch. Wrentham, W. Norfolk, 1917, HORWOOD.

2614. C. LEERSII Schultz. Bangor, Carnarvon; Bodorgan, Anglesey; Chichester, W. Sussex, 1917, DRUCE; Godalming, Surrey, EVANS; Trent, Dorset, Mrs DRUMMOND.

2614. C. MURICATA L. A tall form with interrupted inflorescence, Fetcham Downs, Surrey, 1918, BISHOP.

2615. C. PAIRAEI Schultz. Dartmouth, S. Devon*, 1918, Misses COBBE and DRUCE; Finchampstead, Berks, 1918, DRUCE; Chirk, N. Wales, DALLMAN.

2616. C. DIVULSA Stokes. Staffs, *Ridge Rep.* 1917.

†2634. PANICUM SANGUINALE L., var. CILIARE Trin. St Heliers, Jersey, GUITON, in *lit.*

†2635. P. ISCHAEMUM Schreber. In immense quantities over a large field near Pyrford, Surrey, Lady DAVY. Unless one saw it one could scarcely credit its abundance in over 30 acres of oats and potato ground. It occurred in sandy soil varying much in size but normally a prostrate plant. It was formerly known as *Panicum glabrum* or *Digitaria humifusa* Pers. It is distributed this year.

†2637. P. CAPILLARE L. Goring, Oxford, GAMBIER-PARRY; Pyrford, Surrey, Lady DAVY.

†2639. SETARIA VIRIDIS Beauv. Croft Castle, Hereford, Mrs ATHERLEY; Hereford, GAMBIER-PARRY; Staffs, *Ridge Rep.* 1917.

†2640. S. GLAUCA Beauv. Edenbridge, Kent, TALBOT; Byfleet and Pyrford, Surrey, A. B. COBBE.

†2641. S. PANICEA (L.) Schinz & Thell. (VERTICILLATA (L.) Beauv.). Meanwood, York, HORRELL.

†2656. *PHALARIS ANGUSTA* Nees. Bedminster, Bristol, M. COBBE.

†2658. *ANTHOXANTHUM ARISTATUM* Boiss. Sandy field, Wisley, Surrey, 1916, BRITTON; Staffs, *Ridge Rep.* 1917.

2673. *PHLEUM PRATENSE* L., var. *INTERMEDIUM* (Jord.). West Harnham, Wilts, GODDARD; Kingston Bagpuze, Berks; Burpham, W. Sussex; Sutton Gault, Cambridge; Bristol, W. Gloster; Bridge of Allan, Stirling, DRUCE. This is the cultivated "Timothy" of Scotland where it is said to be always nodose rooted. The Scotch "Timothy" is preferred by many seedsmen. It is a question yet to be ascertained if its nodose character persists in cultivation. Var. *NODOSUM* (L.). Stow Bedon, W. Norfolk; Bodorgan, Anglesey; Bridge of Allan, Stirling, DRUCE. Var. *ARMATUM* Druce. Awn 1-1.75 mm. long. Bunes, Unst, Shetland, TATE.

†2676. *P. MICHELII* All. Bristol, W. Gloster, Mrs SANDWICH.

†2680. *P. PANICULATUM* Huds. Bristol, W. Gloster, in some quantity, Mrs SANDWICH. An interesting reappearance of a very rare alien, whence it was first recorded by Hudson in the 2nd edition of the *Flora Anglica*, 1778.

2684. *AGROSTIS ALBA* L., var. *MAJOR* Gaud. Near Southampton, 1918, RAYNER; Elliot, Forfar, 1916, DRUCE. Var. *COARCTATA* Hackel. Alford, N. Aberdeen, DRUCE. Var. *STOLONIFERA* (L.). Teignmouth, S. Devon, M. COBBE; Perth, DRUCE. Var. *ARMATA* Celak. Cramond, Midlothian, FRASER.

*2685. *A. NIGRA* With. Ledbury, Hereford, BICKHAM. See *Rep. B.E.C.* 255, 1917.

†2692. *POLYPOGON LITTORALIS* Sm. Bristol rubbish heaps, W. Gloster, M. COBBE; Galashiels, Selkirk, I. M. HAYWARD.

*2692. *CALAMAGROSTIS CANESCENS* Druce (*LANCEOLATA*). Withington Woods, E. Gloster, 1918, GREENWOOD.

2710. *DESCHAMPSIA ALPINA* R. & S. In beautiful condition in the "spout" of Lochnagar at about 3000 feet, DRUCE.

*2712. *D. FLEXUOSA* Trin., var. *VOIRLICHENSIS* Melv. Ben Nevis, Westernness, at about 3500 feet, DRUCE.

†2719. *AVENA STRIGOSA* Schreber. West Lavington, Wilts, Prof. SOMERVILLE; Beddgelert, Carnarvon; Alford, N. Aberdeen, DRUCE; Staffs, *Ridge Rep.*

2725. *ARRHENATHERUM TUBEROSUM* (Gilib.) Druce. Buckland Newton, S. Wilts. Tons of the tuberous roots carted off arable soil, GODDARD in *lit.*

2733. *PHRAGMITES VULGARIS* (Lam.) Druce, var. *EFFUSA* (A. & G.). Cothill, Berks; Tay-side, M. Perth, DRUCE. Var. *PSEUDODONAX* (Rabh.). Arun, near Burpham, W. Sussex, 1918, DRUCE. Var. *FLAVESCENS* (Cust.). Urswick Tarn, L. Lancs, PEARSALL.

†2737. *CYNOSURUS ECHINATUS* L. Waste ground, Cambridge, 1916, MARQUAND; Hunstanton, E. Norfolk, 1918, GAMBIER-PARRY; Kirton, N. Lincs, WOODRUFFE-PEACOCK.

2739. *KOELERIA GRACILIS* Pers. Stow Bedon, W. Norfolk, DRUCE.

2740. *K. BRITANNICA* (Domin). On upper chalk, Barnetby-le-Wold, N. Lincs, WOODRUFFE-PEACOCK in *lit.*

*2742. *K. ALBESCENS* DC., var. *GLABRA* DC. Cove, Kincardine, DRUCE.

*2746. *CATABROSA AQUATICA* Beauv. South Queensferry, West-lothian, 1906, M'ANDREW. Still there, July 1913, FRASER.

†*2758. *POA CHAIXI* Vill. Brooklands Avenue, Sale, Cheshire. Coll. G. A. HOLT; comm. C. BAILEY.

*2765. *P. COMPRESSA* L. Staffs, *Ridge Rep.* 1917.

2772. *GLYCERIA FLUITANS* Fr., var. *PEDICELLATA* (TOWNS.). Shepton Mallet, N. Somerset, 1918, Miss TODD. Doubtless *G. fluitans* × *plicata*.

*2774. *G. FOUCAUDI* (Hackel). Montrose, Forfar, 1916, DRUCE, teste STAPP.

2776. *PUCCIANELLA MARITIMA* Parlat. (GLYCERIA), var. *HIBERNICA* (Druce). Redbridge, Southampton, 1918, Miss TODD.

2783. *FESTUCA SYLVATICA* Vill. Arisaig, Westerness, DRUCE. Only given for Fort Augustus in *Top. Bot.* Melmerby, Cumberland, MASON.

2785. *F. RUBRA* L., var. *GRANDIFLORA* (Hackel). An anomalous form and perhaps a distinct variety, with narrow leaves, and large spikelets, Ely River, Glamorgan, 1915, HOWARTH. Var. *PRUINOSA* Hackel. Cove, Kincardine, 1918, DRUCE.

*2787. *F. OVINA* L., var. *SUPINA* Hackel. On serpentine, near Cabrach, N. Aberdeen, DRUCE. Var. *PALUDOSA* Gaud. Staffs, *Ridge Rep.*

†2794. *BROMUS RIGENS* L. (*MAXIMUS*). Topsham, Devon, 1918, Miss TODD.

†2803. *B. UNIOLOIDES* H. B. K. Chilworth, S. Hants, RAYNER; dock, Exmouth, S. Devon, A. B. COBBE.

†2804. *B. BRIZAEFORMIS* F. & M. Bristol, 1918, Mrs WEDGWOOD.

†2806. *B. SECALINUS* L., very fine specimens. Galashiels, Selkirk, I. M. HAYWARD.

2807. *B. PRATENSIS* Ehrh. (*COMMUTATUS*). Corfe, Dorset, DRUCE; Mundesley, Norfolk, HORWOOD.

†2809. *B. ARVENSIS* L. Railway bank near Newcastle, Durham, HESLOP-HARRISON.

†*2822. *LOLIUM LINICOLA* Sond. Cold Brayfield, Bucks, MASON.

2824. *L. PERENNE* L., var. *SPHAEROSTACHYUM* Masters. Chilworth, Surrey, 1918, BISHOP, vide sp.

2828. *AGROPYRUM PUNGENS* R. & S. (*TRITICUM PUNGENS* Pers.). St David's, Fifeshire, 1910. Plants from St David's were so named in 1911 by Professor Hackel, who added the following remark:—"I cannot agree with Ascherson and Graebner in considering this a hybrid of *repens* × *junceum*. It is near to but not the same as *A. littorale* Rchb."—FRASER. I quite agree *A. pungens* is quite a good species—it hybridises with *repens* (× *A. Oliveri* Druce) and probably with *junceum*. DRUCE.

2830. *A. REPENS* Beauv., var. *VAILLANTIANUM* Schrank. Burgham, W. Sussex, 1918, DRUCE.

†2851. *HORDEUM JUBATUM* L. Guildford, Surrey, KENNEDY; Wellington College Station, Berks, DRUCE; Welbeck, Notts, GOULDING.

2851 (2). *H. VIOLACEUM* Boissier. Bradford, York, CRYER.

*2860. *JUNIPERUS NANA* Willd. (*SIBIRICA* Burgs.). Near Buck of Cabrach, N. Aberdeen, DRUCE.

2867. × *EQUISETUM LITORALE* Kuhl. Rocky river, Hilltown, Mourne Mountains, R. LL. PRAEGER in *Ir. Nat.* 141, 1717. Claimed to be the second record for the British Isles but the author has overlooked its record for Somerset. It has also been found in N. Lincoln and W. Kent. There is no reference in the publication to the misidentification of *Glyceria festuciformis* from Co. Down on the occurrence of which and the so-called *Carex rhynchophysa* from Armagh [*C. inflata* var.] some ingenious theories of plant distribution were made.

2871. *E. PALUSTRE* L., var. *POLYSTACHUM* Vill. A form, under this, near Woking, Surrey, Lady DAVY and DRUCE.

2882. *ASPLENIUM VIRIDE* Huds. Cabrach, N. Aberdeen, Mrs WEDGWOOD.

2885. *A. ADIANTUM-NIGRUM* L. Cadny Church and in a place where it did not occur the previous year, N. Lincoln, WOODRUFFE-PEACOCK.

2889. *ATHYRIUM FILIX-FOEMINA* Roth, var. *INCISUM* Wats. Stow Bardolph, W. Norfolk, LITTLE.

2898. *DRYOPTERIS SPINULOSA* Kuntze. A form approaching *uliginosa*, East Sheen, Surrey, W. Kew; Scoulton, W. Norfolk, 1918, DRUCE.

2899. *D. ARISTATA* Druce. A form with the pinnæ much less cut than usual, Scoulton, W. Norfolk; Arisaig, Westernness, 1918, DRUCE.

2902. *D. MONTANA* Kuntze. In very many localities in S. Glamorgan and abundant on millstone grit on Snear Moor, WEBB, in *lit.*

2908. *PHEGOPTERIS POLYPODIODES* Fée. The Glen, Peebles, DRUCE.

†2923. *AZOLLA FILICULOIDES* Lam. Birtley, Durham, with *Scirpus maritimus* in an inland station, HESLOP-HARRISON.

*2927. *LYCOPodium COMPLANATUM* L. Lochnagar, S. Aberdeen, 1918, DRUCE.

*2931. *L. SELAGO* L. On limestone rock, Prescelly Mountain, Pembroke, ARNETT.

*2933. *NITELLA TRANSLUCENS* Ag. Lough Mullagher, W. Donegal, BULLOCK-WEBSTER in *Ir. Nat.* 7, 1918.

*2942. *TOLYPELLA GLOMERATA* Leonh. It appeared in a pond near Cadney, N. Lincs, in 1918 (not there in 1917), WOODRUFFE-PEACOCK.

*2943. *T. PROLIFERA* Leonh. Between Creech St Michael and Durston, S. Somerset, MARSHALL.

2944. *T. INTRICATA* Leonh. Near Bristol, N. Somerset, Mrs SANDWITH. Twinstead, N. Essex, doubtless brought by water-fowl.

Although I know this pond well, which is on the estate of a friend of mine, I never saw *Tolypella* there till this spring and I have yearly examined it for aquatics, DRUCE.

2949. *CHARA VULGARIS* L., var. *PAPILLATA* Wallr. Llyn Coron, Anglesey, DRUCE.

2951. *C. HISPIDA* L., appr. var. *HORRIDA* Br. & Nordst. Goldend. Freshwater, Isle of Wight, 1867, R. TUCKER, in *Hb. Stratton*.

2955. *C. ASPERA* Willd. Lough Mullaghderg, W. Donegal. BULLOCK-WEBSTER in *Ir. Nat.* 1918. Var. *SUBINERMIS* Kuetz. Loch Leven, Fife, STRATTON.

2956. *C. FRAGILIS* Desv. Lough Mullaghderg, W. Donegal, BULLOCK-WEBSTER, *l.c.*

THE DATES OF PUBLICATION OF CURTIS'S "FLORA LONDINENSIS."

This important publication was issued in numbers each containing six plates and the dates of a great number of them were fixed approximately by W. A. Clarke (*Journ Bot.* 112, 1895) and B. Daydon Jackson and R. A. Pryor (*l.c.* 309, 1881). The numbers were issued at various dates, twelve of them forming a fasciculus. In all six of these fasciculi were published and they are usually to be found bound up in two volumes. My own copy is bound in the six fasciculi. Unfortunately too full directions were given by the publishers to re-assort the plates, a general index for each fasciculus being supplied. Clarke suggests that fasc. i. was completed by 1777, fasc. ii. 1777-9, fasc. iii. after October 1780, fasc. iv. 1781-3, fasc. v. from 1783-8, fasc. vi. 1791-8. Under *Glyceria procumbens* (*Rep.* 433, 1916) I lamented the fact that I had been unable to find a copy of the work bound up in the numbers as they were issued. This year, while engaged in searching for an old Hortus Siccus in Merton College Library at Oxford, I came upon ten unbound numbers of the sixth

fasciculus in their original paper covers, but the covers bear no date. The plates were issued in this order—No. lxi. *Poa retroflexa*, *Chenopodium murale*, *Chaerophyllum temulum*, *Sisymbrium Nasturtium*, *Salix monandra*, *Datura Stramonium*. No. lxii. *Thlaspi arvense*, *Carduus palustris*, *Stellaria uliginosa*, *Caucalis infesta*, *Salix triandra*. No. lxiii. *Hydrocotyle*, *Galium verum*, *Chrysanthemum segetum*, *Caucalis Anthriscus*, *Achillea Millefolium*, *Carduus arvensis*. No. lxiv. *Geranium parviflorum*, *Carex ventricosa*, *Urtica dioica*, *U. urens*, *Lathyrus sylvestris*, *Ornithopus perpusillus*. The last four plates are dated January 1, 1791, so that all the plants enumerated above were published before that date. No. lxv. *Aira caryophyllea*, *Trifolium arvense*, *Geranium dissectum*. March 1791 *Melissa*, *Nepeta*, *Anemome apennina*, *Primula acaulis*. No. lxvi. *Iberis nudicaulis*, *Festuca elatior*. December 1, 1791. *F. pratensis*, *F. loliacea*. December 1, 1791. *Leontodon hirtus*, *Ranunculus Flammula*. No. lxvii. *Scilla autumnalis*, *Hieracium umbellatum*, *Carduus polyacanthus*, *C. tenuiflorus*, *Valeriana officinalis*, *Primula officinalis*. This is the last number quoted by Sibthorp (*Fl. Ozon.* 1794) No. lxviii. *Melittis*, *Glaucium corniculatum*, *Orchis fusca*, *Veronica triphyllos*, *Saxifraga oppositifolia*, *Ophrys fucifera* (1794?). lxiv. *Cerastium pumilum*, *Ranunculus arvensis*, *Trifolium ochroleucum*, *Centaurea Cyanus*, *Antirrhinum Peloria* (1894?). *Helleborus viridis*. No. lxx. *Melica nutans*, *Salvia Verbenaca*, *Bromus diandrus*, *Trifolium scabrum*, *Aceras anthropophora*, *Galeopsis versicolor*. The last two numbers lxxi. and lxxii. are absent. The plants included in them are *Agrostis setacaea*, *Cerastium tetrandrum*, *Chenopodium rubrum*, *Cistus guttatus*, *Fumaria capreolata*, *Lathyrus Nissolia*, *Lobelia urens* (1798?), *Orchis bifolia*, *Poa procumbens* (1795?), *Primula farinosa*, *Pulmonaria maritima* and *Saxifraga Hirculus*. We therefore know that nine of these numbers containing 54 species were issued before the end of 1794. Four appeared in 1791, one, No. lxvi., in 1792, No. lxvii. probably in 1792 or 1793, Nos. lxviii., lxix., and probably lxx. appeared in or before 1794, No. lxxi., containing *Poa procumbens*, probably in 1795, and a long interval elapsed before No. lxxii., containing *Lobelia urens*, was issued in or about 1798. With regard to the priority of Curtis's name *procumbens* for the *Poa* a sidelight is thrown on it in Knapp's *British Grasses*, published in 1804 while the matter was fresh in recollection.

“ This plant was first figured by Curtis under the name *procumbens* an epithet infinitely more expressive than that of Withering’s.” Having remained up to the sixth edition as *rupestris* in Withering’s *Nat Arr.* the name was changed in the seventh edition of 1830 to *procumbens*, and the credit of discovering it is given to Curtis.

CLAVIS TO DEVONIAN SEDGES.

W. P. HIERN, F.R.S.

The following artificial key has been constructed from Mr F. C. Crawford’s *Anatomy of the British Carices*. The distinguishing characters do not refer to the fruit or floral structure and in order to avoid the use of high microscopic powers the descriptions of the stomata are not given. The magnification necessary for the key is not more than forty diameters.

- | | | |
|--|---|----|
| 1. Stem roundly pentagonal | <i>C. pulicaris</i> L. | |
| Stem three-sided or round | | 2 |
| 2. Stem triangular, that is, with three flat faces..... | | 3 |
| Stem trigonous, that is, with three convex faces, or roundly trigonous | | 15 |
| Stem triquetrous, that is, with three concave faces..... | | 35 |
| Stem round or roundish..... | | 39 |
| Stem with one face flat, another convex, the third concave... <i>C. riparia</i> Curt. | | |
| 3. Angles of the stem-faces sharp..... | | 4 |
| Angles of the stem faces blunt..... | | 5 |
| Angles of the stem-faces, one sharp and two round..... | | 6 |
| 4. Epidermis of the stem smooth..... | | 7 |
| Epidermis of the stem rough..... | <i>C. vesicaria</i> L. | |
| 5. Stem smooth | | 8 |
| Stem rough | | 9 |
| 6. Stem rough | <i>C. diandra</i> Schrank. | |
| Stem smooth..... | <i>C. paniculata</i> L., var. <i>simplicior</i> Anders. | |
| 7. Cells of the lower epidermis of the leaves small..... | <i>C. disticha</i> Huds. | |
| Cells of the lower epidermis of the leaves large..... | <i>C. arenaria</i> L. | |
| 8. Transverse section of leaves gradually tapering to margins... <i>C. stricta</i> Good. | | |
| Transverse section of the leaves narrowing from the middle of each half to the margins | <i>C. rostrata</i> Stokes, var. <i>latifolia</i> Aschers. | |
| Transverse section of the leaves equally thick throughout except the small necks..... | <i>C. pilulifera</i> L. | |

9. Cells of the epidermis of the stem longitudinal..... 10
 Cells of the epidermis of the stem round..... 11
10. Midrib of the leaves prominent or evident..... 12
 Midrib of the leaves small, hardly existing.....*C. divisa* Huds.
11. Margins of the leaves sharp 13
 Margins of the leaves rounded*C. pendula* Huds.
12. Upper epidermis of the leaves without many papillæ.....*C. muricata* L.
 Upper epidermis of the leaves with many papillæ.....*C. Leersii* F. Schultz.
13. Angles of the stems all three blunt and rounded..... 14
 Two angles of the stem very rounded, the third sharp.....
*C. rostrata* Stokes, var. *latifolia* Aschers.
14. Section of the leaves gradually tapering to the tips.....*C. stricta* Good.
 Section of the leaves equally thick, the tips sharp...*C. Goodenowii* J. Gay.
15. Stem smooth 16
 Stem rough..... 26
16. Transverse section of the stem rather undulating 17
 Transverse section of the stem not undulating 18
17. Leaf-section with tapering tips*C. paradoxa* Willd.
 Leaf-section with round, blunt tips.....*C. depauperata* Good.
18. The small vascular bundles in the stem round..... 19
 The small vascular bundles in the stem oval..... 20
 Some of the small vascular bundles in the stem oval and others round 24
19. Leaf-sections tapering to the margin.....*C. paniculata* L.
 Leaf-sections equally thick throughout.....*C. divisa* Good.
20. Leaves more or less revolute..... 21
 Leaves flat on each half.....*C. punctata* Gaud.
21. Leaves thin..... 22
 Leaves thickening from the necks to the centre and decreasing to the
 margins 23
22. Epidermis of the stem with longitudinal cells.....*C. axillaris* Good.
 Epidermis of the stem with round cells..... *C. sylvatica* Huds.
23. Stem very bumpy.....*C. flava* L., var. *lepidocarpa* Tausch.
 Stem smooth, not bumpy.....*C. flava* L., sub-sp. *C. Oederi* Retz.
24. Margins of the leaves pointed ; midrib sharp*C. leporina* L.
 Margins of the leaves rounded ; midrib rounded 25
25. Midrib of the leaves prominent.....*C. pilulifera* L.
 Midrib of the leaves small.....*C. caryophyllea* Latour.
26. The small vascular bundles in the stem round... 27
 The small vascular bundles in the stem oval 28
 Some of the small vascular bundles in the stem round, others oval..... 34
27. Margins of the leaves sharp..... *C. montana* L.
 Margins of the leaves rounded.....*C. helodes* Link.
28. Tannin-cells in the stem, if present, empty..... 29
 Tannin-cells in the stem and leaves with tannin 33
29. Margins of the leaves sharp 30
 Margins of the leaves rounded or square 31

30. Cells of the upper epidermis of the leaves large.....*C. binervis* Sm.
Cells of the upper epidermis of the leaves small.....
.....*C. rostrata* Stokes and *C. vesicaria* L.
31. Midrib of the leaves prominent; leaf-margins rounded..... 32
Midrib of the leaves small; leaf-margins square.....*C. distans* L.
32. Epidermis of the stem with round cells.....*C. Hornschuchiana* Hoppe.
Epidermis of the stem with longitudinal cells.....*C. hirta* L.
33. Leaves of equal thickness; no necks.....*C. glauca* Murr.
Leaves at the central bundle in each half swelling tremendously.....
.....*C. strigosa* Huds.
34. Margins of leaves tapering...*C. diandra* Schrank, var. *Ehrhartiana* Hoppe.
Margins of the leaves round.....*C. caryophyllea* Latour.
35. Small vascular bundles in the stem round 36
Small vascular bundles in the stem oval..... 42
36. Hinge-cells, that is, water-cells in the centre of the leaves, only at or
near the midrib..... 37
Hinge-cells extending a little beyond the midrib.....*C. canescens* L.
37. Leaves turning first inwards and then outwards; hinge-cells pro-
minent.....*C. vulpina* L.
Leaves pointing downwards at the margin; hinge-cells not in relief... 38
38. Upper epidermis of the leaves without many papillæ.....*C. muricata* L.
Upper epidermis of the leaves with many papillæ.....*C. Leersii* F. Schultz.
39. Stem smooth.....*C. pallescens* L.
Stem rough or irregular on the faces..... 40
40. Midrib small.....*C. acuta* L.
Midrib very large..... 41
41. Transfusion-cells in the stem and leaves very large...*C. Pseudo-cyperus* L.
Transfusion cells in the leaves not large but clearly visible.....
.....*C. acutiformis* Ehrh.
42. Leaves rounded or knobby on the margin..... 43
Leaves pointed on the margin..... 44
43. The small vascular bundles in the stem round.....*C. remota* L.
The small vascular bundles in the stem oval.....*C. panicea* L.
44. Margins of the leaves pointed but bevelled from the lower to the upper
face.....*C. stellulata* Good.
Margins of the leaves not bevelled 45
45. Leaves not crescent-shaped in section; midrib present.....
.....*C. Bœnninghausenia* Weihe.
Leaves crescent-shaped in section; midrib wanting..... 46
46. The small vascular bundles in the stem oval; rhizome present...*C. filiformis* L.
The small vascular bundles in the stem round; rhizome absent.....
.....*C. extensa* Good.

The names now used for *C. rostrata* Stokes, *C. stricta* Good.,
C. glauca Murr. and *C. filiformis* L. are *C. inflata* Huds., *C. elata*
All., *C. diversicolor* Crantz and *C. lasiocarpa* Ehrh.

ROBERT DICK, OF THURSO.

This working baker-botanist who discovered the Holy-Grass and *Deyeuxia neglecta* at Thurso was also an indefatigable worker at the geology of Caithness. His life is well and readably described in Smiles' volume. This year his name has been commemorated by having a memorial tablet affixed to the house in which he was born in 1811 at Tullibody near Alloa. His father was an Inland Revenue Officer. Dick as a boy was an apt scholar and at Menstrie, under the shadow of the Ochills, he began his nature study and collected stones and minerals. This did not appeal to his home authorities. He was apprenticed to a baker at Tullibody, and while delivering bread in the neighbourhood added to his botanical collections. He then went to Leith, Glasgow and Greenock, and in 1830 joined his father at Thurso. He was the friend of Hugh Miller and Sir Roderick Murchison, and assiduously collected fossils for them. The commemorative tablet was unveiled on September 21, 1918 by Dr B. N. Peach, whose father was an intimate friend of Dick. It bears this inscription "In this house was born, January 1811, Robert Dick, baker, Thurso, Botanist and Geologist, whose life, spent in the pursuit of Science amid many difficulties, is an inspiration and example." Dr Peach in his address described the salient topographical features of Caithness which have recently been so excellently described by Dr Crampton and also remarked upon its attractiveness as a field for the pursuit of geology and botany. Touching upon Dick's discoveries he pointed out and emphasised the notable service he has rendered to the world of Science by his rare collection of the remains of Old Red Sandstone fossil fishes which were embedded in the rocky shores of Dunnet Bay. Mr D. B. Morris made the principal speech, sketching Dick's life in a masterly way and touching in pathetic terms on his closing days of illness, pain, penury and solitude. It may be added that it was mainly through the exertions of Mr Morris, who is the Town Clerk and President of the Stirling Archaeological Society, that the scheme of commemorating Dick was brought to a successful completion. The gathering was presided over by the Rev. A. W. Scudamore Forbes, the Parish Minister of Alloa and Tullibody, to whose kindness we are indebted for the details of the meeting.

MISCELLANEOUS NOTES.

BOISSIER'S HERBARIUM. A la suite du décès de Madame C. Barbey-Boissier, ses six enfants ont l'honneur d'informer MM. les correspondants de L'Herbier Boissier qu'ils remettent les collections botaniques et la bibliothèque de cet Herbier en donation à l'Université de Genève. Ils ont pris leurs dispositions pour que tous ces documents demeurent accessibles aux savants suisses et étrangers, M. Gustave Beauverd, Conservateur de l'Herbier Boissier, étant attaché à cet effet dès le premier Avril 1918 au Laboratoire de Botanique de l'Université de Genève. Chambésy, Mars 1918.

THE NATIONAL TRUST FOR PLACES OF HISTORICAL INTEREST OR NATURAL BEAUTY, Report 1917-18. During the period covered by the Report the Trust has acquired by gift Kinver Edge in the heart of the Black Country which was presented by Mr Oliver Lee and is to be known as the Grosvenor Lee Memorial, Coombe Hill; 105 acres in the Buckinghamshire Chilterns presented by Lord and Lady Lee; Irby Hill adjoining Thurstaston Heath, Cheshire, given by Mr A. V. Paton; Keld Chapel, Cumberland, presented by Sir S. H. Scott; Howe's Ditch, Wicken Fen, Cambridge (purchased); Dryburgh Abbey, Roxburgh, the burial place of Sir Walter Scott, presented by Lord Glenconner; and Sir Thomas Acland has placed under the Trust between seven and eight thousand acres on Exmoor. It may be added that £1000 is still needed to complete the purchase of Lyveden New Building in Northamptonshire.

JOHN RALFS' HERBARIUM. It may be worth while putting on record that the collection of plants, about 1500 in number, made by Dr Ralfs have come into the possession of our member, Mr H. H. Goddard. He just saved the papers from destruction as they were being used to wrap up groceries.

NATIONAL MUSEUM OF WALES, Eleventh Annual Report, 1918. We learn with regret that Lieut. C. M. Green, Assistant Keeper of the Botanical Department, was killed in action in November. Our member, Miss Vachell, F.L.S., has generally supervised the Department which has been enriched by the generous gift of Herbarium

specimens from Mr Charles Bailey. The Library now contains 15,000 volumes, among recent acquisitions being the second edition of Gerard's *Herbal*. We are delighted to find that a permanent memorial to our late member, Dr Vachell, has been erected in the shape of a bronze mural tablet in the New Museum Buildings which was designed by Sir W. Goscombe John, R.A.

Hearty congratulations are offered to our member, Mr CARLETON REA, on being elected honorary member of The British Mycological Society, an honour shared with only two others—Saccardo and Bordier.

BOOKS IN PREPARATION.

We regret to hear that Arnold Lees' YORKSHIRE FLORA and the FLORA OF SALOP are for the time held up owing to the lack of financial support. The writer's FLORA OF BUCKINGHAMSHIRE and NORTHAMPTONSHIRE and the second edition of the FLORA OF OXFORDSHIRE cannot at present be printed, so that additions are still valued.

In the press and shortly to appear THE ADVENTITIOUS FLORA OF TWEEDSIDE by Miss I. M. HAYWARD and G. C. DRUCE. This will contain the descriptions of about 350 wool-aliens from that area, and a list of all the adventitious species of that area. It will be illustrated with about 80 plates. Price, 7/6.

Revision of Pritzel's ICONUM BOTANICARUM INDEX LOCUPLETTISIMUS. The Royal Horticultural Society having decided to publish a new edition of this valuable work the compilation has been commenced at Kew under the honorary editorship of Dr O. Stapf, F.R.S., Keeper of the Library and Herbarium. It is estimated (according to the *Gard. Chron.* January 25, 1919, p. 42) that the new work will include about 250,000 references and cost at least £3500, possibly £4000. The original *Index* was compiled by Dr George Augustus Pritzel chiefly during his occupation of the post of Curator of the Archives and Library of the Royal Academy of Sciences at Berlin, and contains "upwards of eighty-six-thousand representations of Phanerogamic plants and Ferns." In the compilation over 370

works were consulted, many consisting of several to numerous volumes, and their figures quoted throughout. The title page is dated 1855, and the Preface December 15, 1854. The references fill 1184 columns, each column being separately numbered and two appear on a page. The arrangement is alphabetical for both the genera and the species under each genus. Synonyms are not given, and no revision either of identification or of nomenclature was attempted, but the name used by the author responsible for the plate or figure is alone quoted. In 1866 a supplement of 291 columns, with 6 columns of further additions, was published, and included references down to the year 1865. A type-written copy of references to important plates published between 1866 and 1894 is in the Kew Library, and has served as a supplement to Pritzel's work for that period. Since 1894 down to the present time additions have been made, in ink, to this copy. If it is found feasible to include cross-references to synonyms and to check and, if necessary, revise the nomenclature of all the quotations the value of the work would be greatly increased, but the labour would be enormous and the expense and size of the new volumes would be considerably added to.

W. B. TURRILL.

CORRECTIONS, &c.

Report 1917—

- p. 6. H. R. and A. H. Evans should be H. A. Evans.
- p. 36, &c. Tower-le-Moor should be Tower o' the Moor.
- p. 48, line 11. Insert sub-var. *brevidentatum* Beauv., Scot. 1.
- p. 76, line 11. Transfer "which gives its name," &c., from Flax to Hemp, five lines lower down.
- p. 83. Dr Schroeter wishes it to be understood that his pupil, J. Karl Amberg, is the real author of *Der Pilatus*.
- p. 237, line 17. For "*curta*" read "*nemorosa*."
- p. 238, line 11. For "North Lancashire" read "Cumberland."
- p. 241, line 31. For "assimilates" read "simulates."

Report 1915—

- p. 186, line 22. COCHLEARIA ANGLICA × OFFICINALIS = C. BRIGGSII Druce in *Rep B.E.C.* 187, 1915 is antedated by × C. HOLLANDICA T. Th. Henrard in *Fedde Rep.* n. 331-6, 221, December 1916.

PERSONAL NOTES.

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

F. J. HANBURY, Esq., Brockhurst, East Grinstead, is anxious to have seeds 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*.

REV. T. STEPHENSON, Epworth, Aberystwith, wishes to have living specimens of *Liparis*, *Spiranthes* species, *Corallorrhiza*, *Helleborine atroviridis*, and any hybrids.

Mr G. C. DRUCE, Yardley Lodge, Oxford, would like fresh specimens of the Marsh Orchids, stating their precise habitat, also fresh Orobanches.

Mr T. A. DYMES, F.L.S., Carthona, West Drayton, Middlesex, wants ripe capsules of *Cephalanthera*, *Herminium*, *Spiranthes*, *Neottia*, *Goodyera*, *Helleborine latifolia* and *Orchis mascula*, *Morio pyramidalis* and *ustulata*.



SUPPLEMENT TO REPORT OF BOTANICAL
SOCIETY AND EXCHANGE CLUB
FOR 1918,

BY

WILLIAM HARRISON PEARSALL.

THE BRITISH BATRACHIA.

In attempting a revision of these most interesting plants, I am concerned in the first place rather to make out clearly the different forms found growing in these islands than to fit them to names or descriptions of plants growing elsewhere. In other words, "we must get our Botany right first" before endeavouring to deal adequately with nomenclature. Any possible value, therefore, that this preliminary paper possesses, lies in the fact that it aims at a more complete and accurate knowledge of our British forms, and, in lesser degree, at clearing-up some initial confusion in regard to their names.

Collectors would do well to remember that these plants afford the best characters when there are 2 or 3 heads of mature fruit upon the stems and, usually, flowers still present. Notes upon the depth of the water, its rate of movement (if any), the nature of the substratum, and what other forms grow in the vicinity, are always of assistance in determination.

I am greatly indebted to many botanists who have sent specimens for examination, and in a special degree to Messrs Jas. Groves, G. C. Druce, W. P. Hiern, and C. Bailey for their generous help in this and other directions.

I have added a clavis for assistance in running a species down, but as it is based upon purely artificial distinctions it must be used

with much discretion. Its hard and fast divisions do not occur in Nature and are merely relative, and not absolute, in their accuracy.

In determination too much reliance should not be placed upon any single character, but the full description should be consulted and the balance of evidence afforded by all the characters carefully ascertained before arriving at a decision :—

SHORT KEY TO THE VARIOUS FORMS.

- | | | |
|-----|---|---|
| 1. | Floating leaves absent..... | 2 |
| | Floating leaves present..... | 14 |
| | Submerged leaves absent..... | 12 |
| 2. | Peduncles normally much exceeding the leaves..... | 3 |
| | Peduncles normally shorter than or equalling leaves..... | 8 |
| 3. | Leaf-segments long, collapsing or parallel..... | 4 |
| | Leaf-segments short, diverging..... | 6 |
| 4. | Flowers large..... | 5 |
| | Flowers small..... | var. <i>Bachii</i> . |
| 5. | Plant robust, peduncles stout, leaf-segments numerous and long..... | |
|  | ..... | <i>R. pseudo-fluitans</i> . |
| | Plant smaller, peduncles slender, leaf-segments fewer and shorter..... | |
|  | ..... | var. <i>minor</i> . |
| 6. | Leaves very small (a sixpence will cover one), sub-circular, segments radiating like wheel-spokes..... | <i>R. circinatus</i> . |
| | Leaves larger..... | 7 |
| 7. | Leaves sub-circular or densely tufted. Flowers large, carpels hairy..... | <i>R. sphaerospermus</i> . |
| | Leaves often sub-circular, variable. Flowers small, carpels glabrous —plant usually maritime..... | <i>R. Baudotii</i> , f. <i>marinus</i> . |
| 8. | Flowers large..... | 9 |
| | Flowers small..... | 11 |
| 9. | Peduncles short..... | <i>R. heterophyllus</i> , var. <i>submersus</i> . |
| | Peduncles long..... | 10 |
| 10. | Peduncles stout, leaf-segments long, stout, sub-parallel. Receptacle nearly glabrous..... | <i>R. fluitans</i> . |
| | Peduncles slender, leaf segments shorter, more slender, not parallel. Receptacle hairy..... | <i>R. pseudo-fluitans</i> , var. <i>minor</i> . |
| 11. | Leaf-segments weak, collapsing. Carpels usually glabrous. Receptacle conical..... | var. <i>Drouetii</i> . |
| | Leaf-segments short, rigid, diverging. Carpels hairy. Receptacle usually globular..... | <i>R. trichophyllus</i> . |
| 12. | Receptacle hairy. Leaves as in <i>R. tripartitus</i> . Stipules conspicuous. Carpels with prominent beak..... | <i>R. lutarius</i> . |
| | Receptacle glabrous..... | 13 |
| 13. | Petals scarcely exceeding calyx. Leaf-segments broadest at base..... | <i>R. hederaceus</i> . |

- Petals about twice calyx. Leaf-segments narrowest at base...*R. Lenormandi*.
14. Peduncles long, normally much exceeding the floating leaves..... 15
 Peduncles shorter than, or scarcely exceeding the floating leaves..... 19
15. Flowers large—often very large..... 16
 Flowers much smaller—often small..... 18
16. Peduncles stout..... 17
 Peduncles slender.....*f. elongatus*.
17. Submerged leaves with numerous very long segments. Floating leaves
 few, often truncate.....*R. pseudo-fluitans*.
 Submerged leaves with much shorter and fewer segments. Floating
 leaves many, nearly circular or reniform.....*R. peltatus*.
 Submerged leaves as in *peltatus*, floating leaves semicircular—truncate
*f. truncatus*.
18. Plant robust, peduncles stout, much arched in fruit, often with a
 double curve. Stamens short.....*R. Baudotii*.
 Plant weaker, peduncles slender, straighter. Stamens longer....*f. confusus*.
19. Flowers large..... 20
 Flowers small..... 23
20. Submerged leaves with short, rigid, divergent segments (as in *R.*
trichophyllus)—sub-circular in outline and regularly disposed.....
*var. radians*.
 Submerged leaves with longer segments (*not* as in *R. trichophyllus*)—
 less regular both in outline and arrangement..... 21
21. Floating leaves nearly circular—carpels hairy..... 22
 Floating leaves reniform, tripartite, with segments having nearly
 straight margins. Carpels normally nearly glabrous.....*var. triphyllus*.
22. Segments of floating leaves much rounded, petioles long and slender.
 Submerged leaves with more or less rigid, divergent segments.
 Flowers few, and large. Peduncles long.....*var. floribundus*.
 Segments of floating leaves normally wedge-shaped. Peduncles short.
 Submerged leaf segments usually weak.....*R. heterophyllus*.
23. Flowers small. Floating leaves very variable and irregularly divided
*f. Godronii*.
 Flowers very small, or minute and inconspicuous. Floating leaves
 regularly tripartite..... 24
24. Flowers minute, petals about 3 mm., sub-acute. Submerged leaves
 few and distant, with extremely fine capillary segments...*R. tripartitus*.
 Flowers small, petals up to 6 mm. rounded at apex. Submerged
 leaves very rarely present (segments flattened). Carpels with
 prominent terminal beak.....*R. lutarius*.

ALTERNATIVE KEY.

FLOATING LEAVES ABSENT.

- I. Peduncles normally much exceeding the leaves.
 A. Leaf segments long, collapsing.

1. Flowers very large.
 - (a.) Plant robust. Leaves with very numerous stout segments forming long coarse tapering tassels; peduncles stout *R. pseudo-fluitans*.
 2. Flowers large or of medium size.
 - (b.) Plant more slender. Leaves with fewer, shorter, and more slender segments. Peduncles slender. Carpels usually hairy var. *minor*.
 3. Flowers small.
 - (c.) Leaf segments very few, stout, sub-parallel. Receptacle and carpels nearly glabrous *R. fluitans*, var. *Buchii*.
- B. Leaf segments short, rigid, diverging.
- (d.) Leaves usually small (may be covered by a sixpence), short stiff segments radiating in one plane like the spokes of a wheel. Peduncles often 5 or 6 times leaves. Carpels glabrous *R. circinatus*.
 - (e.) Leaves larger, short, rather rigid segments diverging in every direction and forming sub-spheres—or slightly diverging and forming short dense truncated tufts. Peduncles stout. Flowers large. Carpels hairy *R. sphaerospermus*.
 - (f.) Leaves with short diverging segments. Flowers small. Carpels glabrous *R. Baudotii*, f. *marinus*.
- II. Peduncles normally shorter than, or equalling, the leaves. (Flowers arranged below in order of decreasing average size).
- A. Flowers large.
- (g.) Leaf segments long, stout, sub-parallel, relatively few in number. Stamens short. Receptacle nearly glabrous... *R. fluitans*.
 - (h.) Leaf segments not nearly so long, slender, collapsing. Long slender peduncles equalling or slightly exceeding the leaves. Receptacle hairy *R. pseudo-fluitans*, var. *minor*.
 - (i.) Leaf segments robust, shorter, usually sub-collapsing into a coarse brush or tuft. Flowers smaller. Peduncles short *R. heterophyllus*, var. *submersus*.
- B. Flowers smaller.
- (j.) Leaf segments weak, collapsing. Flowers rather larger than in (k.). Carpels normally glabrous or nearly so. Receptacle conical *R. trichophyllus*, var. *Drouetii*.
 - (k.) Leaf segments rigid, diverging. Carpels hairy. Receptacle usually globular, but may be sub-conical or even conical *R. trichophyllus*.

SUBMERGED LEAVES ABSENT (OR RARE).

Aerial leaves reniform. Carpels glabrous.

- I. Receptacle glabrous—no submerged leaves.

- (a.) Leaves with shallow angular or rounded segments broadest at the base ; flowers very small, petals scarcely exceeding calyx.....*R. hederaceus*.
 (b.) Leaves with deeper rounded segments narrowest at the base ; flowers much larger (about $\frac{1}{2}$ in. diameter) ; petals twice calyx.....*R. Lenormandi*.

II. Receptacle hairy—submerged leaves rare, or absent.

- (c.) Leaves as in robust *R. tripartitus*. Submerged leaves with distinctly flattened segments, divergent. Flowers minute. Stipules conspicuous. Carpels with a prominent beak. (South of England).....*R. lutarius*.

BOTH FLOATING LEAVES AND SUBMERGED LEAVES PRESENT.

I. Peduncles long, tapering, much exceeding the floating leaves.

1. Flowers large, petals contiguous.

- (a.) Floating leaves large, sub-peltate, reniform or nearly circular, divided nearly to the middle into much rounded segments.....*R. peltatus*.
 (b.) Floating leaves approximating to semi-circular, sub-truncate at the base*f. truncatus*.
 Floating leaves extremely variable. A form having very long slender peduncles exceeding the attenuate petioles*f. elongatus*.
 (c.) Floating leaves few, very large, shaped as in (a.) or (b.). Flowers very large, on very long peduncles. Submerged leaves with very long segments—a running water form.....*R. pseudo-fluitans*.

2. Flowers much smaller.

- (d.) Floating leaves much more deeply divided than in (a.), into 3 nearly sessile or even stalked segments : leaves often transitional or absent. Peduncles stout, much arched, often with a double curve. Carpels nearly or quite glabrous. Stamens not usually exceeding the mature carpels.....*R. Baudotii*.
 (e.) Floating leaves usually smaller and thinner in texture than in (d.). Peduncles much more slender and normally straighter. Stamens exceeding head of carpels in most cases.....*f. confusus*.

II. Peduncles shorter than, or scarcely exceeding, the floating leaves.

- (f.) Floating leaves sub-circular and sub-peltate, or reniform, with long slender petioles and much rounded segments. Submerged leaves with rigid divergent segments. Flowers large. Receptacle spherical...*R. peltatus*, var. *floribundus*.
 (g.) Floating leaves normally nearly circular, but very variable, deeply divided into wedge-shaped segments. Submerged leaves weak and sub-collapsing. Peduncles short, with sharp curve at base.....*R. heterophyllus*.

- (h.) Floating leaves sub-circular, tripartite, with radiant sinuses. Submerged leaves sub-circular in outline and regular in disposition, with short rigid divergent segments as in *trichophyllus*. Carpels hairy... var. *radians*.
- (i.) Floating leaves usually reniform, tripartite, with sessile cuneate segments having nearly straight margins. Submerged leaves not like those of *trichophyllus*. Carpels normally nearly glabrous..... var. *triphyllus*.
- (j.) Resembles (h.) when well developed, but commonly has smaller, thinner, and glabrous floating leaves, less regularly divided, often nearly semi-circular or with stalked segments. Flowers smallf. *Godronii*.
- (k.) Leaves small, deeply trifid. Submerged leaves few, distant, with truly capillary segments. Flowers minute, petals about 3 mm., 3 veined, rather acute at the apex, very fugacious. (Cornwall and Co. Cork)...*R. tripartitus*.
- (l.) Leaves as in robust *tripartitus*. Submerged leaves rarely present, with distinctly flattened divergent segments. Flowers very small, petals up to 6 mm., rounded at apex. Carpels with prominent terminal beak*R. lutarius*.

1. *R. FLUITANS* Lamarck *Fl. France* iii., 184, 1778. Gr. et Godr. *Fl. Fr.* i., 25. Koch in Sturm *Deutschl. Fl.*, fasc. 67, t. xiv.

A large and robust plant of rapid streams. Stem very long (5-6 metres or more, at times), branched. Floating leaves rarely present, variable. Submerged leaves with long petioles, about twice trifurcate, with stout, very long (3 in. to 10 in.), linear forked sub-parallel segments. Stipules broadly lanceolate, half-adnate, with large rounded auricles. Flowers large, petals often 10 in number (sometimes two-seriate), many-veined, imbricate, persistent. Stamens numerous, very short, rarely long. Receptacle usually nearly or quite glabrous, occasionally somewhat hispid; globular or sub-ovoid. (In the flowering and earlier fruiting state the receptacle is slightly hispid—especially at the base. Subsequently, however, this hispidity is more or less lost, owing to the deciduous nature of the hairs, but rarely does the receptacle become really glabrous.) Fruiting peduncles stout, tapering, usually shorter than (often equalling or slightly exceeding) the leaves. Carpels glabrous or slightly hairy.

2. Var. *BACHII* (Wirtg.), a slender form having submerged leaves relatively short, sub-sessile or shortly stalked, with fewer and shorter segments occasionally obviously tapering at the apex. Flowers much

smaller, usually with 5 broadly-obovate petals. Fruiting peduncles longer than the leaves. Receptacle and carpels not quite glabrous.

3. Var. CAMBRICUS (Ar. Benn.) may, perhaps best come here. A small, extremely slender plant having the habit of *R. fluitans* but with shorter leaves often having very few segments and "flowers very small and rarely fertile." (Lyn Coron, Anglesey.)

4. *R. CIRCINATUS* Sibthorp *Fl. Oxon.* 175, 1794, excl. syn. L.
R. divaricatus Koch, non Schrank.

A plant of canals, ponds and slow streams. Easily recognised by its very characteristic submerged leaves, small (usually a sixpence will cover one), with short, stiff segments radiating in one plane like the spokes of a wheel; circular in outline, usually surrounding the stem. No floating leaves. Flowers rather large for the size of plant; petals many-veined (7 to 9), persistent, yellow at the base. Stamens many, exceeding carpels. Fruiting peduncles long (up to 5 or 6 times leaves), tapering. Receptacle sub-globular, hairy. Carpels glabrous or with a few hairs, ± compressed upward, with a long beak. Stipules narrow, adnate, not auricled.

f. ASPERGILLIFOLIUS (Hiern) may, perhaps, be best placed here as being "intermediate between *trichophyllus* and *circinatus*." It differs from the latter in having somewhat smaller flowers, shorter peduncles and laterally placed submerged leaves. The receptacle is ovate or almost elliptical, and the carpels glabrous or slightly hairy. (Rescobie, Forfar.)

5. *R. TRICHOPHYLLUS* Chaix in Villars *Hist. Pl. Dauph.* i., 335, 1786. *R. divaricatus* Schrank, non Koch.

A well-marked species but differing greatly in the size of its flowers and submerged leaves. Floating leaves very rarely present (tripartite with cuneiform segments often stalked and fan-like or lacinate and transitional). Stipules $\frac{1}{2}$ to $\frac{2}{3}$ adnate, large, rounded, auricled. Submerged leaves with more or less rigid and divergent segments, sub-circular in outline or bush-like, commonly short. Flowers small as a rule but not invariably so, with non-contiguous fugacious petals—up to twice as long as the sepals—white with yellow claw. Stamens few, often about 12 (9-15, Rouy) exceeding the car-

pels. Receptacle usually globular, often ovoid or sub-conical, rarely conical—sometimes varying much in the same plant—normally hairy. Fruiting peduncles short (2 to 5 cm.), thick, not exceeding the leaves at time of flowering, but may do so slightly in fruit; most curved near the base, the rest usually straight, not or only slightly tapering, often bifurcate at the apex. Carpels normally hairy, rarely glabrous.

6. Var. *RADIANS* (Revel). At the annual meeting of the British Association in September 1865, Mr Hiern gave notice of *R. radians* Revel as a British plant, gathered in June 1864 at Silverdale, W. Lancs. Revel first described the species in *Act. Soc. Linn. Bordeaux* xix., 120, fig. i., 1853, and later in *Renonc. de la Gironde* 8 et icone. A. Boreau cites the latter description (in full) in his *flore du Centre de la France* ed. 3, ii., 11, 1857. Among Mr W. P. Hiern's mss. is a letter from Boreau (6/7/1865) having reference to a British specimen of *R. radians* Revel, submitted to him for examination. Of this he says "the foliage is absolutely the same as that of a plant I possess so named by Revel himself." So far as my own examination of authentic continental specimens goes, it confirms the claim of Mr Hiern for *R. radians* Revel as a British plant. Babington (*Manual* ed. 9, 6) and Hooker (*Student's Flora* ed. 3, 6) consider the plant as a form of *R. trichophyllus* with floating leaves. Moss (*Journ. Bot.* lii., 117, 1914) follows Rouy and other Continental botanists in giving it varietal rank. At present I accept this view, with the reservation that further observation and comparison may warrant us in agreeing that the plant is worthy of the specific rank assigned to it by Revel. In this connection the question arises, "Do the young carpels of var. *radians* essentially differ in shape from those of *R. trichophyllus*?" So far as my own experience goes the mature carpels of *R. trichophyllus* are more or less flattened at the top and have a very short and stumpy lateral apiculus. Those of var. *radians* are more usually very shortly narrowed at the apex and have a somewhat longer and more centrally situated beak. The young fruits of var. *radians*, however, are commonly tapering above into a "bottle-neck," which largely disappears later but often leaves the convex shoulders well-marked. I shall be pleased to receive further evidence on this point.

A large plant having the facies of robust *R. trichophyllus*. All leaves are usually \pm circular in outline, symmetrical in segment and regular in arrangement. Floating leaves rather thick, coriaceous,

often hairy beneath and on the petioles; normally sub-circular, deeply divided into cuneate segments separated by radiant straight-sided sinuses, often extremely narrow, rarely very wide, segments sometimes lacinate and petioled, even transitional. Basal sinus large and deep, or narrow as the others. Submerged leaves dark-coloured (as a rule), sub-circular in outline, regularly disposed, with short, \pm rigid, diverging segments like those of *R. trichophyllus*; smaller than those of var. *triphyllus*, more compact, and much more uniform in shape and arrangement. Flowers medium-sized, much larger than those of *trichophyllus* and approximating to those of *heterophyllus*. Fruiting peduncles very short (often about 2 cm., with lower longer), much shorter than the floating leaves they may subtend, rigid, strongly recurved below, nearly straight above, often at right angles to the stem. Receptacle spherical or ovoid, densely hairy with long hairs. Carpels hairy. Differs from Hiern's 12, *triphyllus* in habit, floating and submerged leaves, and hairy carpels. Typical specimens are those from (1) Silverdale, W. Lancs, 15/6/65, W. P. Hiern, (2) Thame, Oxon, May 1915 [Ref. O. 815], G. C. Druce, (3) Nailsea Moor, N. Somerset, 19/6/1900, and (4) Marsh ditches, Yatton, N. Somerset, 13/6/1900, J. W. White.

7. f. *Godronii* (Hiern) seems nearest to *R. radians*, and in some cases difficult to separate from it except by the weaker submerged leaves, which are always less regular (both in outline and disposition) than in that species. Floating leaves when well developed nearly circular but less regularly divided and usually smaller than those of *radians*. More often, however, the floating leaves are somewhat semi-circular in outline and truncate at the base, or with stalked and variously fissile fan-like segments. The submerged leaves may have either weak and sub-collapsing, or rigid and divergent segments. In the latter case the leaves are always more irregular in form and arrangement than in var. *radians*. Peduncles shorter than, or about equalling, the leaves. Receptacle more or less rounded (occasionally rather long), and hairy. Carpels hairy as a rule, or nearly glabrous. Flowers commonly small, with petals up to 6 mm. (*R. Godronii* Grenier in F. Schultz *Arch.* 172, 1850, name only.)

8. Var. *DROUETII* (F. Schultz). Differs from the preceding in its more slender habit, weak and collapsing submerged leaves, slightly larger flowers and less hairy carpels. Little reliance can be placed

on colour in separating these plants, although *Drouetii* growing in clear water is usually lighter green than *trichophyllus* under similar conditions, but it may be dull greyish-green, often olive, or even madder (in peat). Stem slender, no floating leaves, submerged leaves very flaccid and forming a narrow pencil when dried. This character is often masked by the segments being encrusted with lime, mud, or slime; and varies too, with age. Flowers rather small, but seldom as small as those of *trichophyllus*. Stamens few—often about 10—variable in length, sometimes not exceeding the head of carpels. Receptacle usually conical. Fruiting peduncles slender, short, normally not exceeding the leaves, sometimes bifurcated at the apex. Carpels inflated above, blunt and rounded, often with a few hairs, sometimes with many. (*R. Drouetii* F. Schultz ex Godron, in Grenier and Godron *Fl. France* i., 24, 1848.).

9. *R. HETEROPHYLLUS* Weber in Wigg. *Prim. Fl. Holsat.* 42, 1780.
(*R. heterophyllus* Babington in *Ann. Nat. Hist.* ser. 2, xvi., 393, 1855, non Hooker fil.).

A very variable species, having floating leaves normally nearly or quite circular, but sometimes less so and then resembling those of *peltatus*. Divided more than half-way into cuneate-approximate segments—typically wedge-shaped but may be rounded—variously fissile on the outer edge. Sometimes the segments are nearly sessile, or even stalked, and transitional leaves are frequently present. Submerged leaves with segments long, weak and collapsing. Flowers large with broadly cuneate-obovate 7-9 veined petals, not contiguous except in well-developed specimens, persistent—from 6 mm. to 1 cm. in length. Stamens many, exceeding the head of carpels. Receptacle conical (sometimes long and narrow), or spherical; hairy. Fruiting peduncles short, ± slender, slightly or not tapering, usually shorter than the floating leaves but occasionally about as long; not as a rule much curved above but sharply recurved at the base as the fruit ripens. Carpels glabrous, slightly hairy on the top, or “with numerous strong bristles.”

10. Var. *TRIPHYLLUS* (Hiern) Wallroth p.p. Floating leaves deeply divided into 3 sub-sessile cuneate segments with nearly straight or slightly hollowed margins and the outer edge usually cut into numerous deep divisions, often mere linear threads. Normally less

completely circular than those of *radians* and with wider sinuses (the basal one often very wide) and frequently hairy below. Submerged leaves larger than in *radians*, more loosely trifurcate with divaricate segments, therefore less compact and more irregular in outline—not *trichophyllus*-like. Flowers of medium size, not large, petals about 8×5 mm., not contiguous, persistent. Stamens not numerous, about equalling head of carpels. Receptacles slightly longer than broad, ovoid, hairy. Fruiting peduncles scarcely-tapering, short, not exceeding leaves, ultimately recurved and then patent. Carpels narrowed above, with rather long lateral beak, hairy or nearly glabrous (those of Wallroth's plant are "glaberrimis nitidis.").

11. Var. *SUBMERSUS* Bab. A characteristic plant of salt marshes and tidal drains; very variable. No floating leaves. Submerged leaves with segments usually long, robust and sub-collapsing, forming \pm dense tassels; or shorter and diverging to form irregular bushes. Flowers medium-sized (petals about 9 mm.), not large; often quite small (petals 4-6 mm. on even large specimens.). Stamens usually many, sometimes few in small flowers; exceeding the head of carpels. Receptacle ovoid. Fruiting peduncles short (upper 2.5 cm. to 3 cm.) usually shorter than or equalling the leaves, but the lowest may be much longer and exceeding the leaves. As in *Drouetii* the peduncles are occasionally bifurcate at the apex. Carpels slightly hairy, nearly or quite glabrous. In my opinion many robust forms of *Drouetii* and *trichophyllus* have been hitherto wrongly referred to this variety.

12. *R. PELTATUS* Schrank *Baier Fl.* ii., 103. *R. aquatilis* var. *peltatus* Koch in Sturm *Deutsch. Fl.* fasc. 67, f. 7.

Normally a vigorous species producing floating leaves profusely in standing water. Floating leaves long stalked, reniform or sub-orbicular, divided nearly half-way into three obovate segments (the central much smaller than the lateral) which are frequently again rather less deeply divided into two, making the leaf appear five-lobed. Forms occur in which these five segments are large, rounded, sub-equal, and sub-entire—f. *quinquelobus* (Koch). The segments of the typical *peltatus* leaf are much rounded at the base but in f. *truncatus* nearly straight. Submerged leaves with rather rigid diverging segments. Flowers large (up to $1\frac{1}{2}$ in. in diameter with petals over $\frac{1}{2}$ in. long !), petals broadly obovate-cuneate, contiguous, persistent.

varying in size up to 15 mm. by 11 mm., sometimes very numerous, twelve or more. Stamens many, exceeding the head of carpels. Receptacle relatively small in size and spherical in shape. Fruiting peduncles long, tapering, normally exceeding, often only equalling, and occasionally shorter than the leaves. These varying lengths not infrequently occur on the same plant. Carpels usually hairy, only rarely glabrous.

13. Var. *FLORIBUNDUS* (Bab.). Much nearer to *peltatus* than to *heterophyllus*, in my opinion, and extremely variable in aspect. Most commonly a robust plant, but slender forms occur which must undoubtedly be referred to this variety. Floating leaves normally sub-circular or circular (but may be reniform), sub-peltate, divided more than half-way into rounded segments, which are sometimes imbricate. Petioles characteristically very long and slender—rarely stout. Submerged leaves moderately long, with rather rigid diverging segments. Flowers usually few and large, with petals not contiguous, persistent; and numerous long stamens. Stigma often narrowly oblong. Receptacle spherical. Fruiting peduncles shorter, not or very slightly tapering, about as long as the leaves. Carpels very blunt at the top, and usually hairy, rarely glabrous.

f. *TRUNCATUS* (Koch). Floating leaves little more than a semi-circle in outline, with the base truncate in a nearly straight line; feebly (or not at all) cordate. Sometimes the basal opening is inconspicuous and the base of the leaf curved upward from the petiole.

f. *ELONGATUS* (Hiern). A slender form having, essentially, very long (6-10 cm.) slender peduncles exceeding the attenuate petioles. Floating leaves extremely variable, sometimes having five segments, often like small *truncatus*. Carpels hairy.

14. *R. PSEUDO-FLUITANS* Baker & Foggitt, *Rep. Thirsk Bot. Exch. Club*, 1864. *R. penicillatus* Bab.

The name *pseudo-fluitans* has been responsible for much confusion, and in dealing with it we are faced by a curious difficulty. If we retain it as that of a species we clearly cannot cite it as of Syme, who in *E.B.* iii., 1863, puts it under the species *R. aquatilis* sub-sp. *peltatus* as var. *pseudo-fluitans*—querying as a synonym *R. pseudo-fluitans* Newb. mss. Indeed it is doubtful whether Syme's problematic variety should even be quoted as a variety under his name.

althouth among his herbarium specimens is one marked in pencil "*pseudo-fluitans*" under *peltatus*. Whatever Newbould had to do with the form under discussion, I think it is generally agreed that as he did not publish any description, his name may be omitted from the literature of the subject. In the *Report of the Thirsk Botanical Exchange Club* for 1864 [published in 1865, and subsequently quoted in *Journ. Bot.* iii. 114, 1865] Messrs Baker and Foggitt quote the name as that of a species, and give what I think may fairly be regarded as a characteristic description within the meaning of the Laws of Botanical Nomenclature 1867-8. The provision as to a Latin diagnosis being necessary does not apply in this case, but it might be questioned whether the report of an Exchange Club is a sufficiently "public" medium. However, as the description was repeated in the *Journ. Bot.* this hypothetical difficulty is removed. The original description is as follows:—" *R. pseudo-fluitans* Newbould. In the new edition of *Eng. Bot.* Mr Syme (who places it under *R. peltatus* along with *R. floribundus* Bab.) says of this, 'It is a very remarkable plant and may be a distinct sub-species, as the Rev. W. W. Newbould inclines to think. Prof. Babington unites it with *R. heterophyllus*, with which it agrees in the weak, collapsing leaves, but in other respects it approaches *R. peltatus*, or rather *R. floribundus*, and is very possibly only a state of that plant induced by growing in running water. In habit it closely resembles *R. fluitans*, but has the segments of the leaves shorter, much less rigid, and less parallel; the stamens longer than the head of pistils, and the receptacle hispid.' Mr A. G. More sends us a supply of specimens from the neighbourhood of Dublin, and writes, 'The plant seems as well marked by distinctive characters as any other of the British Batrachian *Ranunculi*, except *fluitans*, *circinatus*, *tripartitus*, *hederaceus* and *cœnosus*. To the general habit and appearance of *R. fluitans*, it joins the floating leaves of *R. peltatus*. Its submerged leaves are long and very flaccid, whip-like and much coarser than in any of the others except *fluitans*. In the streams of Ireland it appears to be not unfrequent, and to take the place which *R. fluitans* occupies in England.' " To this long extract from the *Thirsk B.E.C. Report* it is necessary to add further details from Syme's only partially quoted description (*E.B. l.c.*):—"Submerged leaves tassel-like, with segments very long and rather weak, collapsing. Floating leaves very rarely present (resembling

those of *peltatus* or *floribundus*. Peduncles slightly narrowed upward, equalling or exceeding the leaves. Receptacle spherical."

Over half a century has elapsed since these descriptions were written and during that period the plant has been frequently distributed. I have been privileged to examine large numbers of authenticated specimens of it in the collections of Messrs J. Groves, G. C. Druce, W. P. Hiern, and C. Bailey—among others—and as a result, submit the following description:—"A well-marked and readily recognised form, with the habit of a gigantic *truncatus*. Normally a very robust plant with a fat, succulent stem. Floating leaves present or absent. When present—which is frequently (by no means rarely) the case—they resemble those of very large *truncatus* or—less commonly—of *peltatus* or *floribundus*. Petioles very long, up to 6 in. in some cases. Often there are no floating leaves, especially in English specimens. Submerged leaves sub-sessile—sometimes apparently stalked when at the end of a short branch—simulating those of *R. fluitans* but with segments shorter (commonly up to 4 in.), more numerous, much less rigid and less parallel; coarser, and collapsing into dense tassels or (more rarely) sub-parallel and whip-shaped. (In some Irish specimens with floating leaves, the submerged leaves have segments over 6 in. in length). Flowers very large, with broadly obovate-cuneate persistent petals. Stamens numerous and exceeding the head of carpels. Mature carpels normally very bristly and very blunt. Peduncles very long (up to 6 in. or more), thick, equalling or exceeding the leaves. (Not infrequently in specimens with floating leaves and flowers as described above, peduncles occur which are much shorter than the leaves). Usually not tapering for the greater part of the length but only near the top. Receptacle spherical and very hairy."

15. Var. MINOR nov. comb. (*pseudo-fluitans* Hiern p.p.). A much more slender plant than the preceding, no floating leaves, submerged leaves variable, having segments sometimes short (3-5 cm.) and \pm divergent—especially in standing water—at other times long (6-10 cm.) and sub-collapsing (usually in rivers). Fruiting peduncles long (up to 10 cm.), always relatively slender, equalling or exceeding the leaves—not infrequently twice as long or even more. Flowers much smaller than in the type. Carpels hairy or nearly glabrous. Receptacle hairy.

16. *R. SPHÆROSPERMUS* (Hiern).

A well-marked and "characteristic plant of some of our S.-E. county rivers," and also of some tidal waters. The uniform absence of floating leaves under conditions when they should be readily and abundantly produced is, I think, important, and appears to readily separate *sphærospermus* from any form of *peltatus*. To me it occupies an intermediate position between *peltatus* and *Baudotii*—indeed some of its forms might readily be mistaken for *f. marinus*, but for their larger flowers and more hairy carpels. For the present I must reserve my opinion as to its possible identity with *R. sphærospermus* Boiss. and Blanche, but there is no doubt it is extremely near that species. The British plant is normally very dark in colour, having a stem more or less stout, often succulent and fat. Floating leaves absent; submerged leaves uniform in shape, regularly disposed, with short, rather rigid diverging segments forming sub-spheres or dense tufts. These characters of the submerged leaves readily distinguish this species from any form of *pseudo-fluitans*—the segments of the submerged leaves in *sphærospermus* are much shorter, more numerous and far more divergent than in that species, giving the leaf a sub-circular outline in many cases, and in others a shortly and densely tufted appearance. In this connection it is interesting to recall Boissier's original description (*Rep. B.E.C.* 7, 1914) "foliis uniformibus omnibus in lacinulas filiformes breves rigidulas undique divergentes divisis," and the fact that in Boissier's type specimen (No. 1105) which Mr W. P. Hiern has seen, the leaves are small and "globose in outline." Flowers few, large, petals 12 mm. or more, not usually contiguous. Stamens numerous, long. Receptacle globular, hairy. Fruiting peduncles stout (often thick), long (usually 2 in. to 2½ in.) exceeding the leaves, curved below in fruit. Carpels hairy, very inflated and rounded outside. In giving *R. sphærospermus* specific rank, I do so on account of its strong individuality and the difficulty of putting it under any other species. It has been often confounded with var. *submersus*, but differs from that in its larger flowers, shorter leaf-segments and fruiting peduncles normally twice as long.

17. *R. BAUDOTII* Godron *Essai in Mém. Soc. Roy. Nancy*, 21, fig. 4 (1839) 1840.

A very distinctive species usually maritime in these islands but not invariably found in brackish water. Normally a robust plant with a broad stem and floating leaves somewhat resembling those of *peltatus* in shape, but (on an average) smaller, much more deeply divided—into three nearly sessile or even stalked segments, more uniform in size, the central relatively larger, the lateral with fewer crenatures than in *peltatus*. The floating leaves are often transitional—divided into linear threads 1 mm. or more in width—or entirely absent. They vary greatly in size—a specimen from “Burnham-in-Crouch, Essex 16/6/94, H. Groves,” has floating leaves 4 cm. in diameter. The petioles are usually slender and strongly contrasted with the thick peduncles. Submerged leaves with rigid, markedly divaricate capillary or linear segments. Flowers of medium size or small—much smaller than those of *peltatus*, as a rule. Petals usually less than 10 mm. in length. Stamens numerous, shorter than, or equalling the head of carpels. Receptacle when mature ovoid-conic, longer than broad, sometimes long-conic; more or less hairy. Fruiting peduncles very long (5-10 cm.), stout, tapering, usually much exceeding the leaves, strongly arched below (or throughout), often with a double curve. Carpels nearly or quite glabrous—occasionally a few odd bristles.

18 f. MARINUS (Fries). Merely a submerged form of *R. Baudotii* destitute of floating leaves. Usually a robust plant with a fat and succulent stem, but occasionally slender. Submerged leaves with short, rigid diverging segments—often the leaves are sub-circular in outline and regularly disposed. Flowers usually small (petals about 7 mm.); in robust specimens, medium-sized. Fruiting peduncles long, exceeding leaves—sometimes very long, even 12-14 cm. ! Normally stout, but sometimes slender. Receptacle and carpels as in type. Stamens shorter than head of carpels.

19. f. CONFUSUS (Godron). Differs from *R. Baudotii* in being normally a more slender plant, with long peduncles less stout and less curved than in that species—often very slender and nearly straight. Stamens usually well exceeding the head of carpels. The character of the carpels as being “narrowed upward” is difficult or impossible to make out, and therefore of little value. Many plants so labelled cannot be separated from *R. Baudotii*, in my opinion.

20. *R. TRIPARTITUS* DC. *Icon. Pl. Gall. Rar. i.*, 15, t. 49, 1808.

Stem 1-5 dm., extremely slender but comparatively strong, simple or slightly branched. Floating leaves bright green and shining when fresh, forming a rosette on the surface of the water; small—often very small—symmetrical, with long (3-5 cm.) and very slender petioles; deeply and regularly divided into three cuneiform segments separated by relatively wide sinuses with nearly straight sides. Segments very regular in outline—with 3 or 4 rounded crenatures—central segment usually as long as the lateral and only slightly smaller, with three rounded crenatures or (in very small leaves) entire. Submerged leaves few, distant, extremely slender; when normally developed having remarkably fine, truly capillary, segments—yet usually more or less divergent but sometimes completely collapsing. Stipules normally well-marked, even conspicuous; delicate, transparent, with large auricles; upper with free or nearly free rounded ends. Flowers minute and inconspicuous. Petals minute (3 mm.) oblong, rather acute at the apex, equalling or scarcely exceeding the calyx, very fugacious. Fruiting peduncles very slender, usually shorter than or equalling the leaves, not or slightly tapering, ultimately recurved. Receptacle very small, roundish, hairy. Carpels few, obovate, inflated in the middle, slightly compressed at the top, shortly mucronate at the side, very rugose, glabrous. So far this species has only been reported from stations in E. and W. Cornwall, and Co. Cork—in these islands.

21. *R. LUTARIUS* Bouvet in *Bull. Soc. Angers* for 1871, 96, 1872. *R. lutarius* Bouvet fide H. & J. Groves in *Journ. Bot.* xlv., 452, 1907. *R. tripartitus* Auct. Brit. Form *intermedius* (Hiern) in *Journ. Bot.* ix., 67, 1871, excl. syn. Knaf. *Batrachium intermedium* Nyman, *Syll. Fl. Europ.* 175, 1854-5. *Batrachium lutarium* Revel in *Act. Soc. Linn. Bordeaux* xxv., 413, t. 4, 1865.

A much more robust plant than the preceding, with a much-branched stem and floating leaves somewhat resembling those of *R. tripartitus* but larger, less deeply divided into broader segments having markedly rounded edges. Floating leaves up to 1 in. wide, reniform or three-fourths circular, divided into 3 large symmetrical cuneate-obovate segments, central usually only slightly less than

lateral, broad at the top (with three semi-circular crenatures), narrowed below. Each lateral segment (usually with four similar crenatures) separated from the central by a narrow sinus. Submerged leaves usually absent, rarely present, then few in number having rigid segments distinctly flattened, of an appreciable width and more or less diverging. Usually there are some transitional leaves present also. Stipules large, well-developed and conspicuous. Flowers very small for so robust a plant, with small narrow oblong-ovate pinkish or white petals up to twice as long as the sepals; when well-developed 6 mm. long, but usually less. Stamens very few (6-10) about equalling the head of carpels. Fruiting peduncles usually much shorter than the leaves, ultimately recurved. Receptacle more or less hairy. Carpels unequally obovate, much inflated, regularly and strongly transversely wrinkled, keeled, with a prominent terminal beak (lateral or nearly central); glabrous. Has been found in Cornwall, Devon, Sussex, Surrey, S. Hants, and Anglesea.

22. *R. LENORMANDI* F. Schultz in *Flora* xx. (ii.), 726, 1837. *Batr. Lenormandi* Fries *Sum. Veg. Scand.* i., 139, 1846, ex Nyman.

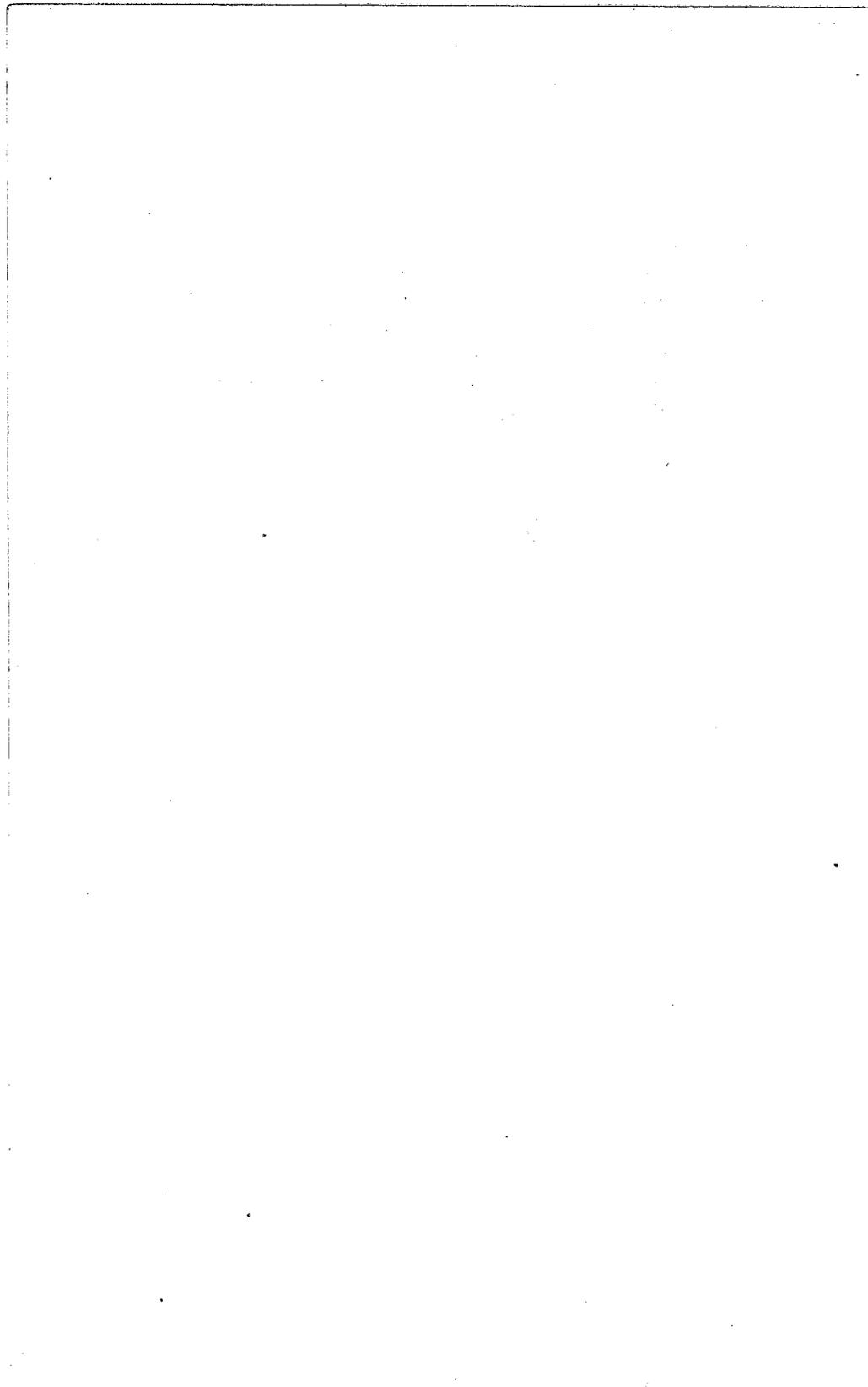
Stem normally robust, floating. Floating leaves very variable in size, usually larger, more rounded and crenate than in *R. hederaceus*; orbicular-reniform, not spotted and as a rule only slightly divided (rarely deeply) into three very rounded cuneiform segments narrowst at the base, with broad rounded crenations. Flowers up to $\frac{1}{2}$ in. in diameter with narrow oblong petals (5-6 mm.) not nearly contiguous, up to twice as long as the sepals, with white claw. Receptacle glabrous, very rarely with a few hairs. Carpels more numerous than in *R. hederaceus*, unequally obovate, often acuminate at the top with a more or less curved beak; glabrous.

23. *R. HEDERACEUS* Linn. *Sp. Pl.* 556, 1753. *R. hederaceus* Salisb. *Prodr. Stirp.* 373, 1796. *Batr hederaceum* S. F. Gray *Nat. Arr. Brit. Pl.* ii., 721, 1821. Dumort. *Prodr. Fl. Belg.* 127, 1827.

Stem creeping and rooting. Leaves broadly reniform (usually with semi-lunar black patches), divided into 3-5 shallow, more or less angular segments broadest at the base and usually entire. Not

infrequently the segments are somewhat broadly rounded and the leaves simulate those of *R. Lenormandi*. Stipules narrower and more adnate than in that species. Flowers very small with petals scarcely exceeding the sepals, three-veined, not contiguous, with white claw. Receptacle glabrous or rarely with a few hairs. Carpels normally rounded at the top and laterally mucronate—those of *R. Lenormandi* are usually more numerous, more often shortly acuminate at the top and with a perceptibly curved beak. The carpels of both species are commonly glabrous.

R. OMIOPHYLLUS Tenore *Fl. Neapol.* iv., 338, 1830, seems to be merely a floating form of this species.



SUPPLEMENT.
 Botanical Society & Exchange Club
 of the British Isles.

Additions to the Berkshire Flora.

G. CLARIDGE DRUCE.

TWENTY-ONE years have rolled by since the *Flora of Berkshire* was published, and notwithstanding that ten years of strenuous work have been lavished on the exploration of the county yet, as one expressed in the preface, 'it must be borne in mind that however minute and assiduous the research of a botanist in such a case may be, finality can never be attained since only a small portion comparatively of the actual surface of the ground comes within his observation, and that only for a short time.' Moreover I then gave a list of 31 species which were such as might with some reasonable expectation be found in the county. It is gratifying to be able to announce that seven of these have been discovered.

In the Flora of 1897—

The Plants native to Berkshire were given as	...	893
Plants which are Denizens only	... ..	45
Colonists	... ..	56
		<hr style="width: 100%;"/>
		994
Species of erroneous or uncertain record	11
Extinct species	4
Plants of casual occurrence or adventitious	199
		<hr style="width: 100%;"/>
		214
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		1208
		<hr style="width: 100%;"/>

33 species have been erroneously recorded, and about 400 named varieties and forms and 70 hybrids had also been included.

Since that date among the more interesting species which have been discovered are—*Cardamine bulbifera*, *Draba muralis*, *Viola epipsila*, *Dianthus deltoides*, *Cerastium pumilum*, *C. tetrandrum*, *Chrysosplenium alternifolium*, *Senecio viscosus*, *Hieracium praealtum*, *Campanula persicifolia*, *Scrophularia alata*, *Orobanche picridis*, *Mentha rotundifolia*, *Prunella laciniata*, *Ajuga genevensis* (new to Britain), *Euphorbia platyphyllos*, *E. Esula*, *Orchis praetermissa* (new to science), *Cyperus fuscus*, *Zannichellia gibberosa*, *Carex montana*, *C. lepidocarpa*, *C. diandra*, *C. Pairaei*, *Koeleria britannica*, *Poa irrigata*, and *Festuca heterophylla*. In addition many micro-species of the genus *Viola*, *Rubus*, *Rosa*, *Hieracium*

and *Euphrasia* have been found. On the other hand *Fumaria muralis* and *F. Bastardi* are misnomers, and *Tunica prolifera* is destroyed.

At the end of 1918 the county census was as follows:—

Native plants, additional	...	...	49+893 =	942
Denizens (<i>Ulmus hollandica, stricta</i>)			2+45 =	47
Colonists (<i>Draba muralis, Senecio viscosus, Juncus tenuis, Matricaria suaveolens, Azolla, etc.</i>)	...	...	12+56 =	68
			<hr/>	
			994	1057
Less	...	...	3	1
			<hr/>	
			991	1056
			<hr/>	
Doubtfully recorded species	...	...	11	10
Probably extinct (3 re-found, 1 gone)			4	2
Adventitious plants	...	...	109+199=	308
			<hr/>	<hr/>
			214	320
			<hr/>	<hr/>
				1376

Total 1363, extinct and errors, 11; over 500 varieties, 80 hybrids are also recorded. *Inula Helenium, Teucrium Scordium, Orchis Simia* and *Asarum europaeum* have been re-found since 1897.

Among the helpers I have to thank are—Miss E. Armitage, Dr. A. Ashby, Miss Beales, Mr. F. A. Bellamy, Mrs. Bentall, Prof. T. H. Bullock, Rev. H. D. Butler, R. Cardew, Mrs. Chorley, Mrs. Climenson, Mr. F. Comyns, Mrs. Hautville Cope, Lady Davy, Rev. E. Ellman, Mr. J. G. Everett, H. J. Evans, H. P. Fitzgerald, Countess Fortescue, Miss Fry, Mr. T. Gambier Parry, Lieut. P. M. Hall, Miss Haldane, Miss M. Hazel, Mrs. Hayden, Rev. L. Hamerton, Messrs. J. W. Higgins, Holliday, R. H. Hooker, C. P. Hurst, A. Bruce Jackson, Rev. C. B. de Jersey, Miss King, Miss Kirk, Mr. L. V. Lester-Garland, Mrs. Lindsay, Miss Lindsay, Mrs. Lightfoot, Rev. E. S. Marshall, Mr. H. W. Monckton, Miss E. Morland, Rev. Æ. Murray, Mr. V. E. Murray, Mr. H. Napier, Misses Nield, Niven, Mr. Osmond, Prof. J. Percival, Lieut. H. C. Porter, Mr. Ross, Miss Ridley, Mr. Clement Reid, Rev. H. J. Riddelsdell, Mr. Stanton, Dr. F. W. Stansfield, Rev. F. W. Stone, Dr. Willoughby Smith, Rev. W. H. Summers, Miss Todd, Mr. J. R. W. B. Tomlin, F. Tufnail, Miss Vachell, Messrs. C. F. Vincent, J. H. Vince, Miss Walker, Messrs. A. Wallis, Waterhouse, E. D. Watkin, and Prof. York Powell.

Papers on the Berkshire Flora have appeared in the Journal of Botany for 1905, 1910, &c., and numerous notes in the Reports of the Ashmolean Natural History Society of Oxfordshire and those

of the Botanical Society and Exchange Club of the British Isles. A few notes have been obtained in the examination of the Herbaria of Professor Babington, the National Herbaria at Kew and the British Museum. To the Rev. H. J. Riddelsdell I owe the notes on Bicheno's Herb. at Swanage, and the words 'Roman Silchester' attached to a record signifies that seeds or fruits of the species have been observed by Mr. Clement Reid in the excavations of that place. An asterisk * signifies an addition to the county list. This sign † denotes that the plant is adventitious in the county.

One ought to mention that the number of new species is swollen by the separation of certain micro-species or the elevation of a few plants from a lower to a higher grade. The question arises as to whether such plants as *Prunella laciniata*, *Salvia pratensis*, *Euphorbia Esula*, *Silene nutans*, &c., owe their origin to recent importation with foreign seeds, or whether they are local native plants which have been overlooked. I can speak with some degree of positiveness as to the gradual change which is taking place in our surface flora. This is not always due to man and his operations, that is not directly. It may be quite outside his influence. To such natural causes as seeds distributed by wind-current, or water-borne, or even conveyed in the crops of birds, or plants and seed brought by aquatic birds to outlying pieces of water, or possibly adherent to bird plumage or claws, we owe some of our species and the spread of many.

The extension of *Crepis taraxacifolia* over the county in the last forty years is an example. Its first record was made for the county by me, in 1881, from the Maidenhead railway, and the individuals in the county at that time were probably less than a hundred, now it exists in millions. It may quite possibly have been the plant recorded as *C. foetida* by G. G. Mill from Bisham in 1843, but hitherto I have not been able to prove it. Many of the *Hieracia* now recorded were certainly not in their present place at that time. Can we owe *Euphorbia Cyparissias*, *Campanula persicifolia*, *Illecebrum*, *Ajuga genevensis*, *Scirpus maritimus*, &c., to wind- or bird-borne seeds? It seems not improbable. *Cyperus fuscus* and *Azolla* are almost certainly bird-conveyed species.

Dependent upon the operations of man are *Coronopus didymus*, *Lepidium ruderale*, *Juncus tenuis*, *Matricaria suaveolens*, *Senecio viscosus* and *squalidus*, all of which seem likely to extend their area in Britain; just as *Veronica Tourneforti* has spread over it in less than a century.

3. *Thalictrum flavum* L. 4 Kennet banks, *Bicheno*. Thatcham, H. Weaver. Fobney meadows, Reading, *Rev. W. H. Summers*. Fruits in Roman Silchester.
 Var. *sphaerocarpum*. Betn. Suleham and Pangbourne, *V. Murray*.
8. *Anemone Pulsatilla* L. In flower on May 29, 1910. An early reference is 'The Pasque flower abounds on the sheep downs just above Streatley in Berks,' *Gilbert White's Diary*, April 5, 1769.
9. *A. Nemorosa* L. Var. *purpurea* DC. intensely dark at 4 Hawkridge.
 * Var. *caerulea* DC. 4 Hawkridge Wood, *R. H. Hooker*, 1915.
- †11. *A. apennina* L. 3 Compton Wood, 1918, *Miss Fry*.
16. *Adonis annua* L. 3 Beenham, in garden ground, *A. Wallis*.
17. *Myosurus minimus* L. 2 Field near Bagley Wood, *H. Napier*. 4 Pingewood, *V. Murray*. Near Thatcham.
38. *Ranunculus trichophyllus*, Chaix. 1 near Newbridge. 4 near Grazeley, Padworth. Var. *radians*, Revel, Farley Hill.
39. *R. Droueti*, Loddon, *A. B. Jackson*.
40. *R. heterophyllus*, Weber. 5 Farley Hill.
41. *R. peltatus*, Schrank, most luxuriant and with very large flowers, 3 near Frilsham, 1915. See B.E.C. Rep. 312, 1915.
30. *R. sceleratus* L. and 24. *R. Flammula* L. Seeds in Roman Silchester. Var. *ovatus Pers.* 2 Foxcombe Hill, *T. B. Cartwright*.
20. *R. acris* L. Var. *Boraeanus* (Jord.) 4 Welford.
22. *R. bulbosus* L. Var. *brachiatus* (Schlech.) 4 Boxford.
23. *R. Lingua* L. Seeds in Roman Silchester. 1 Near Buckland, *Dr. C. Shadwell*. 2 Long Bridges, *H. Baker*. 3 Yattendon, *Waterhouse*. 4 Wilderness, Kintbury, *C. P. Hurst*.
19. *R. repens* L. Seeds in Roman Silchester. Var. *erectus* DC 5 Loddon Bridge.
28. *R. sardous*, Crantz. Roman Silchester; also *var. *inermis*, i.e. without tubercles, *C. Reid*.
32. *R. parviflorus* L. Roman Silchester. 2 Sandford, *Miss Niven*. 5 Park Place, *Stanton*.
48. *Caltha palustris* L. Roman Silchester, var. *Guerangeri* (Bor.) 1 Cumnor.
51. *Helleborus viridis* L. Var. *occidentalis* (Reut.) Druce. 2 Hendred, 1859, *Gaunt*. 3 ? Chevening, *Bicheno*.
52. *H. foetidus* L. 3 Betn. Streatley and Aldworth, *Murray*.
54. *Aquilegia vulgaris* L. 4 Grazeley.
- †60. *Delphinium Ajacis* L. 2 Cothill, 1907-9, West Hendred, *Mrs. Hayden*. 5 Cookham.
- *63. *D. Consolida* L. 2 Cothill. Alien.
- †68. *Aconitum Napellus* L. 4 Welford Park, quite naturalised, *Osmund*. The var. *anglicum*.

- †71. *Paeonia officinalis* L. 5 Bisham Wood, in a clay pit, one plant, Wallis. To this rather than *P. corallina* doubtless belong the other Berkshire records.
72. *Berberis officinalis* L. 2 Dry Sandford, Pusey, Near Abingdon, Cothill, Wantage. 4 Beenham, Summers.
77. *Castalia alba* Wood. 5 First record 'at Twiford in ye river grows *Nymphaea flore albo* plentifully,' Dillenius, July 7, 1726. Newbury, Bicheno.
- †79. *Papaver somniferum* L. Riverside near Clifton Hampden, abundant on railway between Didcot and Cholsey. 3 Bradfield, Murray.
- *80. *P. Rhoëas* L. Var. *caudatifolium* (Timb.). 2 Wootton, Boar's Hill. 3 Pangbourne. 5 Ambarrow.
- *Var. *Hoffmannianum* Kuntze. 2 Wootton. 3 Upton, Blëwbury.
81. *P. dubium* L. Var. *collinum* (Bogen.), Hinksey.
82. *P. Lecoqi*, Lam. 2 Didcot, Boar's Hill. 4 Pinge Wood, Murray.
83. *P. Argemone* L. Roman Silchester.
84. *P. hybridum* L. 2 Cherbury Camp.
- *93. *Eschscholtzia Douglasi*, Walp. Alien. Abingdon racecourse.
- †101. *Capnoides lutea*, Gaertn. Alien. First record underneath edge of kerb, Aldermaston Station, *Gard. Chron.* 303, 1874, Theale.
- †100. *C. solida*, Gaertn. 2 Besselsleigh.
102. *C. claviculata*, Druce. 3 in a hedge bordering King's Copse, Clay Hill, near Stanford Dingley, Wallis.
107. *Fumaria Boraei*, Jord. *Var. *muraliformis* Clav. (the *F. muralis* Fl. Berks, teste Mr. Pugsley). 5 Earley, Blackwater. 2 Hinksey (Fl. Berks as *F. confusa*).
111. *F. officinalis* L. Roman Silchester. The *scandens* of Fl. Berks is for the most part the more recently described var. *elegans* Pugsley.
114. *F. parviflora*, Lam. *Var. *acuminata*, Pugsley. 3 Streatley, Lowbury, Moulsoford.
130. *Barbarea arcuata* auct. 5 near Shiplake in Berks.
- †131. *B. intermedia*, Bor. 2 Challow. 3 Basildon.
133. *Arabis hirsuta*, Br., above Compton.
131. *A. glabra*, Bernh. (*perfoliata*, Lam.). 3 Bradfield, Sheppard. Woodley, Summers. 5 Twyford.
142. *Cardamine pratensis* L. A pure white-flowered form in the Loddon meadows. 'Flore pleno' in great profusion in a meadow adjoining Beenham, Johns in *Gard. Chron.* 562, 1859.
143. *C. amara* L. 3 Sulham, Weaver. 4 Sandford Mill, Summers.
- *148. *C. bulbifera*, Crantz. Bisham Woods, Rev. C. B. de Jersey in *Journ. Bot.* 85, 1879.
- †150. *Lunaria annua* L. Alien. Hinksey, Bellamy, 1914.
- †157. *Alyssum incanum* L. 2 Abingdon. 4 Reading. 5 nr. Sonning, Summers.

- *158. *A. maritimum* Lam. Alien. Abingdon racecourse as the *var. *viride*. 3 Pepper Lane, Reading, *Wallis* (casual).
- *162. *Draba muralis* L. Wytham woods with *Solanum nigrum*, *H. Napier*, 1910, probably introduced with ash saplings, but I have been unable to find from what nursery they were obtained. Lord Abingdon told me they were originally planted nearer the Abbey and removed to the present site. A very interesting addition to the *Flora*.
164. *Erophila praecox*, Stev. 2 Shillingford, *Miss Todd*.
- †176. *Hesperis matronalis* L. 3 Sulham, *Summers*. 4 Shinfield, *Wallis*. 5 Sandford Bridge.
183. *Sisymbrium Sophia* L. Abingdon. 4 Thatcham, *Bicheno*, 1812. Reading.
184. *S. altissimum* L. Alien. 1 in some quantity of gravel dredged from river near Lechlade, 1912. Abingdon. 3 Tidmarsh, *Murray*. Moulsoford, *Miss Neild*, Reading railway ballast. 5 Crowthorn, *Monckton*. Well. Coll. railway.
185. *S. orientale* L. Alien. *Var. *stenocarpum* (R. & F.), *Cothill*. Alien.
- †188. *S. Irio*. L. 4 Newbury, *F. Comyns*.
- †189. *S. officinale*, var. *leiocarpum* (Jord.). 2 Boar's Hill. 4 Hungerford *Miss Todd*.
- †198. *Erysimum repandum*, Hojer. *Cothill*.
- †200. *Conringia orientalis*, Dum. 4 Padworth. 5 garden ground, Reading, Shinfield Road allotments, plentiful, *Wallis*. Wellington College.
202. *Camelina sativa*, Cr. First record, Easthampton Park, growing in the corn, *Miller, Gard. Dict.* 1768. Abundant in clover field, *Cothill*, 1912. 3 Streatley, *Gambier Parry*, 1914.
- †208. *Brassica Rapa* L. Var. *Briggsi* Wats. 1 Wytham. 2 *Cothill*.
- †205. *B. oleracea* L. forma. Iisley Downs, in arable field.
215. *Brassica nigra*, Boiss (*sinapioides*). 1 near Faringdon, *Buscot*, Eaton Hastings. *Shrivenham*. 2 *Uffington*.
217. *B. alba* Boiss. Roman *Silchester*.
227. *Diplotaxis muralis* D.C. 2 *Marcham*, *Miss Lindsay*. *Cothill*, *Shippon*. 3 and 4 abundant on railway near Reading, etc. var. *Babingtoni* (Syme). 2 *Radley*.
233. *Coronopus didymus*, Sm. *Aldermaston*, *Dr. Willoughby Smith*, 1904. 5 *Windsor*, *Everett*. *Clewer*, *Monckton*, 1917.
234. *C. procumbens*, Gilib. Roman *Silchester*.
- †237. *Lepidium Draba* L. 2 nr. Oxford, *Cothill*, *Cholsey*, *Steventon*, *Lockinge*. 4 *Enborne Road*, *Jackson*. 5 *Shinfield Road*, &c., *Wallis*.
- *239. *L. perfoliatum* L. Alien. 4 *Newbury*, 1899, *Miss Beales*. *Wallingford*, *J. S. Huxley*.
- †240. *L. ruderale* L. 2 *Abingdon*. Abundant, *Reading*, *Wallis* and *Perceval*. *Windsor*, *Everett*.

249. *Thlaspi arvense* L. Roman Silchester.
 252. *Iberis amara* L. Hinksey, Mrs. Lightfoot, 1856.
 †253. *I. umbellata* L. Alien. Radley.
 254. *Teesdalia nudicaulis*, Ait. 4 Burghfield Common, Murray.
 †256. *Isatis tinctoria* L. 4 Alien, Templeton. One or two specimens among clover, Summers.
 †258. *Vogelia paniculata*, Hornem. (*sagittata*). Alien. Wellington College.
 *250. *Myagrurn perfoliatum* L. Alien. Abingdon, 1918, Gambier Parry.
 *251. *Soria syriaca*, Desv. Alien. Cothill, 1908.
 †262. *Bunias Erucago* L. Alien. Cothill.
 †263. *B. orientalis* L. 2 Garford, Miss Todd. Betn. Cholsey and Moulsoford.
 *268. *Rapistrum rugosum*, All. Alien. 2 Abingdon. 3 Reading.
 *269. *R. Linnaeanum*, B. & R. Alien. 2 Cothill. Abingdon.
 *270. *R. glabrum*, Host. Alien. Abingdon.
 *283. *Reseda stricta*, Pers. Alien. Wytham Mill, see *Bot. Exch. Club Rep.* 212, 1906.
 288. *Helianthemum Chamaecistus*, Mill. A form with very pale yellow petals, 2 Cherbury, also others with dark orange petals.
 293. *Viola silvestris*, Lam. em. *var. *punctata* Druce, Bagley, 1912. 3 Basildon, Unwell, betn. Pangbourn and Theale, P. M. Hall.
 296. *V. canina* L. c. var. *ericetorum*. 2 Frilford, P. M. Hall.
 **V. canina* × *Riviniiana*. 2 Henwood.
 298. *V. odorata* L. Roman Silchester.
 299. *V. hirta* L. *Var. *pinetorum*, Wiesb. 1 Wytham.
 *Var. *inconcinna*, J. Briq. 3 Streatley.
 *Var. *Foudrasi*, R & F. 3 Streatley. Compton.
 *Var. *propera*, Gillot. 3 Streatley, 1896. Unwell, Hall, 1910.
 *301 (2). *V. epipsila*, Ledeb., near the Three Firs, Burghfield. First published, Druce in *Bot. Exch. Rep.* 610, 1910, but noticed there 18 years before.
 **V. ruralis*, Jord. 2 Wootton, Boar's Hill, Pusey.
 **V. obtusifolia*, Jord. 1 Wytham. 5 Ambarrow.
 **V. subtilis*, Jord. 3 Basildon, 1894.
 **V. contempta*, Jord. 4 Hurst Mill, 1910.
 **V. Deseglisei*, Jord. 2 Wootton, 1903. 4 Newbury Wash, Jackson, 1906.
 **V. Lloydi*, Jord. 5 Ambarrow, Monckton. See B.E.C. 98, 1917.
 **V. variata*, Jord. 2 Boar's Hill, 1895.
 *Var. *sulphurea*, Drabble. Boar's Hill, 1895.
 308. *Polygala serpyllacea*, Weihe, *var. *vincoides*, Chadot. 5 near Bracknell, 1918, Druce and Lady Davy, but not an extreme form.
 309. *P. vulgaris* L. 1 Shrivenham. 2 Radley. 4 Brimpton. 5 Well. Coll., Monckton. Thatcher's Ford.

- *310. *P. oxyptera*, Reichb. Near West Ilsley, 1904. Named for me by E. F. Linton, but it is probably distinct from Reichenbach's plant.
- *318. *Dianthus deltoides* L. Brimpton, 1894-5. Mrs. Chorley, the first certain record, although Ray (*Corr.* 60) says in 1670 that it grows 'in many places of Berkshire.' The editor there identifies it as *deltoides*. 5 Field nr. Wellington Coll. Station, 1907, *Fitzgerald*.
319. *D. Armeria* L. prope Windsor, *Sibth. MSS.* 1780. 1 nr. Carswell, *Miss Niven* (as *deltoides*). 2 nr. Kennington, *F. W. Stone*, a sol. sp. 3 Dry pastures, Clay Hill, Bucklebury Common, *Wallis*.
- *320. *D. barbatus* L. Alien. Besselsleigh, in a lane far from houses, *Miss Walker*.
- †331. *Saponaria Vaccaria* L. Alien. 2 by the river nr. Sandford, *Stone*. 3 Tilehurst, *Murray*. Reading, *Wallis*.
336. *Silene Cucubalus*, Wibel, *var. *brachiata* (Jord.). 1 Cumnor.
- †338. *S. conica* L. Colonist, Sand-pit opposite Dog House Inn, Frilford, *Comm. Walker*, 1905. Frilford Common, 1914, *Miss Lindsay*, abundant.
- †343. *S. anglica* L. 2 Cothill. 3 Tilehurst, *Murray*.
- *342. *S. gallica* L. Alien. Cothill, 1908.
359. *Lynchnis alba*, Mill. Roman Silchester.
360. *L. dioica* × *alba*. 1 Appleton. 4 Below Riever Wood, *Hurst*.
358. *L. Flos-Cuculi* L. Roman Silchester. *Sub-var. *viridescens* Druce, Abingdon. 4 Burghfield. 5 Earley.
363. *L. Githago*, Scop. Roman Silchester.
- *364. *L. Coronaria* L. Alien. Railway, Earley, 1914.
366. *Cerastium erectum*, Coss. and Germ. (*quaternellum*). Newtown Common, *Bicheno*. Green Park, Windsor, *Cox* in *Hb. Brit. Mus.* 1847. Finchampstead Ridges.
367. *C. arvense* L. 2 Blewbury. 3 Compton Downs. 5 Brightwal-
tham, *Holliday*.
- *367 (2). *C. tomentosum* L. 5 Railway, Maidenhead, *Riddelsdell*. Alien.
- *372. *C. pumilum*, Curtis. Glareal. First found by the author in 1883. Blewbury Downs, in small quantity. Not yet recorded for Bucks or Middlesex.
- *374. *C. tetrandrum*, Curtis. Glareal. First found by the author in 1896. 5 near Bracknell. Not recorded for Bucks, Middlesex, or Oxon.
377. *Stellaria aquatica*, Scop. 4 Pinge Wood, *Murray*. *Var. *scandens*, Lej.—Seven feet high in Sulham woods.
380. *S. umbrosa*, Opiz & Rupp. 4 Cookham, *Jackson*. 5 Sandhurst, *Marshall* in *Journ. Bot.* 84, 1899. Jouldern's Ford, Loddon Bridge.

- *382. *S. Dilleniana*, Moench. First record, the author, 1915, near Abingdon. Var. *palustris* (Ehrh.), Druce. Pinge Wood, Murray. Three Mile Cross, Murray. 5 Sandford Mill.
383. *S. graminea* L. Roman Silchester. Large flowered form near Risely.
391. *Arenaria serpyllifolia* L. Var. *scabra*, Fenzl. 1 Cumnor, &c.
401. *Sagina subulata*, Presl. 2 Boar's Hill.
399. *S. nodosa*, Fenzl. St. Neot's Meadow, Radley.
409. *Spergula arvensis* L. Roman Silchester.
- *419. *Claytonia perfoliata*, Donn. Alien. Allotments, Reading, Dr. Ashby, Wellington College, 1918. Wokingham. G. Parry.
421. *Montia fontana* L. Roman Silchester.
423. *Elatine Hydropiiper* L. Mortimer, *Rev. E. C. Crutwell*, 1917, in *B.E.C.* 100, 1917.
425. *Hypericum Androsaemum* L. 4 Copse between Beenham and Woolhampton, Summers. Near Bradfield, Wallis.
436. *H. perforatum* L. Roman Silchester.
435. *H. quadrangulum* L. 1 Hedge near Wytham Meadows, 1905. 4 Aldermaston Soke, Summers. 5 By the Blackwater, Marshall. Var. *punctatum*, Schinz. Well. Coll., Monckton, 1918.
439. *H. elodes*, Grufb. 3 Bucklebury Common, Wallis.
- *441. *Althaea rosea* L. Alien. Abingdon. Reading.
- *442. *A. hirsuta* L. Alien. 2 Cothill, 1906.
- *450. *Malva Alcea* L. 3 Reading. Alien on waste ground near railway.
451. *M. moschata* L. Var. *integrifolia*, Lej. (*Ramondiana*). 3 Ilsley Downs.
452. *M. sylvestris* L. and 453 *M. rotundifolia* L. Roman Silchester.
- †454. *M. pusilla*, With. 1 Wytham, in some quantity.
- *462. *Maloje malacoides* L. Near Clewer, J. G. Everett, 1902. Alien.
466. *Radiola Linoides*, Roth. (*Millegrana Radiola*). 4 Padworth, Summers. 5 Bagshot, Sibthorp.
- †468. *Linum usitatissimum* L. Roman Silchester.
- †479. *Geranium phaeum* L. 4 Boxford, quite naturalised.
- †476. *G. nodosum* L. Besselsleigh, Miss Walker. Alien.
478. *G. pratense* L. forma *alba*. Between Cumnor and Abingdon, Murray. 2 Cothill.
486. *G. pusillum*, Burm. f. 3 Upton, Blewbury. 4 North Croft. 5 Blackwater, Loddon Bridge, Cookham.
487. *G. lucidum* L. 4 Avington, Summers. Welford.
494. *Erodium moschatum*, Ait. 2 Abingdon. Alien.
- †500. *Tropaeolum peregrinum* L. Alien. Abingdon.
- †505. *Oxalis corniculata* L. Southern Hill, Reading. Three Mile Cross, Wallis.
- †506. *O. stricta* L. Alien. Southern Hill, Reading, Wallis.
- †510 *Impatiens Noli-metangere* L. 5 Binfield, Bp. of Reading, ? if *biflora*.

- †512. *Impatiens parviflora*, DC. Alien. Reading, S. M. Payne in *Herb. Bab.*
- †513. *I. glandulifera*, Royle. Alien. Reading, Higgens, 1917.
515. *Ilex Aquifolium* L. First record MS. note on Sowerby's drawing in *H.B.M.*, Sept. 1, 1798: 'Some trees in full blossom Windsor Castle and one imperfect berry, June 1, 1798.' *Var. *senescens*, Gaud. Aldermaston, &c.
517. *Euonymus europaeus* L. First record circa Oxford, *Sibth. MS.* 1780. 1 Newbridge. 2 East Garston, Grove, 1833. 5 Sandhurst, Miss Todd.
526. *Acer campestre* L. forma *dissectifolium*, Melv. 2 Wootton.
535. *Genista tinctoria* L. 1 Shrivenham. 4 Burnt Common, Padworth, Wallis.
- *531. *Laburnum anagyroides*, Med. Alien. Seedlings in gravel pits, Abingdon.
539. *Ulex minor*, Roth. *Var. *longispinosus*, Druce. (R. & F.) Wokingham, &c.
540. *Cytisus scoparius*, Link. *Var. *Andraeanus*, Puiss. Inkpen Common, Rev. H. D. Butler.
567. *Trigonella ornithopodioides* DC. (*purpurascens*). 4 Shinfield, Prof. Percival.
- †579. *Medicago denticulata*, Willd. Alien. 2 Abingdon, with a form approaching *apiculata*.
- †580. *M. arabica*, Huds. Alien. 2 Abingdon, Miss Lindsay.
- *581. *M. minima*, Desr. Alien. Abingdon, Miss Lindsay. *Var. *recta* with above.
593. *Melilotus officinalis*, Lam. 5 Wellington Coll. *Var. *unguiculata*, Ser. 2 Abingdon.
- †595. *M. alba*, Desr. 2 Besselsleigh. 3 & 4 Reading. 5 Well. Coll.
- †586. *M. arvensis*, Wallr. 2 Cothill.
- †597. *M. indica*, All. 2 Grandpont, Ellman. 4 Beenham, Wallis. 3 & 4 Reading. 5 Wellington College.
598. *Trifolium medium*, Huds. 1 Shrivenham. 4 Near Mortimer. 5 Finchampstead.
599. *Trifolium pratense* L. White flowers, Hampstead Norris, *Pamplin*, 1833. Var. *parviflorum*, Bab. 5 Waltham St. Lawrence, I. H. Burkill in *Journ. Bot.* 235, 1901. 2 Sandford, Prof. Bullock. *Var. *americanum*, Harz. 1 Wytham.
611. *T. arvense* L. Besselsleigh, Miss Walker. *Var. *rubellum* (Jord.) Didcot.
618. *T. scabrum* L. 2 Besselsleigh, 1907. 4 Padworth Common. 5 Sandford Mill, Summers. I have not seen the latter two.
619. *T. striatum* L. 4 Ufton Court, Summers. Padworth, Wallis. 5 Sandford Mill, Summers. Sonning Cutting, Murray.
620. *T. subterraneum* L. 2 Frilford, F. J. Stone. Kingston Bagpuize, Lester Garland. Oakley House, Comm. Walker. 5 Shinfield, Percival. Sandford Mill. Between Cressingham and Arborfield, Wallis.

621. *T. fragiferum* L. 3 Tilehurst. 4 Weir Mills, *Summers*.
- *623. *T. tomentosum* L. Alien. Abingdon racecourse, *Gambier Parry*, 1917.
- *644. *Lotus siliquosus* L. Alien. Well established, *Streatley, Murray*, 1913.
648. *Lotus tenuis*, Kit. 1 Shrivenham. 2 Boar's Hill. 3 Clay Hill, *Jackson*. Near Pepper Lane, *Reading, Wallis*.
- *651. *Galega officinalis* L. 5 Finchampstead, *Monckton*. Alien.
655. *Astragalus danicus*, Retz. 2 Chilton Downs, *R. Cardew*. West Ilsley, *Miss E. Morland*, 1901.
- *666. *Coronilla varia* L. Alien. Near Radley, *H. L. Porter*, 1915.
671. *Hippocrepis comosa* L. Chisbury Camp.
- *678. *Vicia tenuifolia*, Roth. Var. *laxiflora*, *Gris*. Alien. 1 Bushy ground, nr. Stevenage. (*Wilcote, Oxon, Lady Margaret Watney*).
- *681. *V. villosa*, Roth. Alien. 2 Boar's Hill, *Vincent*. By the railway, near Oxford.
- *683. *V. dasycarpa*, Ten. 2 Cothill. = *V. varia*. Alien.
- *687. *V. bithynica* L. Alien. Cothill.
- *691. *V. lutea* L. Alien. Cothill.
697. *V. sativa* L. Var. *cordifolia*, Beck. 2 Wootton.
698. *V. angustifolia*, Reich. *Var. *acuta*, Pers. Cothill.
700. *V. Lathyroides* L. 2 Frilford. Cothill.
704. *V. hirsuta*, Gray. *Var. *angustifolia*, *Druce*. Boar's Hill.
705. *V. tetrasperma*, Moench. (*gemella*). 3 Tilehurst, *Murray*. 4 Reading, Three Mile Cross, *Murray*. Var. *tenuissima*, *Druce*. 5 Strathfieldsaye. To this belongs Mr. Boswell's *V. gracilis* in *Britt. Contr.*
- †706. *V. gracilis*, Loise. Boar's Hill, *F. J. Stone*, 1899, in great quantity but gradually died out. See *B.E.C.* 570, bis 1898.
710. *Lathyrus sylvestris* L. First record, *L. latifolius major*, from Merley Wood, *Dillenius MS.*, 1746.
713. *L. palustris* L. Miller's plant (*Gard. Dict.* ed. 7). From Windsor Forest. Mr. Britten (*Journ. Bot.* 9, 1901) suggests is *L. montanus*.
725. *L. Nissolia* L. 5 Crazies Hill, *Ashby*, 1900.
726. *L. Aphaca* L. 2 Kennington, *G. Parry*. Cothill, Abingdon.
- *717. *L. inconspicuus* L. 2 Cothill. Alien.
741. *Prunus spinosa* L. Stones in Roman Silchester with those of *P. insititia*, *domestica* and *avium*. A tree of the latter species in Ashampstead Common measured 75 ft. high and 8 ft. girth.
738. *P. Cerasus* L. First record, Pangbourne, *W. W. Newbould* in *Hb. Br. Mus.* 5 Crowthorn, *Monckton*.
746. *Spiraea Ulmaria* L. Roman Silchester. Var. *denudata*, *Boenn.* 2 Ferry Hinksey. 5 Coleman's Moor.
- *744. *S. salicifolia* L. Alien. Near the Mill at Hampstead Marshall, *Miss King*.

748. *Rubus idaeus* L. Roman Silchester, and also the Blackberry.
var. *anomalus*, Arrh. (Leesi). 2 Cothill, 1916.
749. *R. fissus*, Lindl. Wellington College, Marshall, l.c.
753. *Rubus plicatus*, W. & N. 2 Cothill. 5 Wellington College,
Marshall, l.c.
754. *R. nitidus*, W. & N. 4 Greenham, Jackson in *Journ. Bot.* 72,
1907.
763. *R. carpinifolius*, W. & N. 4 Bucklebury, Jackson, l.c.
780. *R. rhombifolius*, Weihe. 4 Greenham, Jackson, l.c.
766. *R. argenteus*, W. & N. (*erythrinus*). 5 Wellington College and
Sandhurst, Marshall, l.c. 4 Hampstead Park, Jackson, l.c.
- *779. *R. calvatus*, Blox. First record, Bagley Wood, 1861, *Holliday*
in *Hb. Druce*. Boggy fir wood near Sandhurst, Marshall, l.c.
- *789 (3). *R. egregius* forma *effeminatus*, Focke. Boar's Hill, *Focke*.
New to Science.
- *798. *R. hirtifolius*, M. & W. Var. *mollissimus*, Rogers. Greenham
Common, 4 Jackson, first record, l.c.
Var. *danicus* (Focke). Near Sandhurst, Marshall, l.c.
802. *R. leucostachys*, Schleich. Var. *gymnostachys* (Genev.). Berk-
shire, Rogers, *Brit. Rubi*.
- *803. *R. leucanthemus*, P.J.M. Berkshire, Rogers, l.c.
805. *R. criniger*, Lint. First record, Maidenhead, the author.
- *809. *R. cinerosus*, Rogers. First record, Streatley, the author, 1905.
- *815. *R. raduloides*, Rogers. First record, Boar's Hill, 1908. *Druce*
and *Ley*.
818. *R. infestus*, Weihe. Boar's Hill, 1911.
820. *R. Borreri*. *Var. *dentatifolius*, Briggs. 4 Greenham Common.
827. *R. echinatoides*, Rogers. 2 Boar's Hill. 3 Tilehurst. 4 Green-
ham Common, Jackson, l.c.
828. *R. echinatus*, Lindley. First record, Bagley Wood, *W. Holliday*
1861, in *Herb. Druce*. 4 Donnington Castle, Jackson.
830. *R. cenomadensis*, Sudre. The (*oigocladus*) of the *Flora*.
835. *R. Babingtonii*. *Var. *phyllothyrsus*, Rogers, non Frid. Berks,
see *Bot. Exch. Club*, 1897. 4 Mortimer.
837. *R. ericetorum*, Lefev. 4 Hampstead Park, Jackson, l.c.
842. *R. fuscus*, W. & N. *Var. *nutans*, Rogers. 2 Boar's Hill.
*Var. *macrostachys* (P.J.M.). 5 Twyford.
844. *R. pallidus*, W. & N. 4 Snelsmore, Greenham, Jackson, l.c.
849. *R. foliosus*, W. & N. 4 Crookham, Jackson, l.c.
850. *R. rosaceus*. Var. *infecundus*, Rogers. 4 Hampstead Marshall,
Jackson, l.c.
- *855. *R. hostilis*, P.J.M. & Wirtg. First record. 5 Binfield, *F. A.*
Rogers.
858. *R. dasyphyllus*, Rogers. (See *R. Koehleri*, var. *pallidus*). Com-
mon in Berks.
860. *R. Marshalli*, Focke. *Var. *semiglaber*, Rogers. Greenham
Common, the type at Crookham, Jackson, l.c.

882. *Geum rivale* L. Near Inkpen in an upland situation, *Summers*.
883. *Geum intermedium*, Ehrh. With both parents at Boxford (4).
- +885. *Fragaria moschata*, Duchesne (*muricata*). 5 Near Finchampstead, *Higgins*.
886. *F. vesca* L. Roman Silchester. Var. *bercheriensis*, Druce. This was cultivated for some years by the late Count von Solms Laubach. He wrote in 1903 that he thought it might be a hybrid of *moschata* and *vesca* and very near *moschata*. Subsequently he considered it to be a sub-montant variety of *vesca*, which had once been in cultivation and had escaped therefrom. This may well be the case, since prior to the introduction of the American plants various races of *vesca* and the Haut Bois were cultivated in Britain. This plant grew near an old English residence, from which it may have escaped. The fruits were noticeable for their flavour and odour, and there were white as well as red 'berries.'
- *892. *Potentilla recta* L. 4 Reading, *Wallis*. 5 Mortimer Common, *Weaver*. Alien.
- *894. *P. canescens*, Bess. 5 Twyford. Alien.
895. *P. argentea* L. Frilford Heath, abundant, 1912. 4 Padworth, *Summers*.
- *896. *P. intermedia* L. 2 Cothill, 1908. 5 Wellington College, *Monckton*. B.E.C. 1917.
903. *P. erecta*, Hampe (*silvestris*). Roman Silchester.
902. *P. procumbens* × *erecta*. 2 Tubney. *P. procumbens* × *reptans*. 5 Blackwater.
- †906. *P. norvegica* L. 2 Didcot.
909. *Alchemilla vulgaris* L. Var. *minor* Huds. (*filicaulis*). 4 Reading, *Wallis*. Bagley, *Holliday*, 1857.
912. *A. arvensis*, Scop. Roman Silchester.
914. *Agrimonia odorata*, Mill. 5 Arborfield, *Higgins*.
- †918. *Poterium polygamum*, W. & K. 1 Carswell, *Niven*. 4 Clay Hill, Bucklebury, *Wallis*.
920. *P. officinale*, Gray. 3 Pinge Wood, *Murray*. 4 Fobney Meadows. Stratfield Mortimer, *Summers*.
925. *Rosa stylosa*, var. *systyla* (Bast.). 1 Wytham. 2 Betn. Radley and Kennington. 4 Brimpton. 5 Strathfieldsaye.
926. *R. canina* L. *Var. *aciphylla*, Rau. 4 Brimpton. Roman Silchester. *R. transitoria*. *Var. *globularis* (Franchet). 2 Marcham. *Var. *viridicata*, Rip. 4 Brimpton. *Var. *curticola*, Pug. 5 Blackwater.
932. *R. dumetorum*, Thuill. *Var. *semiglabra* (Rip). 2 Radley. 4 Brimpton.
936. *R. micrantha*, Sm. *Var. *permixta* (Déség.). 4 Brimpton.
937. *R. Eglantheria* L. (*rubiginosa*). *Var. *rotundifolia* (Rau). 4 Brimpton. *Var. *apricorum* (Rip.). 4 Brimpton.

941. *R. mollissima*, Willd. Var. *foetida* (Bast). 5 Waltham.
 *Var. *cuspidatoides* (Crép.). 1 Cumnor. 2 Tubney, Cothill.
 3 Moulsoford.
 *Var. *uncinata* (F. A. Lees). 1 Cumnor. 2 Boar's Hill.
 *Var. *pseudo-mollis* (Baker). 1 Cumnor. 2 Boar's Hill, Tubney,
 Marcham.
 *Var. *pseudo-cuspidatoides* (Crép.). 3 Moulsoford.
 *942. *R. omissa*, Déség. 2 Tubney.
 943. *R. villosa* L. *Var. *submollis* (Ley). 2 Boar's Hill.
 953. *Pyrus Malus* L. Roman Silchester.
 †954. *Pyrus communis* L. 2 Radley Wood. 5 Arborfield, Wallis.
 961. *P. Aria*, Ehrh. A large tree near Radley. 3 Pangbourne, Hb.
 Bab.
 963. *P. torminalis*, Ehrh. 4 Mortimer, Summers.
 966. *Crataegus monogyna*, Jacq. (*Oxyacantha*). Roman Silchester.
 *Var. *quercifolia*, Loud. 4 Ufton. × *oxyacanthoides*. 1
 Wytham. 2 Radley.
 967. *C. oxyacanthoides*, Thuill. *Var. *ericalyx*, Druce. Wytham.
 *973. *Amelanchier canadensis*, Med. 5 Naturalised in wood between
 Ascot and Bracknell.
 985. *Saxifraga tridactylites* L. On mud of a recently dried up mill-
 dam, Cothill, 1918.
 992. *S. granulata* L. 1 Carswell, Niven. 2 Besselsleigh, Miss
 Walker. Cherbury Camp. 3 Lowbury, Blewbury Downs.
 Radley, Sutton Courtney. 4 Newbury, Bicheno. Thatcham,
 Summers.
 *996. *Chrysosplenium alternifolium* L. First found by Mr. C. P.
 Hurst, 1910. 4 Wood near Gibbet Hill. Greenham Common,
 1912, Miss Todd.
 997. *C. oppositifolium* L. 3 Sulham, Murray. Nr. Bradfield, Vince.
 4 Sulhampstead, Padworth, Summers.
 †1002. *Ribes nigrum* L. 3 Bucklebury, Wallis. Streatley, Murray.
 1007. *Cotyledon Umbilicus -Veneris* L. 4 Donnington, Comyns.
 1010. *Sedum Telephium* L. Burnt Hill, Yattendon, Irvine. Tile-
 hurst, Murray.
 *1020. *S. Cepaea* L. Bradfield, 1900, J. H. Vince. Alien.
 1018. *S. dasyphyllum* L. 2 Kingston, Northcourt.
 1015. *S. acre* L. *Var. *Drucei*, Schroeter (*S. Drucei*, Graebner).
 This is the Berkshire form of *acre*. It was especially abundant
 in flower in 1913. Graebner asserts it to be a distinct species.
 †1012. *S. reflexum* L. 1 Buckland. 2 Kingston, Drayton. 4 Near
 Ufton and Sulhampstead, Murray. Near Reading, Higgens.
 1028. *Drosera longifolia* L. 4 Padworth Common, Summers.
 1029. *D. rotundifolia* L. 4 Boxford, 5 circa Bagshot, Sibth. MS.
 1030. *Hippuris vulgaris* L. 2 Letcombe Bassett.
 1033. *Myriophyllum alterniflorum* DC. 5 Wokingham, Gambier
 Parry.

1034. *M. verticillatum* L. 5 Sonning, *Herb. Bab.* 1830.
1039. *Callitriche intermedia*. *Var. *rivularis*, Williams. 2 Marcham.
1046. *Epilobium angustifolium* L. First record, circa Henley, *Sibth. MS.*, 1780. 2 Steventon, Kennington railway. 4 Englefield Green. 5 Now become an abundant and aggressive weed about Wellington College.
1047. *E. hirsutum* L. Var. *villosissimum*, Koch. 4 Billingbear Park. *Monckton*.
1054. *E. montanum* L. Var. *verticillatum*, Koch. 3 Tilehurst.
1052. *E. roseum*, Schreb. 3 Cold Ash, *Wallis*.
1049. *E. tetragonum*, L. Var. *stenophyllum*. 4 Bucklebury, *Jackson*.
1051. *E. obscurum* × *roseum*. By the Blackwater, *Marshall*, l.c.
- †1061. *Oenothera biennis* L. 2 Radley.
- *1064. *Oe. Lamarckiana*, Ser. Many thousands occurred along the railway from Didcot to Steventon in 1908, but they have mostly disappeared. 3 In a wood at Tidmarsh.
1076. *Bryonia dioica*, Jacq., 1078 *Hydrocotyle vulgaris* L., and 1086 1086. *Conium maculatum* L. Roman Silchester.
- †*1082. *Astrantia major* L. Said to be in plenty at Enborne in Berks, *Loud. Mag. N. H.*, vi. 379, 1833.
- †1087. *Smyrniium Olusatrum* L. 4 Near Ufton Church.
1090. *Bupleurum rotundifolium* L. First record, circa Oxford, *Sibth. MS.* 1780. Oatmill, nr. Abingdon, *Bicheno*. 3 Railway near Reading.
- *1091. *B. lancifolium*, Hornem. (*protractum*). 2 Cothill, 1908. Abingdon, 1918, *Gambier Parry!* Alien.
1097. *Apium graveolens* L. Roman Silchester. First record, Shippon, *Bicheno*, 1815.
1099. *A. inundatum*, Reichb. f. First record, Bagshot, *Sibth. MS.*, 1780.
- *1101. *Ammi majus* L. 2 Letcombe Castle, *Riddelsdell in B.E.C.*, 1909. Alien.
1106. *Carum segetum*, B. & H. First record, Bagshot, *Sibth. MS.*, 1780. 2 Uffington, *Mrs. Bentall*. 3 Streatley, *Towndrow*.
1111. *Sum erectum*, Huds. First record, circa Oxford, *Sibth. MS.*, 1780. 4 Fobney Meadows. Padworth, *Summers*.
1115. *Conopodium majus*, Loret (*denudatum*). Roman Silchester.
1126. *Cerefolium sylvestri*, Bess. *Var. *latisecta* (Druce). This is the common Berkshire plant.
1127. *C. Anthriscus*, Bess. 2 Radley. 5 London Road, Reading, *Summers*. Coleman's Moor. 2 Abingdon, *G. Parry*.
- †1128. *C. sativum*, Bess. 5 Near Bray, *Riddelsdell*. Island in Thames near Cookham.
1132. *Oenanthe aquatica*, Poir. (*Phellandrium*). Beech Hill, Mortimer, *Summers*.

1137. *Oe. Lachenalii*, Gmel. *Var. *approximata*, Koch. 2 Marcham, B.E.C. 31, 1917.
1138. *Oe. fistulosa* L. *Var. *Tabernaemontani* (Gmel.). 1 Wytham. 2 St. Neot's, Kennington.
1139. *Aethusa Cynapium* L., *Peucedanum sativum*, B. & H., and *Heracleum Sphondylium* L., all in Roman Silchester
- *1153. *Heracleum villosum*, Fisch. 2 Abingdon. Alien.
- *1157. *Coriandrum sativum* L. Roman Silchester. 2 Cothill, 1907. Reading, Wallis. Bradfield, 1916, *Vince*. Alien.
1168. *Caucalis arvensis*, Huds. 2 Cholsey, *Henslow*, 1835. 4 Newbury, *Bicheno*, 1812. First record, circa Oxford, *Sibth. M.S.*, 1790.
1169. *C. nodosa*, Scop. 4 Betn. Thatcham and Newbury, *Summers*. *Var. *pedunculata* (R. & F.), Druce. 2 Shippon.
1171. *C. latifolia* L. 2 Cothill. 4 Enborne Road, *Jackson*.
1176. *Adoxa Moschatellina* L. 4 Mortimer, *Summers*.
1178. *Sambucus nigra* L. Roman Silchester.
1179. *S. Ebulus* L. 2 Kennington. Near Weyland's Smithy. 4 Kintbury, *Miss Todd*. Aldermaston, *Summers*.
- †1184. *Lonicera Caprifolium* L. Betn. Pusey and Cherbury Camp.
1194. *Galium erectum*, Huds. 1 Nr. Carswell, *Miss Niven*. 3 Moulshford, *Miss Neild*. 4 Newbury, *Bicheno*, Boxford. 5 Wellington Coll., *Monckton*, 1918. *forma ramosior*, 5 Cookham.
1196. *G. pumilum*, Murray (*sylvestre*). 1 Wytham. 2 Frilford Golf Course, *Lady Davy*. A recent immigrant.
1198. *G. palustre* L. *Var. *gracile*, Knaf. 1 Godstow and Wolvercote. *Var. *serrulatum*, Druce. 5 Hurst.
- *1203. *G. Valantia*, Web. (*Vaillantii*). 2 Cothill, 1908. 4 Reading, *Jackson*. Alien.
- †1210. *Asperula arvensis* L. 2 Cothill.
1215. *Valeriana officinalis* L. Roman Silchester. 3 Pangbourne, *Hb. Bab.* 1837.
- †1219. *Kentranthus ruber*, Druce. 2 Drayton, *Miss Lindsay*.
1224. *Valerianella dentata*, Poll. Roman Silchester.
1231. *Dipsacus pilosus* L. 1 Wytham. 4 Welford, *Osmond*. Aldermaston, *Bicheno*. Burghfield, *Murray*. 5 Holme Park, *Sonning*, *Summers*.
1237. *Scabiosa Succisa* L. First record, circa Oxford, *Sibth. M.S.*, 1780. Newbury, *Bicheno*, 1817.
1248. *Bellis perennis* L. A fasciated example with six heads on one stem. Yattendon, *Simeon*, 1906.
- †1251. *Aster paniculatus*, Lam. 2 Cothill. Alien.
1261. *Erigeron acre* L. 3 Bucklebury, *Wallis*. 4 Padworth, *Summers*.
- †1262. *E. canadense* L. 5 Crowthorne, *Monckton*.
1266. *Filago apiculata*, G. E. Sm. 2 Besselsleigh, *Walker*. Cothill, *Frilford*.

1269. *F. minima*, Fr. A slender, simple erect form. Between Wokingham and Well. Coll., Miss E. Armitage in *Journ. Bot.* 54, 1904.
1279. *Inula Helenium* L. 1 Wytham, abundant 1899. I was unable to see it in 1918. 2 By the railway near Shrivenham. 4 near Aldermaston in a copse, H. A. King.
1286. *Pulicaria squarrosa*, Bernh. (*vulgaris*). 4 By the roadside from main Mortimer road to the Three Firs, Wallis. Grazebrook, Tufnail. Shinfield, 1830, *Herb. Salt*.
- †1290. *Ambrosia artemisifolia* L. 1 Wytham Mill. 4 Reading, Stansfield. 5 Bearwood. Shinfield.
- †*1294. *Xanthium strumarium* L. 2 Abingdon. 5 Maidenhead, Summers.
- †1295. *X. spinosum* L. 1 Wytham. 2 Abingdon, N. Lindsay. 5 Waltham, *Gard. World*, 1898.
- *1301. *Helianthus annuus* L. 2 Abingdon. Alien.
- *1301 (2). *H. debilis*, Nutt. 2 Abingdon. Alien.
- *1302. *H. rigidus*, Desf. 2 Abingdon. Near Botley. Frilford.
- †1303. *H. tuberosus* L. 2 Abingdon, Cothill. 3 Reading.
1310. *Bidens tripartita* L. Roman Silchester.
1329. *Achillea Millefolium* L. *f. *conspicua*, Druce. Hinksey, &c.
- *1332. *A. decolorans*, Willd. (*serrata*). Thames at Streatley, J. Woods, 1813. Alien.
1343. *Anthemis arvensis* L. 1 Carswell, Niven.
1339. *A. nobilis* L. 3 Englefield Green, Cox. In lawns at Southern Hill, Reading, Wallis. 5 Well. Coll. Monckton.
- †1338. *A. tinctoria* L. 2 Boar's Hill.
1347. *Anthemis Cotula* L. forma *latisecta* Thell. 2 Abingdon.
1353. *Chrysanthemum Leucanthemum* L. Roman Silchester.
*forma *flosculosum*, Druce. 4 Wickham, Miss Todd, 1918. See *Rep. B.E.C.*
- *1356 (6). *C. serotinum* L. 2 Frilford. Abingdon. Alien.
- *1362. *Matricaria suaveolens*, Buch. (*discoidea*). First found by the writer in 1900, see *Journ. Bot.* xx, 1905, betn. Twyford and Hurst. 4 Kintbury, Hurst. Near Grazeley. 5 Wokingham. Well. Coll., Monckton, 1915. Ambarrow. Twyford, Hurst, 1910. Sandford Mill.
1366. *Tanacetum vulgare* L. 1 Shrivenham. 2 Sunningwell, *Holliday*, 1858. 5 Shinfield, Summers. Old Windsor, Mosley, *Hb. Br. Mus.* Sunningdale, Jouldern's Ford.
- †1388. *Doronicum Pardalianches* L. 3 Pangbourne, Higgens. 4 Aldermaston Park, Galt. Nr. Alden Bridge [? Hants.]
1396. *Senecio squalidus* L. Since the *Flora* was published in 1897 this species has increased most wonderfully at Reading, where it is now even commoner than at Oxford, and has spread from the railway ballast to walls and waste places. It is yearly extending its range along the G. W. railway, having

reached Hanwell in Middlesex. Along the main line it is now plentiful at Swindon and has penetrated to Portland in Dorset, to Newport, Monmouth, and Cardiff in Glamorgan, but it is not certain that these plants owe their origin to Oxford, since it may have come with ballast to Cardiff. *Squalidus* is also established on the railway near Worcester and Droitwich and has settled itself in Cardiganshire. North of Oxford it has reached Banbury, Warwick and Salop, and extends into Northamptonshire at Kings Sutton. Along the Thame railway it has spread to Albury, and on the London and North-Western Railway it has been carried to Verney Junction and Bletchley. By 1906 it had spread to the South-Eastern line at Reading, and Wellington College. To all these places, with the possible exception of Cardiff, it has been carried by passing trains within the last thirty years. That it is so conveyed one is able to speak positively, for fruits were noticed to enter a railway carriage near Oxford and to float round and round until eventually they were carried out by air currents after passing Reading. In a similar way fruits of *Salix cinerea* were observed to be carried over thirty miles from their place of origin. A solitary plant of *squalidus* was found on mud of a drying-up pool at Cothill in 1918, the fruit of which had probably been blown from Swindon.

*Var. *leiocarpus*, Druce. Reading, Kintbury, Summers.

*Forma *subintegrus*, Druce. Didcot, Reading.

- *1399. *S. viscosus* L. 3 Reading, on railway. First record, Druce in B.E.C. 239, 1906.
1403. *S. integrifolius*, Clairv. (*campestris*). 4 Chilton Foliot, Summers.
- 1408 (2). *Senecio lautus*, Forst. This Australian alien was discovered on waste ground near Abingdon by Miss Lindsay, introduced with sheep-skins, 1917.
- †1410. *Calendula officinalis* L. Abingdon, Reading, on railway.
1415. *Carlina vulgaris* L. 1 Wytham.
1418. *Arctium Lappa* L. With *Acrospermum compressum*, Tode. Bagley Wood, Baxter, 1822. Radley.
1420. *A. nemorosum*, Lej. 1 New Bridge. 3 Reading.
1422. *Carduus nutans* L. Roman Silchester. 1 New Bridge. 3 Pangbourne, *Herb. Bab.* With glabrous rosettes of leaves at Wytham.
- C. nutans* × *acanthoides*. 1 New Bridge. 2 Cherbury, very fine. 3 Reading.
1425. *C. tenuiflorus*, Curtis. 2 In a lane between Radley and Kennington, 1901, in great quantity. Since disappeared.
1426. *Cirsium (Cnicus) eriophorum*, Scop. 1 Near Pusey. Abundant near New Bridge. 2 Near Cholsey towards Compton, *Comm. Walker*.

1427. *C. lanceolatum*, Scop. Roman Silchester.
1430. *C. pratense*, Druce (*britannicum*). 2 Abingdon meadow.
 × *palustre* = **C. Forsteri* (Sm.) Druce. 2 Cothill, *Miss Todd*, 1918.
1433. *C. arvense*, Scop. First record, circa Oxford, *Sibth. MS.* 1780.
 †Var. *setosum*, Mey. 1 Wytham, in some quantity and persistent.
1439. *Onopordon Acanthium* L. 2 Kingston Bagpuize. 3 Tilehurst, *Murray*.
- †1443. *Mariana lactea*, Hill (*M. Mariana*). 2 Besselsleigh, *Miss Walker*. Still persists at Abingdon. 3 Reading, *Murray*.
1446. *Serratula tinctoria* L. 2 Birch Copse, *Holliday*, 1858. 5 Between Windsor and Ascot, *Countess Fortescue*, 1915.
1451. *Centaurea nigra* L. Var. *deceptiens*, Cholsey, *Henslow*, 1825. forma *radiata*, with whitish ray, Wytham.
- †1462. *C. Solstitialis* L. 2 Cherbury. Boar's Hill.
- †1463. *C. melitensis* L. 2 Abingdon.
- *1465. *Centaurea Calcitrapa* L. First found by the writer on waste ground near the railway, Reading, 1911.
- *1477. *Carthamus tinctorius* L. 2 Abingdon, 1913, *Miss Lindsay* and *Druce*. 3 Reading. Alien.
1488. *Picris Echioides* L. 4 Theale, *Murray*. Reading ballast. 5 Maidenhead, *Summers*.
1494. *Crepis biennis* L. 1 Shrivvenham. 2 Frilford. Lowbury, with very large almost simple leaves.
- †1495. *C. nicaeensis*, Balb. 3 Reading ballast.
1502. *C. taraxacifolia*, Thuill., has now spread all over the county.
- †1503. *C. setosa*, Hall. f. Abingdon, *F. Stone*.
- *1510. *Hieracium praealtum*, Vill. First found, in 1918, in some quantity on the railway-bank near Hungerford, *C. P. Hurst*, well established. Alien.
- *1512. *H. aurantiacum* L. Gravelly field near Bradfield, 1908, *J. H. Vince*. Alien.
- *1508. *H. pellucidum*, Laest. First found by the writer, 1904, in the railway cutting through the chalk near Upton, to which the fruit must have been brought by wind currents, probably from Gloucester, Somerset, or Oxford, as previously to the making of the railway it did not grow in the vicinity.
- *1572. *H. serratifrons*, Almq. 5 Crowthorn, site of Coxe's wood, 1916, *Monckton*, *B.E.C.* 1917, and *var. *lepistoides*, Johann, nearest to this but leaves untypical. 4 Reading, 1913, *Druce*. 5 Coxe's Wood, Crowthorne, *Monckton*, 1916.
 **H. transiens*, Ley. 3 Basildon. 4 Brimpton. 5 Nr. Wargrave.
 **H. torticeps*, Dahlst. 2 Near Didcot.
- *1588. *H. surrejanum*, F. J. H. 5 Finchampstead, Ridges above Ridge Farm, 1915, *Monckton*.
- *1601. *H. pinnatifidum*, Lonnr., var. *vivarium*, Lonnr. St. Sebastian, Wokingham, 1916, *Monckton*.

- *1607. *H. maculatum*, Sm. 1 Buckland.
 1609. *H. sciaphilum*, Uechtr. 3 Bradfield. Pangbourne, Murray.
 1610. *H. cacuminatum*, Dahlst. 5 Near Sandhurst.
 1629. *H. tridentatum*, Fr. 4 Brimpton. *Var. *acrifolium*, Dahlst.
 4 Aldermaston. 5 Blackwater, Marshall, l.c. *Var. *setigerum*, Ley, Wellington College.
 1630. *H. rigidum*, Fr. *Var. *trichocaulon*, Dahlst. 5 Wellington College, Monckton. Easthampstead.
 1638. *H. umbellatum* L. 3 Tilehurst.
 *Var. *coronopifolium*, Fr. Sandhurst, Monckton.
 1637. *H. ooreale*, Fr. 3 Pinge Wood, Pangbourne, Murray. Tilehurst.
 5 Burghfield.
 *Var. *Hervieri*, Arv. Touv. 2 Boar's Hill. 4 Enborne St., Druce in *Journ. Bot.* 199, 1910.
 *Var. *virgultorum* (Jord.) 3 Between Tilehurst and Suleham, Druce, l.c.
 *Var. *rigen*s (Jord.) 5 Near Wellington College.
 1661. *Hypochoeris glabra* L. Abundant near Frilford in 1912, since almost disappeared. 5 Roadside near Virginia Water, Wallis.
 1642. *Leontodon hispidus* L. Roman Silchester.
 1645. *Taraxacum laevigatum* DC. (*erythrospermm*). 2 Kingston Bagpuize.
 1645. *T. obliquum*, Dahlst. (*laevigatum*, Fl. Berks). 2 Frilford.
 1645. *T. vulgare*, Schrank, (*officinale*). *Var. *alpinum*, Koch. 1 Wytham. *Var. *taraxacoides*, Koch. 2 Boar's Hill, teste Freyn.
 1646. *T. paludosum*, Schlecht. (*palustre*). 5 Near Loddon Bridge.
 1648. *Lactuca virosa* L. 5 Near Whitley Wood, Summers. Waste land, Reading, Wallis. Var. *integrifolia*, Gray. Twyford.
 1651. *L. muralis*, Fresen. 2 Cholsey, Henslow, 1825. Frilford. 5 Sonning, Strathfieldsaye.
 [1655. *Sonchus palustris* L. Seeds in Roman Silchester, probably introduced among the reeds for roof-thatching. Long ago extinct there. The plant still exists in the Oxford habitat, where it was discovered by the Rev. E. Ellman.]
 1658. *S. oleraceus* L. Roman Silchester. *Var. *albescens*, Neum. Boar's Hill.
 1671. *Campanula glomerata* L. First record, near Oxford, Sibth. MS. 1780. 2 Abundant between Blewbury and Moulsoford. 4 Newbury, Bicheno, 1825. Wellington Coll., Monckton.
 [1672. *C. latifolia* L. 5 White Knights, I. Carroll, 1849, in *Hb. Br. Mus.*, doubtless from the gardens.]
 1673. *C. Trachelium* L. 2 Besselsleigh, Miss Walker. Betn. Ashbury and Kingston Lisle, Bellamy. 3 Near Unwell Wood, with glabrous calyx, C. F. Vincent. 2 Uffington Wood, forma *alba*, R. Clement.
 1674. *C. rapunculoides* L. 2 Besselsleigh, Miss Walker. 3 Near Pangbourne, Miss Vachell, 1916.

- *1676. *C. persicifolia* L. First found by Mr. J. R. W. B. Tomlin in 1910, on a common among gorse bushes, plentifully, in the Kennet valley near Newbury. See note by the writer in *Rep. Bot. Exch. Club*, 576, 1910. A most interesting addition to the Flora. Here it has quite the appearance of a native species which (unless purposely introduced) I think it to be. The only other possibly native station known in Britain is Gloucestershire.
- *1679. *Legousia Speculum-veneris*, Fisch. 5 Nr. Hurst Mill. Alien.
1693. *Calluna vulgaris*, Hull (*Erica*). *Sub-var. *speciosa*, Druce. 5 Wellington College, R. H. Corstorphine and Druce.
1694. *Erica cinerea* L. 4 Englefield. 5 Bagshot, Sibthorp, 1780.
- *1706. *Rhododendron ponticum* L. Seeding freely at Aldermaston. 5 Virginia Water, Ascot. Bearwood, &c. Alien.
1709. *Pyrola minor* L. 5 Wellington College, Monckton.
1712. *Hypopitys Monotropa*, Crantz. Goodenough in *Smith Corresp.* 557, says 'Sir Henry Parker sent it me from Great Marlow many years ago when I was a young botanist.' 3 Ashhampstead Wood, J. H. Vince. Wood near Henley, *Petiver Hort. Sicc.* in *Hb. Br. Mus.*
1723. *Hottonia palustris* L. 4 Near Three Mile Cross, Murray, 5 Between Henley and Remenham, 1836, Mrs. Davenport, (? Bucks).
1725. *Primula vulgaris*, Huds. (*acaulis*). With flowers about half the normal size at 4 Welford, Mr. Ross.
- P. vulgaris* × *veris*. A one-flowered form with filiceous calyx, Boar's Hill, 1899, also at Yattendon, Rev. A. Simeon. Hawkrigge. The first record for the hybrid is 'This Oxslip, when first found in Cumner Wood not far from Ensham Ferry, had betwixt fower score and a hundred flowers fully blowne, besides what was not sprung out,' f. 141, *M. Dodsworth*, c. 1680. See *Britten. Journ. Bot.* 101, 1909.
1726. *P. veris* L. First record: 'About the 8 of May Twas found and gathered a couslip in Philipson's leas in the parish of Commore (Cumnor) Berkz, having a stalk a foot long, 2 inches and a half aboutin bigness: flowres on it 258 and the circumference about them 14 a inches and a half. This relation I sent to the Royall Society and (it) is entred in their Publick Register. Colonel John Peacock had it and he gave it me on Holy Thursday even (27 May) when I was with him.' *Wood's Life and Times*, 1674, Ed. A. Clarke, Oxford, 1892.
1733. *Lysimachia vulgaris* L. Var. *angustifolia*. Lower end of Virginia Water, H. C. Watson in *Kew. Herb.*
1736. *L. Nummularia* L. After many years' unsuccessful search I found this, in company with Mr. Broome, in 1899 fruiting on a hedge-bank near Hurst, and again in 1904. Syme (*Eng. Bot.*) states he has never seen ripe fruit. The capsule resembles that of *L. nemorum*.

1737. *L. nemorum*. 3 Hawkridge. 4 Snelsmore, Bicheno, 1815.
1742. *Anagallis femina*, Mill. 2 Wootton Fields, near Abingdon, Bicheno, as *A. caerulea*, figured from this specimen in *Hooker Fl. Lond.* t. 159. Botley, Gambier Parry. 3 Tidmarsh Mill, Murray, Reading ballast.
1743. *A. arvensis* L. Roman Silchester. 'Pimpernell with an elegant white flower. I found it in a field by South Hinksey, 2 miles from Oxford,' M. Dodsworth, c. 1690, see *Journ. Bot.* 101, 1909. *Var. *verticillata*, Diard. Wytham.
1744. *A. tenella*, Murray. First record, *A. palustris rotundifolia repens purpurascens flore tubulata* prope Chilswell, Dillenius MS. 1746. 2 Abingdon meadow.
1746. *Samolus Valerandi* L. 1 Base of Cumnor Hill, Bellamy. Very rare in a ditch opposite Cassington. 3 Basildon, G. Parry. 4 Burghfield, Stansfield.
- †1747. *Syringa vulgaris* L. 2 Frilford, in some plenty. Alien.
- †1750. *Vinca major* L. First record, circa Oxford, *Sibth. MS.* 1780. 3 Bradfield, Murray. Betn. Tidmarsh and Theale. 5 Sunningdale.
- †1751. *V. minor* L. First record, about Oxford, *Sibth. MS.* 1780. 2 Frilford. 3 Yattendon. Hawkridge, R. H. Hooker. A garden form with dark purple flowers in orchard hedge, Bucklebury, Wallis.
1753. *Blackstonia perfoliata*, Huds. 2 Near Ashbury, Rev. L. Hamerton. 4 Between Inkpen and Coombe, Summers.
1754. *Centaureium umbellatum*, Gilib. (*Erythraea*). First record, *C minus vulg. fl. rubente*, about Wytham, Dillenius MS. 1746.
1763. *Gentiana Amarella* L. Var. *praecox*, Raf. 3 Churn. Forma *alba*, Ashbury, Rev. L. Hamerton.
1766. *G. germanica*, Willd. 3 Streatley, Miss Todd and G. Parry, 1917, thus confirming Pamplin's record which I had queried. 4 Shalbourne, C. P. Hurst. Coombe Hill.
- **G. Amarella* × *germanica* = *G. Pamplini*, Druce in *B.E.C.* 379, 1892. See Wettstein's Monograph, 56, 1896. 2 Letcombe. 4 Coombe. Shalbourne, C. P. Hurst. Distributed through the *B.E.C.* by the writer in 1892.
1766. *Menyanthes trifoliata* L. First record, circa Oxford, *Sibth. M.S.* 1780. 2 Iffley meadows. 4 Boxford.
1767. *Nymphoides peltatum*, Kuntze (*Limnanthemum*). 5 Thames at Ankerwyke, Goodenough in *Sm. Fl. Brit.* 226, 1800.
- †1777. *Polemonium caeruleum* L. Sutton Courtney, Mrs. Lindsay, 1913.
- *1767 (10). *Phlox paniculata* L. Alien. Cothill, 1915.
1784. *Cynoglossum officinale* L. 1 Pusey. 2 Radley. 4 Southcote, Murray.
- †1797. *Lappula echinata*, Gilib. 2 Cothill.

- †1792. *Symphytum peregrinum*, Ledeb. (*asperimum*). 1 Cumnor.
2 Fyfield. Pusey. 4 Hungerford, Hurst.
1790. *S. officinale* L. Var. *patens* (Sibth.). 3 Pangbourne, Herb.
Bab. 1847.
- †1796. *Borago officinalis* L. First record, circa Oxford, Sibth. MS.
1780. 4 Englefield, Murray.
- †1798. *Anchusa sempervirens* L. 2 Lockinge.
- *1799. *A. undulata* L. Cothill, 1910. Alien.
- †1800. *A. officinalis* L. 2 Boar's Hill, E. D. Watkin. Cothill, 1907-8.
Abingdon, Gambier Parry.
- *1802. *A. azurea*, Mill. (*italica*). 2 Cothill, 1907. Var. *Droptmore*,
in a quarry, Marcham. Alien of garden origin.
- **A. ochroleuca*, M. Bieb. 2 Cothill, 1908. A chicken-food alien.
- *1810. *Asperugo procumbens* L. 4 Speen, Jackson.
1813. *Myosotis palustris*, Hill., var. Wytham Woods in the ridings
on muddy ground.
1814. *M. repens*, Don. 4 Padworth, Summers. 5 Wellington Coll.
1817. *M. sylvatica*, Hoffm. Casual. 3, a few plants among gorse,
Bucklebury Lower Common, Wallis. 5 In woodland about
Bracknell, but probably of garden origin.
1820. *M. collina*, Hoffm. 2 Kingston. Lowbury. 3 Moulsoford,
Basildon. Var. *Mitteni*, Baker. 2 Cothill. Kingston Bag-
puize.
1822. *Lithospermum officinale* L. 1 New Bridge. 2 Betn. Ferry
Hinksey and Cumnor Hurst. Betn. Bagley and Wootton.
1824. *L. arvense* L. First record, about Oxford, Sibth MS. 1780.
2 Besselsleigh, Walker.
1825. *Echium vulgare* L., forma *rosea*. Wytham, A. Murray. c
Greenham, Bicheno, 1815.
- *1826. *E. italicum* L. Var. *pyramidale* (Lap.). Alien. 2 Cothill,
1907-10. B.E.C. 39, 1917, and 303, 1907.
1831. *Volvulus sepium*, Medic. First record, circa Oxford, Sibth.
M.S. 1780.
1833. *Convolvulus arvensis* L. Mr. Stonestreet's Henley plant (*Herb.*
Dubois about 1690) I have named *var. *Stonestreetii* in B.E.C.
330, 1913. It is also alluded to as *C. minor quinquepartitus*,
Maidenhead Bridge, *Petiver Hort. Sic.* in *Hb. Br. Mus.*
- *Var. *linearifolius*, Choisy. 2 Frilford, Druce in B.E.C. 422, 1916.
1838. *Cuscuta europaea* L. 4 In a lane leading from Greenham
Common to Chamberhouse, near Newbury, Mr. Bicheno. It
is found elsewhere in the county, *Hooker Fl. Lond.* iii, t. 67.
In great abundance in hedge near Sandford Bridge, growing
on hop and nettles, 1903.
1839. *C. epithimum*, Murr. First record, Bagshot, Sibth. MS. 1780,
as *europaea*. 3 Ashampstead. Streatley and 4 Southcote,
Murray. 5 Coleman's Moor, Wallis. Finchampstead.
- *1843. *C. Tinea*, Insengi. Streatley, V. Murray, 1915. Alien.

- †1844. *Lycopersicon esculentum*, Hill. Abingdon. Reading. 5 Near Wellington College.
1845. *Solanum Dulcamara* L. Roman Silchester. Var. *tomentosum*, Koch. Near Pangbourne, *Hb. Babington*, 1847.
1846. *S. nigrum* L. 1 Wytham. 2 Besselsleigh, *Miss Walker*. Cot-hill. Abingdon. 3 Bradfield, *Sheppard*.
1854. *Atropa Belladonna* L. Roman Silchester. 5 Sonning, *Summers*.
- †1855. *Datura Stramonium* L. 2 Sutton Courtney, *Lindsay*. Radley. Beenham and 5 Maidenhead, *Wallis*.
1856. *Hyoscyamus niger* L. First record, circa Oxford, *Sibth. MS.* 1780. 1 Wytham Mill. 2 Besselsleigh, *Miss Walker*. Radley. 3 Tidmarsh Mill. Yattendon, *Murray*. 5 Clewer, *Everett*.
- *1851 (3). *Physalis ixocarpa*, Brot. First found at Abingdon by *Miss Nancy Lindsay*. A Mexican alien.
- *1859 (3). *Nicotiana Tabacum* L. Abingdon, 1918, *T. Gambier Parry*. Alien.
1866. *Verbascum Lychnitis* L. 4 Bradfield, *E. F. Witts MS.* 1836. 5 Plentiful on newly-turned soil near Twyford Station in 1899, but soon disappeared. In 1904 it was again seen. Wargrave, 1905, *Stanton*.
1867. *V. nigrum* L. 4 Aldworth. 5 Upton, *Murray*.
- †1864. *V. Blattaria* L. 5 Park Place, Wargrave, 1904, *Stanton*.
- †1877. *Linaria purpurea*, Mill. 2 Sutton Courtney. Abingdon.
1878. *Linaria repens*, Mill. Henley spec. were issued in *Dickson's Fasc.* xvii, 1799, n. 18, 2 Benson Lock, *Towndrow*, 1855.
1885. *L. Elatine*, Mill. 1 Pusey, *Boswell*. 4 Mortimer, *Summers*.
- †1886. *L. Cymbalaria*, Mill. This is stated in *Herb. Sowerby (Hb. Br. Mus.)* to have been 'planted on Windsor Castle by Sir Joseph Banks and Dr. Lind.'
- †1889. *Antirrhinum majus* L. 2 Cothill. Abingdon. Kingston Bagpuize.
1890. *A. Orontium* L. 1 Buckland, *Mrs. Milne*. 2 Besselsleigh, *Miss Walker*. Cothill.
1891. *Scrophularia vernalis* L. Figured in *Hooker Fl. Lond.* from a spec. 'from a lane leading from Bucklebury Church to Marsden.'
1892. *S. aquatica* L. 3 in Sulham Woods it attained a height of 9 feet.
- *1893. *S. alata*, Gilib. First found by C. P. Hurst, 1915. See *Bot. Exch. Club*, 204, 1915. 4 Kennet. By the Shalbourne brook on the border of Wilts.
- . *S. alata* × *aquatica* = *S. Hursti*, Druce in *B.E.C.* 204, 1915, growing with both parents in this locality, a previously undescribed hybrid found by Mr. Hurst.
1894. *S. nodosa* L. *Var. *appendiculata*, Merat. Cothill, 1916. Var. *Bobarti*, Pryor. 2 Near Radley, *M. Odling*.

1901. *Limosella aquatica* L. 4 By the Enborne Stream, Jackson, 1906. [It has been refound at Binsey in Oxfordshire close to the Berks border.]
1907. *Veronica officinalis* L. First record, circa Oxford, *Sibth. MS.* 1780. 1 New Bridge.
1909. *V. montana* L. First record, near Virginia Water, *Dr Goodenough, Sm. Fl. Brit.* 1800. 3 Hawkridge. Hampstead Norris.
1911. *V. Beccabunga* L. First rec., circa Oxford, *Sibth. MS.* 1780.
1912. *V. Anagallis* L. sens stricte. 2 Hinksey. 3 Hampstead Norris, &c
- *1912 (2). *V. aquatica*, Bern. Near Abingdon.
1924. *V. agrestis* L. First record, fields near Wallingford, *E. F. Witts*, 1836.
- **V. speciosa*, R. Cunn., Recorded (as *spectabilis*) from Wargrave by *Mrs. Climenson*. A New Zealand species.
- *1931. *Euphrasia stricta*, Host. First found by the writer at Cot-hill in 1903.
- *1932. *E. brevifolia*, Burnat & Gremli. Wellington Coll. on Schist and on Bagshot Sand, *Monckton*, 1913.
1934. *E. nemorosa*, Pers. Our common species. **Var. ciliata*, Buckn. Wellington Coll. on Bagshot Sand, *Monckton*. Billingbear on London Clay.
- *1935. *E. curta*, Fr. 3 Blewbury Downs. *Var. glabrescens*, Wetts. East Berks Golf Links, *Monckton*.
- *1941. *E. Rostkoviana*, Hayne. First record, the writer, 1901. 5 Coleman's Moor, 1901. Wellington Coll. Wokingham. Easthampstead. East Berks Golf Links on Bagshot Sand, *Monckton*.
- *1943. *E. Kernerii*, Wetts. First found by the writer. 3 Ilsley Downs. 4 Walbury Camp, 1899.
1949. *Pedicularis palustris* L. 2 Abundant near Sutton Courtney.
1954. *Rhinanthus stenophyllus*, Schur. (*angustifolius*). 4 Newbury.
1960. *Melampyrum pratense* L. **Var. montanum* (Johnst.). 2 Birch Copse, *Holliday* in *Hb. Druce*.
- **Var. commutatum* (Beauv.) *sub-*var. concolor* (Schonh.). Bagley Wood, *Baxter* in *Hb. Druce*.
- *Sub-*var. laurifolium* (Beauv.). 3 Oarebury. Bere.
- *Sub-*var. digitatum* (Beauv.). 5 Near Crowthorne.
1966. *Orobanche major* L. 1 Wytham, 1917. 2 Sutton Courtney, *Mrs. Lindsay*. Didcot. 4 Reading, *Stansfield*. Coombe Hill. Chilton Foliot, *Summers*.
- *1969. *O. picridis*, Schultz. First found by the writer in 1908. 3 Streatley teste Beck von Managhetta.
1971. *O. minor*, Sm. (*Trifolium-pratense*). 1 Littleworth. 2 Wantage, *Murray*. Tubney, Cherbury, Marcham. 4 Burghfield, *Murray*.

1974. *Lathraea Squamaria* L. 4 Riever Wood, Hurst.
- *1988. *Mentha rotundifolia*, Huds. First record, 3 Railway near Hampstead Norris, Jackson, l.c. 28, 1912.
- *1990. *M. rotundifolia* × *spicata*. Pangbourne, Dr. F. J. Smith.
1990. *M. longifolia*, Huds. 2 Cothill. Sutton Courtney. 5 Wargrave, Stanton.
1901. To the var. *villosa* (Soie), which M. Briquet treats as a hybrid of *rotundifolia* crossed with *longifolia* and *spicata*, belong plants found near Abingdon. Besselsleigh.
- †1991. *M. spicata* L. 4 Southcote. 2 Abingdon.
1993. *M. piperita* L. 1 Carswell, Niven.
1996. *M. verticillata*, Huds. *Var. *Motoliensis*, Opiz. f. *purpurea*. 1 Wytham. *Var. *elata*, Host. 1 Godstow. Wytham.
1999. *M. rubra*, Huds. 3 Moultsford Downs, Miss Neild. Tilehurst. 4 Newbury, Bicheno.
2000. *M. arvensis* L. *Var. *Skozitziana*, Kern. 1 Godstow.
2001. *M. Pulegium* L. Clay Hill, an erect form, Wallis.
2003. *Lycopus europaeus* L. First record, circa Oxford, Sibth. MS. 1780. Sonning, Herb. Rudge, 1800. *Var. *glabrescens*, Schmidely. 2 Kennington, &c.
2004. *Origanum vulgare* L. 4 Newbury, Bicheno, 1815.
2007. *Thymus ovatum*, Mill. (*Chamaedrys*). 2 Frilford, Tubney. 4 Brimpton. 5 Sandhurst, Marshall, l.c. Coleman's Moor. Earley.
2013. *Satureia Acinos*, Scheele (*Calamintha arvensis*). 1 On a wall at Pusey. 2 Besselsleigh. Frilford. 3 Purley, Murray. Eastfield, Newbury, Bicheno, 1812.
2023. *Salvia pratensis* L. 2 One plant in field, Besselsleigh. 2 Upton, Miss Fry. 3 Moultsford Downs, Miss Neild. Between Hermitage and Yattendon, R. H. Hooker. 4 Weston, 1905, Osmond. Only of sporadic occurrence in Berks.
- †2031. *S. verticillata* L. 2 Cothill. Abingdon. Near Oxford on railway. Sinodun Hill, J. H. Vince.
2036. *Salvia Verbenaca* L. First record, circa Oxford, Sibth. MS. 1780. 4 Donnington Castle, Bicheno.
2043. *Scutellaria minor*, Huds. 4 N. side of Bucklebury Common, Wallis.
- *2046. *Prunella lacinata* L. First found by Mr. H. Weaver at 3 Tilehurst in 1903. See *Rep. of B.E.C.* 199, 1906.
2044. *P. vulgaris* L. Roman Silchester.
*Var. *memoralis*, Beg. 2 Hinksey, &c., *Druce in B.E.C. Rep.* for 1915.
- *2048. *Sideritis montana* L. 4 Near Newbury, Miss Beales. Alien.
- †2049. *Marrubium vulgare* L. 5 Clewer, Everett.
2057. *Stachys palustris* L. *Var. *oblongifolia*, Briq. S. Hinksey. 3 Tilehurst.
2058. *Stachys arvensis* L. Roman Silchester.

- †2059. *S. annua* L. 2 Cothill.
2061. *Galeopsis speciosa*, Mill. Between Shaw and Ham by the river, Comyns, 1905.
2062. *G. Tetrahit* L. Roman Silchester. Var. *nigricans*, Bréb. 2 Boar's Hill. 5 Sandford Mill. Crowthorn.
- †2069. *Lamium maculatum* L. 2 Near Sutton Courtney.
2072. *Lamium hybridum*, Vill. 3 Sulham, Wallis.
2073. *L. purpureum* L., and 2077 *Ballota nigra* L. Rom. Silchester.
2080. *Teucrium Scordium* L. 1 Wytham meadows. A most interesting discovery of a very rare species. The last Berkshire record was by Lightfoot in 1780.
- *2085. *Ajuga genevensis* L. First record, Miss Fry in *Bot. Soc. & E. C. Rep.* 137 (1917), 1918.
- This was discovered on the Berkshire downs by Miss Fry last June, who brought me a specimen, which she saw was distinct from *reptans*. From a plate in Hill's Herbal she thought it might be *alpina*. However there could be no doubt that the plant was *genevensis*. On visiting the locality shortly after under Miss Fry's guidance we found the plant growing under the shelter of gorse and where (if not intentionally introduced) the plant seems native. The situation is not near houses nor is *genevensis* often cultivated in British gardens. This is the first definite British record, for although the name appears in our Floras it is owing to confusing it with the northern *pyramidalis*, a quite distinct plant.
2090. *Plantago Coronopus* L. *Var. *tenuisecta*, Wirtg. Boar's Hill.
- †2089. *P. indica* L. (*arenaria*). 2 Cothill.
2092. *P. lanceolata* L. Roman Silchester. First record, circa Oxford, *Sibth. MS.* 1780. *Var. *elliptica*, Druce. 1 Wytham. 2 Frilford. 4 Wickham, Miss Todd.
2098. *P. media* L. First record, circa Oxford, *Sibth. MS.* 1780. Newbury, Bicheno, 1815. *Var. *lanceolatiformis*, Druce. 3 Streatley.
2099. *P. major* L. First record, circa Oxford, *Sibth. MS.* 1780. *Var. *megastachya*, Wallr. Hinksey.
2101. *Littorella uniflora*, Asch. (*juncea*). 3 Bucklebury Lower Common, Wallis. First record, 5 circa Bagshot, *Sibth. MS.* 1780.
2102. *Illecebrum verticillatum* L. This has either spread from the original locality to other places about Wellington College, or it may previously have been overlooked. Mr. T. Gambier Parry found it near King's mere.
- †2110. *Amaranthus retroflexus* L. Abingdon, Miss Lindsay. 3 Reading. 5 Clewer, Everett.
- *2114. *A. chlorostachys*, Willd. Var. *aristulatus*, Thell. 2 Abingdon, Miss N. Lindsay and Druce in *B.E.C. Rep.* 123, 1917. A skin alien.
2117. *Chenopodium rubrum* L. Roman Silchester. Var. *pseudobotryodes*, Wats. 5 Hurst.

2119. *C. Bonus-Henricus* L. First record, circa Oxford, *Sibth. MS.* 1780. 1 Cumnor. 4 Thatcham, *Summers.* Boxford. Roman Silchester.
2120. *C. hybridum* L. 4 Reading, *Downes*, 1831. Newbury, *Bicheno*, as *rubrum*.
2122. *C. murale* L. 2 Abingdon, *Miss Lindsay*, plentiful. 5 Clewer *Everett.* Near Windsor.
- *2123. *C. opulifolium*, Schras. 1 Wytham.
2124. *C. album* L. *Var. *lanceolatum* (Muhl.). 2 Abingdon.
*Var. *glomerulosum*, Reichb. By the Thames near Oxford.
**C. album* × *striatum*. Abingdon.
- *2125. *C. leptophyllum* (Nutt.). 2 Abingdon. 3 Reading, 1908.
**C. striatum*, Kras. 2 Abingdon, 1917, *Druce* in *Rep. B.E.C.* 124, 1917. Alien.
**C. hircinum*, Schrad. 2 Abingdon, *Druce*, l.c. Alien.
2129. *C. polyspermum* L. First record, circa Oxford, *Sibth. MS.* 1780. 1 Buscote. 3 Sulham, *Murray.* Clay Hill, *Wallis.*
Var. *spicatum*, Moq. 3 Tilehurst. 5 Loddon Bridge, *Murray.*
Var. *cymosum*, Chev. Clewer, *Everett.* Finchampstead.
- †2136. *Beta trigyna*, W. & K. 4 Lambourn railway, *Comyns.*
2144. *Atriplex patula* L. Roman Silchester.
2148. *A. deltoidea*, Bab. The earliest evidence is a spec. in *Herb. Bab.*, J. A. Power, 1838.
- *2155. *Kochia scoparia*, Schrad. Reading, near the railway, *B.E.C.* 241, 1906. Alien.
- *2168. *Salsola Kali* L. Waste ground near Reading, *Wallis.* Alien.
2169. *Polygonum dumetorum* L. 5 Coleman's Moor, *Wallis.* Occurs about Tubney in great quantity one year, then disappears more or less and as suddenly shows itself after a lapse of seven or eight years.
2170. *P. Convolvulus* L. Roman Silchester. First record, circa Oxford, *Sibth. MS.* 1790.
2171. *P. Bistoria* L. 5 Coleman's Moor, near the Loddon.
2173. *P. amphibium* L. Circa Oxford, *Sibth. MS.* 1780.
2175. *P. Persicaria* L. Roman Silchester.
2179. *P. minus*, Huds. *Var. *albidum*, Braun. 2 St. Neot's meadow. 5 Hurst.
*Var. *dubium*, Braun. Hurst
- *2183. *P. patulum*, Bieb. Abingdon. Alien.
2184. *P. aviculare* L. First record, circa Oxford, *Sibth. MS.* 1780. Roman Silchester.
**P. heterophyllum*, Lindman. This is the common plant in Berkshire. Under it come vars. *vulgatum*, *microspermum*, *rurivagum* and **erectum* (Frilford), and also **denudatum*, Desv. From saline meadow, Marcham. See *Fl. Berks.* 425.
**P. heterophyllum* × *aequale*, Lindm. Tubney.

- **P. aequale*, Lindm., under this comes the greater portion of var. *arenastrum* (Bor.). 1 Wytham. 2 Boar's Hill. 3 Tilehurst. 4 Newbury. 5 Wokingham.
- *2191. *P. cuspidatum*, Sieb. & Zucc. 2 Nr. Wantage Road. Abingdon. A Japanese alien.
2198. *Rumex crispus* L. First rec., circa Oxford, *Sibth. MS.* 1780.
*Var. *unicollosus*, Beck. Godstow, &c.
2200. *R. obtusifolius* L. Roman Silchester. First record, circa Oxford, *Sibth. MS.* 1780.
*Var. *agrestis*, Fries. Near Oxford.
2203. *R. conglomeratus* L. First record, circa Oxford, (as *R. acutus*), *Sibth. MS.* 1780. Roman Silchester.
2205. *R. pulcher* L. 2 Wallingford. 4 Between Kintbury and Hungerford, *Summers*. Hopgrass Farm, *Hurst*, 1913.
2209. *R. Acetosa* L., and 2201 *R. Acetosella* L. First record, circa Oxford, *Sibth. MS.* 1780.
*Var. *acetoselloides*, Bal. 2 Frilford, &c.
2212. *Asarum europaeum* L. 5 Between Henley and Medmenham, *Dr. Abbott*, 1802. In *Hb. Sowerby* it is said to grow by the roadside, and a plant was used for the E. B. plate. The locality may be the Bucks' side of the Thames, but it has not recently been observed. 4 Hawkrige, *R. H. Hooker*, 1915, and *Miss Kirk*. Here it grows in some quantity in a woodland. At one time, I am told, there was a cottage near. If originally introduced it is now quite naturalised. See note by the writer in *Rep. B.E.C.* 369, 1915.
2214. *Daphne Laureola* L. 2 Lowbury. 3 Between Ashbridge and Aldworth, *Murray*.
2217. *Viscum album* L. On *Populus deltoidea* at 4 Boxford. 5 Windsor Park, the favourite trees are the lime, the poplar, the thorn and the maple, *Menzies*, *Windsor Park*, 1864. On oak in Windsor Forest, *Sir Herbert Maxwell* in *Memories of the Months*, 285. Sunningwell. Surley. Bagshot, &c.
2218. *Thesium humifusum* DC. 2 Cherbury Camp, 1913. Cholsey, *Henslow*, 1835.
- *2223. *Euphorbia platyphyllos* L. First certain record, 4 Wheat-field near Hampstead Marshall, *A. B. Jackson*, l.c., 360, 1906.
- *2229. *E. Esula* L. 2 Riverside between Cholsey and Wallingford, *R. F. Towndrow* in *Journ. Bot.* 400, 1900, as var. *pseudocyparissias*. (Not in my opinion that variety). 4 Welford Park, *Osmund*, naturalised with *Aconitum Napellus*. Wasing, *Comyns*. 2 Marcham, and as *var. *lutescens*, *Huth*. See *Journ. Bot.* 200, 1910.
2232. *E. Cyparissias* L. 3 Churn, *Miss Fry*. 4 Wasing, *Comyns*. Welford Park with *Aconitum Napellus*, naturalised. Brimpton. Perhaps native.
- †2241. *Buxus sempervirens* L. 2 A large tree at Kingston Bagpuize.

- †2243. *Mercurialis annua* L. 3 Reading, abundant, 1915. 5 Windsor, in garden ground, *Hon. Mrs. Guy Baring*.
- *2244. *Ulmus major*, Sm. 2 Wallingford, Kingston Lisle, &c.
 **U. vegeta*, Schneider. A hybrid of *U. montana* and *glabra*, Mill. 2 Kennington, Wallingford. 3 Moulsoford, &c.
U. sativa, Mill. (*campestris auct.*). The trees in the Broad Walk at Windsor were planted about 1680.
 **U. stricta*, Lindley, including *U. Wheatleyi (sarniensis)*. 1 Appleton. Cumnor. 2 Radley. Between Hanney and Frilford. Wallingford. Kennington. 3 Moulsoford.
U. glabra, Miller (*U. nitens*, Moench). 1 Buscote. 2 Fine trees at Besselsleigh, Frilford, Kingston Lisle, Tubney, Kingston Bagpuize, Radley, Abingdon, &c. 4 Newbury. 5 Sunningdale. (*U. carpinifolia*, Borck.).
- †2248. *Cannabis sativa* L. 2 Abundant in a field of vetches near Wallingford, 1912.
2250. *Urtica dioica* L. Roman Silchester with *U. urens* L.
- *2248. *Ficus Carica* L. A self-sown plant grew to a considerable size near the reservoir at Didcot. It was eventually removed to a garden. Roman Silchester.
2253. *Parietaria ramiflora*, Moench. *var. *fallax*. Kingston Bagpuize.
2255. *Betula alba* L. First record found (*Dicranum heteromallum*) under the birch trees in Childswell Copse. *Bobart* in *Herb. Ox. circa* 1697. 1 Buscote. 2 Besselsleigh, Cothill. 3 Tilehurst. 4 Burghfield.
2256. *B. pubescens*, Ehrh. Windsor Park, a tree 71 feet high by 8 ft. 8 in. in girth.
2258. *Alnus glutinosa*, Gaertn. Aldermaston, a pollard tree in Park, 17 ft. 4 in. in girth, in 1906, *Elwes & Henry, Trees*, iv. 942.
 *Var. *microcarpa*, Uecht. Kennington. Cothill. Wytham. Pangbourne. Aldermaston. Bray.
2260. *Corylus Avellana* L., and 2261 *Quercus Robur* L. Roman Silchester. In *Menzies' Hist. Windsor Great Park*, 1864, there are photographs including that of Queen Victoria's oak, 70 ft. high by 11 ft. 6 in. in girth, estimated at 250 years, and a pollard oak in Forest Gate, 26 ft. 10 in. in girth, probably 800 years old. The King's oak is figured in *Gard. Chron.*, Sept. 6, 1874, it had a girth at 6 feet from the ground of 38 feet. Matthew Arnold's Elm Tree on Boar's Hill is an oak which at 4 feet from the ground had a girth of 87 inches in 1910.
- *2263. *Q. Cerris* L. Wellington College. Bracknell. Planted.
- †2265. *Castanea sativa*, Mill. 2 Bagley, self-sown, also 5 Bearwood, Windsor Forest, &c. First evidence, Hurst, *Herb. Rudge*, 1800.

2266. *Fagus sylvatica* L. In Windsor Park, *Menzies*, l.c., says the Great Beech on Manor Hill is 100 feet high with girth 21 feet, Age 450 years; Old Pollard Beech at Ascot Gate, girth 30 feet, 800 years. Near Cranbourn Tower there is a tree 150 feet high.
2273. *Salix Smithiana*, Willd. 1 Eaton Hastings.
- †2288. *Populus alba* L. 5 Finchampstead.
2289. *P. canescens*, Sm. 4 Boxford. Theale.
2290. *P. tremula* L. 2 Bagley, *Baxter*, 1823. Churn.
- *2293. *P. deltoides*, Marsh. This is for the greater part the *P. nigra* of *Flora Berks.* It is an alien in Britain.
2293. *P. nigra* L. *vera*. Rare in Berks. 2 Wantage Road. 5 Windsor.
- +*Var. *Henryana*. 5 The Wilderness, White Knights, *A. Henry*.
- *2294. *P. Tacamahacca*, Mill. (*candicans*). Frequently planted. Of American origin. 2 Nr. Bagley. Radley. 3 Pangbourne.
2299. *Hydrocharis Morsus-ranae* L. 1 Wytham.
2304. *Neottia Nidus-avis*, Rich.. 2 Uffington. 4 Nr. Aldermaston Soke, *Summers*.
2308. *Spiranthes spiralis*, Koch (*Gyrostachis*). First record, *Orchis parv. autumnalis*. Near Henley, *Petiver Hort. Sicc.*, circa 1700. 4 Near Three Mile Cross, *Dr. Ashby and Stansfield*.
2313. *Cephalanthera Damasonium*, Druce (*pallens*). 2 Betn. Uffington and Kingston Lisle, *Dr. Shadwell*. King Standing Hill. 3 Rowstock, *W. W. Taylor*.
2316. *Helleborine latifolia*, Druce (*Epipactis*). 2 Uffington, *Clement*. 5 Sandhurst.
2318. *H. media* (Fries) Druce. 4 Aldermaston. 5 Sandhurst, *Monckton* (and as *atrorubens*).
- *Var. *platyphylla*, Druce. 5 Bisham. Bearwood.
2319. *H. purpurata*, Druce (*violacea*). 4 Westbrook, *Peake*. Wel-
ford Park, *Osmund*.
2317. *H. palustris*, Schrank. 2 Abingdon meadows.
2321. *Orchis militaris* L. Moulsoford Downs, 1907.
2322. *O. Simia*, Lam. 3 Streatley, *Holliday*, 1913.
2323. *O. ustulata* L. Lambourn Downs, *Bell*, 1838.
2324. *O. morio* L. First record, *Smith, E.B.*, 1809.
- *2325. *Orchis praetermissa*, Druce. This species which the writer described from Oxfordshire, Berkshire and Hampshire specimens is now found to be widely spread in Britain. In Berkshire it occurs at—1 Wytham Meadows. 2 Cothill, Frilford, Abingdon, Radley. 4 Aldermaston Soke, Boxford, Newbury. 5 Coleman's Moor, Hurley, &c. See *B.E.C.* 340, 1913.
- **O. praetermissa*+*Fuchsii*, Druce (*latifolia* p.p.). Wytham. 2 Frilford, Radley, Abingdon, Cothill, &c.
- **O. praetermissa*×*maculata*. 2 Cothill.
- **O. praetermissa*×*incarnata*. 1 Wytham. 2 Cothill.

- *2327. *O. maculata* L. *vera* (*ericetorum*=*praecox*). 1 Wytham as a robust form verging to *Fuchsii* as at 2 Cothill. 3 Cold Ash. 4 Snelsmore. Near Reading, *Hon. N. C. Rothschild*, 1913. 5 Long Moor. Wokingham, *Monckton*. Easthampstead. Swinley. Sandhurst. Coleman's Moor. Sandford Mill. Bagshot Heath. Bracknell, etc. Finchampstead. Common on the heathy commons in 4 and 5. First evidence a specimen from Long Moor, see *Fl. Berks*, 476, 1897.
- *2327 (2). *O. Fuchsii*, Druce (*maculata* p.p.). This is the plant of basic soils, stiff clays and chalky ground through the county, occurring in all the districts but practically absent from the acid heathy soils of the south. 5 Wellington Coll. Finchampstead, *Monckton*! 1 Very abundant and luxuriant in New Bridge Wood. The *sub-var. *albiflora*. at Cothill, &c.
2335. *Ophrys apifera*, Huds. 2 Kennington, 1905. 3 Ashampstead, *Sheppard*. Basildon. A spec. near *var. *Mutelliae*, Schulze, Wantage, *E. G. Baker* in lit.
2336. *O. muscifera*, Huds. 2 White Horse, *F. Stone*. Reading, *Petiver Hort. Sicc.* 1700.
2337. *Herminium Monorchis*, Ait. 4 Ham Hill, *Summers*. Below Riever Wood, *Hurst*, 1918.
2338. *Habenaria Gymnadenia*, Druce. 3 Tilehurst, *Ashby*.
2340. *H. viridis*, Ait. *Var. *bracteata*, Gray. 4 Gibbet Hill, &c.
2342. *H. virescens*, Druce (*chloroleuca*). 1 Binsey Grove, *Holliday*, 1857. New Bridge.
2349. *Iris Pseudacorus* L. *Var. *Bastardi* (Bor.). Sutton Courtney, *Mrs. Lindsay*.
- †2347. *I. germanica* L. 2 Cothill, garden outcast.
- [2356. *Crocus nudiflorus*, Sm. Near Yattendon, *Miss Moore*. I have not seen specimen, probably *Colchicum*.]
2364. *Narcissus Pseudo-narcissus* L. 3 Compton. 4 Aldermaston Soke, *Shinfield, Summers*.
- †2372. *N. biflorus*, Curtis. 2 Besselsleigh. 3 Hawkridge, *Irvine*, 1914. 5 Maidenhead, *J. Woods* in *Hb. Borrer*.
- †2373. *N. poeticus* L. 2 Besselsleigh.
- †2377. *Galanthus nivalis* L. 1 Wytham. 2 Kingston Bagpuize. 4 Padworth, *Summers*.
2379. *Leucojum aestivum* L. 3 By the Pang near Bradfield, *Peake*.
2382. *Ruscus aculeatus* L. 3 Pangbourne, *Herb. Babington*, 1847. Tilehurst. Tidmarsh and 4 Calcot, *Murray*.
2385. *Polygonatum multiflorum*, All. 4 Between Theale and Burghfield, *Murray*. 5 Brightwaltham, *Holliday*.
2396. *Allium vineale* L. 2 Cholsey, var. *floribus proliferis*, Henslow, 1835. Frilford. Besselsleigh. Radley. Northcourt.
- *A. *Cepa* L. Abingdon racecourse Garden outcast.

- *2408. *Hyacinthus comosus* L. (*Muscari*). 2 Besselsleigh, in a larch planting, *H. Fisher*, 1907, still persisting 1915, *Miss Haldane*. Casual at Sutton Courtney, *Miss Lindsay*. Upton, *Miss Fry*, 1898, in vetch field. 3 Streatley, *G. H. Morrell, M.P.*
2407. *Muscari racemosum*, Lam. & DC. 2 Rowstock, a mile from a garden, *Miss M. A. Hazel*. Besselsleigh.
- *2411. *Scilla hispanica*, Mill. 2 Cothill. First British record for the alien species, see Druce in *Journ. Bot.* 200, 1910.
2413. *Ornithogalum umbellatum* L. 1 Near Pusey. 2 Cothill escape Bagley. 3 Rowstock in a wheatfield, plentiful, *Miss M. Hazel*, 1903.
- †2414. *O. nutans* L. 2 Sutton Courtney, *Miss Lindsay*. Very plentiful and beautiful at Besselsleigh.
2418. *Fritillaria Meleagris* L. Sibthorp records it from near Oxford in 1780. 2 Fulscote, nr. East Hagbourn, *Miss Fry*. Near Strathfieldsaye, *Bromfield* in *Phyt.* 1850.
- *2417. *F. pyrenaica* L. An unlocalised spec. of this alien from Berkshire was sent to Eastbourne Nat. Hist. Soc. in 1914, *F. J. Richards* in lit.
- †2419. *Tulipa sylvestris* L. Kingston Bagpuize, *Rev. J. C. Mather*, 1917.
2420. *Gagea lutea*, Ker. (*fascicularis*). Fresh spec. from Berkshire sent by Mr. Bicheno, *Hooker, Fl. Lond.* t. 121. 1 Wytham, *Countess of Abingdon*. 2 Cothill. 3 Hawkridge.
2428. *Juncus conglomeratus* L. *A hybrid with *inflexus* = *J. Leersi* Mars. Field beyond S. Hinksey.
2437. *Juncus bulbosus* L. *Var. *Kochi*. 2 Powder Hill Copse, Bagley. 5 Wellington College.
2438. *J. squarrosus* L. First record, Bagshot, *Sibth. MS.* 1780.
2439. *J. compressus*, Jacq. 2 On Kimmeridge Clay near Boar's Hill.
- *2441. *J. tenuis*, Willd. First found near Wellington College by *H. W. Monckton, Bagshot List*, 1916. This alien was there in 1918 and is likely to extend its area.
2442. *J. bufonius* var. *ranarius* (Nees). 5 Virginia Water. Well. Coll. This is thought by Professor Graebner to be a distinct species.
2449. *Juncoides sylvaticum*, Kuntze. 3 Bucklebury Lowe Common, *Wallis*. Hawkridge.
- J. pilosum* and *J. campestre* (*Luzula*) were both recorded by Sibthorp from about Oxford in 1780.
- †*2459. *Phoenix dactylifera* L. Seedlings in abundance on rubbish at Abingdon, 1916.
2461. *Typha angustifolia* L. 2 Clifton Hampden. Sutton Courtney.
2463. *Spartanium erectum* *var. *microcarpum*, Neum. Sandhurst, *Marshall* l.c.
2464. *S. neglectum*, Beeby. 5 Coleman's Moor, *Wallis*.
2471. *Lemna polyrhiza* L. 4 Aldermaston, *Summers*.

2476. *Alisma Plantago-aquatica* L. Var. *lanceolatum* (With.). 5
Virginia Water. *Var. *latifolium*, Kunth. 2 Radley.
2477. *Echinodorus ranunculoides*, Engelm. 4 Grazeley, 1915. 5
Hurst Green, R. A. Pryor, 1873, *Hb. Br. Mus.* Still there
1915.
2483. *Triglochin palustre* L. and 2485 *Potamogeton natans* L. First
record, circa Oxford, *Sibth. MS.* 1780.
2486. *P. polygonifolius*, Pour. 2 Wootton Bog, *Boswell*, now lost.
2487. *P. Drucei*, Fryer, in *Brit. Pondweeds*, p. 31, t. 21, and *Journ.*
Bot. 524, 1899. *Hb. Normale*, Ed. Dorfler, n. 4593, Aug.
1904. This beautiful species still abundantly grows in the
Loddon. It is the *P. fluitans* forma of *Fl. Berks*, see p. 516
and corrections. In 1917 Mrs. Wedgwood found it also in
the river near Bath, the second known habitat.
2502. *P. perfoliatus* L. First rec. circa Oxford, *Sibth. MS.* 1780.
*Var. *ovalifolius*, M. & K. 1 Kings Weir, *Druce* in *B.E.C.*
1916.
P. lucens L. and *P. densum* L. were first recorded about Oxford,
Sibth. MS. 1780.
2504. *P. compressum* L. 4 Kennet Canal near Hungerford, 1918,
C. P. Hurst.
- *2517. *Zannichellia gibberosa*, Reichb. First found in Berkshire by
the writer at Marcham, 1891. (The *pedunculata* of the *Flora*
in part).
- *2528. *Cyperus fuscus* L. First found in Berkshire at 3 Suleham
by V. E. Murray in 1911.
2529. *Eleocharis palustris*, Br., and 2531 *E. acicularis*, Br., in Roman
Silchester.
2542. *Scirpus setaceus* L. 2 Boar's Hill, *Miss Claridge*, 1911.
Cumnor House, *G. Parry*. 4 Coleman's Moor, *Summers*.
2532. *S. sylvaticus* L. 2 Near Clifton Lock.
2548. *Eriophorum angustifolium*, Roth. 4 Boxford. 5 Sunningwell
Bog. Sexes on different plants, sexes on different spikes of
same plant, sexes on same spike, *G. H. Sawyer* in *Gard.*
Chron. 53, 1865.
- [2554. *Schoenus nigricans* L. Refound on Bagshot Heath in Surrey
by Lady Davy in 1916.]
2558. *Carex Pseudo-cyperus* L. Ditches by Thames near Reading,
Wallis. Between Pangbourne and Suleham. 4 Wilderness,
Kintbury, *Hurst*.
2559. *C. riparia*, Curt. Roman Silchester. The *hybrid with *C.*
vesicaria = *C. csomadenis*, Simonk., occurs at Wytham.
2560. *C. acutiformis*, Ehrh. var. *Kochiana* (DC). 2 Cothill.
**C. acutiformis* × *riparia*. 5 Coleman's Moor.
2561. *C. vesicaria* L. 1 Wytham. 5 1½ mile from Blackwater,
Marshall l.c.

2569. *C. strigosa*, Huds. 4 Near Brocas Lane Farm, Wallis. 5 Bisham Wood, Wallis. By the river near Sandford Mill.
2570. *C. helodes*, Link. (*laevigata*). 3 Near Bradfield. 4 Greenham Common.
2576. *C. flava* L. 2 Between Abingdon and Radley.
**C. lepidocarpa*, Tausch. First found by the author, 1894. 2 Tubney. 5 Earley teste Kükenthal. See *J. of B.* 200, 1910. Broadmoor, Monckton.
- *2585. *C. montana* L. First found in Berkshire by Mr. J. W. Higgins in 1917. 5 Near Bracknell, *B. E. C. Rep.* 132, 1917. Here it occurs sparingly in flower but with a considerable quantity of flowerless specimens. I distributed it through the *B.E.C.*, see Report, 1918. A most interesting addition to the *Flora* which I predicted would be found.
2600. *C. elata*, All. 5 Coleman's Moor. Near Bracknell.
**C. elata* × *Goodenowii*. Sandhurst,
2601. *C. gracilis*, Curt. (*acuta*). Var. *gracilescens*, Almq. 1 Newbridge. *Var. *fluviatilis*, Fl. Ing. Wytham. *Var. *angustifolia*, Kuk., near Iffley.
2604. *C. Goodenowii*, Gay. *Var. *strictiformis*. Sandhurst. Var. *chlorostachya*, Asch. Loddon Bridge, &c.
2608. *C. leporina* L. *Var. *argyrolochin*, Koch. Bulmershe Park, Salmon in *Journ. Bot.* 225, 1906.
2612. *C. canescens* L. Roman Silchester.
2614. *C. muricata* L. *Var. *fumosa*, Gren. 2 Didcot, *B.E.C.* 54, 1917.
- *2615. *C. Pairaei*, F. Schultz. First found by the writer, see Rep. *B.E.C.* 1911. 2 Frilford. 3 Basildon. 5 Loddon Bridge. Finchampstead.
- *2617. *C. Boeninghausiana*, Weihe. 4 Greenham Common.
- *2619. *C. diandra*, Schrank. First found by L. V. Lester-Garland in 1912. 2 Frilford Bag in small quantity; a welcome addition to the *Flora*.
2620. *C. disticha*, Huds. 1 Very abundant at New Bridge.
2628. *C. pulicaris* L. 5 Coleman's Moor, Summers.
- †2635. *Panicum Ischaemum*, Schreb. (*glabrum*). Reading.
- †2632. *P. Crus-galli* L. Reading. 2 Abingdon.
- *2633. *P. colonum* L. 3 Reading. Alien.
- †2639. *Setaria viridis*, Beauv. 2 Cothill. 3 Reading, Wallis.
- †2640. *S. glauca*, Beauv. Reading, Wallis.
- †2641. *S. verticillata*, Beauv. Reading.
- *2656. *Phalaris angusta*, Nees. 4 Reading, Murray. In some plenty by the border of a newly made road. Of S. American origin.
2667. *Alopecurus aequalis*, Sobol. (*fulvus*). 4 Padworth Common, Wallis.

2666. *A. geniculatus* L. First rec. circa Oxford, *Sibth. MS.* 1780.
*Var. *natans*, Wahl. 2 Wootton.
2673. *Phleum pratense* L. First rec. circa Oxford, *Sibth. MS.* 1780.
*Var. *intermedium* (Jord.). 2 Near Upton.
2684. *Agrostis alba* L. First rec. circa Oxford, *Sibth. MS.* 1780.
Var. *stolonifera* L. 3 Near Reading, &c.
2687. *A. canina* L. *Var. *stolonifera*, Blytt. 5 Nr. Finchampstead.
2699. *Apera Spica-venti*, Beauv. 3 Tilehurst, *Murray.* 4 Earley Rise, *Summers.* Between Bagshot and Bracknell, *Murray.*
*Sub-var. *purpurea* (Beauv.). Old Windsor.
- *2700. *A. interrupta*, Reichb. 2 On a wall at Marcham, 1900.
Casual.
2706. *Aira caryophyllea* L. First record, circa Oxford, *Sibth. MS.* 1780. 5 Earley.
2707. *A. praecox* L. First rec. circa Bagshot, *Sibth. MS.* 1780.
2715. *Trisetum flavescens*, Beauv. (*pratense*). First rec. circa Oxford, *Sibth. MS.* 1780. 2 Sutton Courtney.
- †2719. *A. strigosa*, Schreb. 3 Moulsoford Downs.
2724. *Arrhenatherum elatius*, M. & K. (*avenaceum*). First rec. circa Oxford, *Sibth. MS.* 1780. *Var. *biaristatum* (Peterm.), Druce. 1 Wytham.
2733. *Phragmites vulgaris* (Lam.) Druce (*communis*). 'This was called Daddymore at Twyford by a carter in 1880,' *Prof. York Powell.* See MS. note under *Papirus 'dud hamor'* in *Ælfred's Vocabulary* of the 10th century.
*Var. *effusa* (A. & G.) Druce. Cothill. 4 Kintbury, &c. The Cothill plants approach the *var. *flavescens* (Cust.) in the colour of the inflorescence.
2739. *Koeleria gracilis*, Pers. (*cristata*). 1 Newbridge
*K. *britannica*, Domin. Widely distributed. First recorded by the writer. 1 Wytham. 2 Besselsleigh. Cherbury Camp. 3 Streatley. Compton. 4 Brightwaltham.
2745. *Molinia caerulea*, Moench. (*varia*). First record, circa Bagshot, *Sibth. MS.* 1780. *Var. *robusta*, Prah, Wellington College. Windsor Park. Ascot. Hardly separable from *major*, Roth.
2746. *Catabrosa aquatica*, Beauv. First rec. circa Oxford, *Sibth. MS.* 1780. 2 Cothill. 4 Woodhay, *Summers.* Coleman's Moor, *Wallis.*
2750. *Melica uniflora*, Retz. First rec. circa Oxford, *Sibth. MS.* 1780. 2 Besselsleigh. 3 Streatley, *Gambier Parry,*
2751. *Dactylis glomerata* L. First rec. circa Oxford, *Sibth. M.S.* 1780. *Var. *abbreviata*, Dreyer. 3 Basildon. 4 Hungerford.
2755. *Brya media* L. and 2759 *Poa pratensis* L. First rec. circa Oxford, *Sibth. MS.* 1780.

- *2759. *P. irrigata*, Lindman. First found by the writer, 1892. 4 Near Padworth. See *Flora* p. 580, at that time the species had not been described. It is rare in lowland situations.
2761. *P. trivialis* L. First rec. circa Oxford, *Sibth. MS.* 1780.
*Var. *rigidior* Fl. Ingric. 760, 1861. 4 Hungerford, *G.C.D.*
2769. *P. annua* L. First rec. circa Oxford, *Sibth. MS.* 1780.
2762. *P. nemoralis* L. 2 Besselsleigh. 3 Pangbourne, *Herb. Bab.* 1847. *Var. *firmula*, Gaud. 3 Bere.
2765. *P. compressa* L. 2 Drayton. 5 Wellington College.
2771. *Glyceria aquatica*, Wahl. (*Panicularia*). First record, circa Oxford, *Sibth. MS.* 1780.
2774. *G. distans*, Wahl. 2 Abundant on Abingdon racecourse.
2779. *Festuca rigida*, Kunth. 2 Kingston Bagpuize. 4 Brightwal-
tham, *Holliday*.
2781. *F. arundinacea*, Schreb. On the Kimmeridge Clay, Boar's
Hill. Frilford.
2792. *F. Myuros* L. 1 Fyfield. Buckland. 2 Drayton.
2791. *F. bromoides* L. (*sciuroides*). First rec., 2 Wootton, *Holliday*,
1858. Sutton Courtney, &c.
2782. *F. elatior* × *Lolium perenne* = *F. adscendens*, Retz. = *F. loliacea*,
Curt. 4 Hungerford, *Miss Todd*. *F. elatior*, first rec. circa
Oxford, *Sibth. MS.* 1780.
- *2784. *F. heterophylla*, Lam. First record, the writer. 3 About a
mile and a half from Bradfield, on the Bere estate in great
plenty and looking native.
2787. *F. ovina* L. *Var. *glauca* (Lam). Alien. Reading College
avenue, *F. W. Stansfield*, 1909.
2796. *Bromus sterilis*, L. & B., *hordeaceus* L. First rec. circa Ox-
ford, *Sibth. MS.* 1780.
- †2806. *B. secalinus* L. 1 Cumnor. 2 Abingdon. Cothill. 4 Near
Snelsmore, *Comyns*. 5 Wellington College.
2807. *B. commutatus*, Schrad. 3 Pangbourne, *Herb. Boswell Syme*,
1861. Wellington College.
2811. *B. hordeaceus* L. *Var. *leptostachys* (Pers.) 3 Basildon.
Bradfield.
2812. *B. interruptus*, Druce. 5 Near Windsor, *Everett*.
- *2803. *B. unioloides*, Schrad. 2 Abingdon. Cothill. 3 Reading, by
the railway. Alien.
- *2802. *B. inermis*, Schrad. 3 Reading, *V. Murray*. Alien.
2819. *Brachypodium pinnatum*, Beauv. 1 Abundant in a wet clayey
field near Newbridge. 3 Ashampstead, *Murray*.
2824. *Lolium perenne* L. First rec. circa Oxford, *Sibth. MS.* 1780.
The *hybrid with *L. multiflorum* was found at Wytham and
agreed to by Dr. Domin.
- †2821. *L. temulentum* L. 2 Abingdon. 3 Near Reading, *Murray*.
2849. *Hordeum murinum* L. First rec. circa Oxf. *Sibth. MS.* 1780.

- *2851. *H. jubatum* L. Wellington Coll. station, 1918. An American alien.
2858. *Elymus europaeus* L. 3 Ashampstead, C. P. Hurst.
2862. *Taxus baccata* L. A large tree 20 feet high before branching at Kingston Bagpuize.
- *2863. *Pinus Pinaster*, Ait. Planted as at Frilford, &c. 3 Tilehurst.
2864. *P. sylvestris* L. 1 Buscote, Faringdon. The group of Scotch Firs near the Obelisk in Windsor Park were about 104 years old in 1864.
2866. *Equisetum maximum*, Lam. 4 Beenham, Summers.
2868. *E. sylvaticum* L. 4 Near Boxford.
2876. *Pteris aquilina* L. Roman Silchester. Our plant is the *var. *lanuginosa*.
2878. *Blechnum Spicant*, Roth. 4 Boxford.
2881. *Asplenium Trichomanes* L. 1 Fyfield Church. 4 Theale. Thatcham. 5 Sonning, Wallis.
2885. *A. Adiantum-nigrum* L. 4 Theale. 5 Arborfield Bridge. Nr. Brough Farm, Wallis. 5 Finchampstead, Mrs. Cope.
2886. *A. Ruta-muraria* L. 2 Kingston Bagpuize. 3 Ilsley. 4 Welford. 5 Finchampstead, Mrs. Cope.
2879. *Phyllitis Scolopendrium*, Greene. 2 Letcombe. 3 Tilehurst, Higgins. 4 Wire Mill, Kennet, Stansfield. Welford. 5 Finchampstead, Cope. Bray, Riddelsdell. Windsor Castle.
2903. *Dryopteris Thelypteris*, A. Gray, the *P. Dryopteris* of Monckton's List. ? Does it really occur in Berks in that area.
2899. *D. aristata*, Druce (*dilatata*). 3 Churn. Suleham. 5 East-hampstead.
- *2893. *Polystichum aculeatum* × *setiferum* (*angulare*). 4 Kintbury.
2907. *Polypodium vulgare* L. A bifurcate form. 'P. bifurcata pinnullis serratis on ye walls of Windsor Castle,' Adam Buddle in H.B.M., circa 1700.
2911. *Ceterach officinarum*, Willd. [3 Goring, Gambier Parry.] Basildon, plentiful. 4 Hampstead, Comyns. 5 Finchampstead, Mrs. Cope.
2918. *Osmunda regalis* L. 4 Near Welford.
2920. *Ophioglossum vulgatum* L. 5 Near Earley, Wallis. Sonning, Miss Ridley.
- *2923. *Azolla filiculoides*, Willd. 3 Suleham, 1912, Murray. Pangbourn, Higgins. Tidmarsh. Of American origin.
2950. *Chara contraria*, Br. 1 Pond in Wytham Wood. Border of Thames near Oxford.

