

THE BOTANICAL SOCIETY
AND EXCHANGE CLUB
OF THE BRITISH ISLES.

REPORT FOR 1915
(WITH BALANCE-SHEET FOR 1914)

BY THE

SECRETARY,

G. CLARIDGE DRUCE,

PRESIDENT OF THE ASHMOLEAN NATURAL HISTORY SOCIETY OF
OXFORDSHIRE.

VOL. IV. PART III.

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to whom, at YARDLEY LODGE, 9 CRICK ROAD, OXFORD, the Subscription, 7s 6d per annum, and Non-Contributing Members' Subscription of 5s per annum, should be paid on and after January 1, 1916.

Parcels for 1916 should be sent post paid, on or before 11th December 1916, to D. LUMB, Esq., and W. H. PEARSALL, Esq., DALTON-IN-FURNESS.

The Distributor's Report on Plants sent in for 1915 will appear in due course.

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THE
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THE REPORT OF THE TREASURER & SECRETARY,
G. CLARIDGE DRUCE, YARDLEY LODGE, OXFORD,
FOR 1915.

BALANCE SHEET FOR 1914.

By Subscriptions received, £51 16 0 Sale of Reports, - - 6 2 0 Advertisement, - - 2 10 0 Donation (£10)— For Secretary's Supplement in 1913 Report, - 8 15 0 For Special Posts 1915, - 1 5 0 Miss I. M. Hayward for Printing Block, - - 1 10 0 Balance due to Treasurer, 12 14 6 <div style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">£84 12 6</div>	Balance from 1913, - - £21 10 1 Printing Reports, &c., - 49 5 0 Expenses of Distribution, 2 19 8 Stationery, Postages, Incidental Expenses, - - 10 17 9 <div style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">£84 12 6</div>
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Audited and found correct, December 23, 1915.—F. TWINING.

Balance due to the Treasurer, £12 14s 6d, to whom all subscriptions should be paid to the address given above on the first of January in each year (so that the *trouble and expense of applying for them may be avoided*); of 7s 6d for each member who contributes and receives specimens; of 5s for each non-contributing or corresponding member who receives the *Reports* only, but who may send specimens for identification, or as records of interesting plants, or as notes for the *Report*. Payment in advance for two or more years is much preferred. Members joining in 1916 pay 10s (or 12s 6d Exchange), which includes *Reports* for 1915.

Members may have a complete set of the *Reports* for the years 1879-1900 for 20s; 1901-9, 20s, post free; odd copies 1s each; from 1901-9, 2s each post free; 1910, 4s; 1911, 5s; 1913, 7s 6d; 1914, 7s.

Spare copies not required by members are valued. Early copies of the Thirsk Botanical Exchange Club are specially desired, as also that of this Club for 1912.

The donations shown in the above statement include one from Miss I. M. Hayward, which is kindly given (as on previous occasions) to defray the cost of printing the photographic blocks of certain alien plants. The blocks, which have been also kindly lent by her, are to appear shortly in her work on the Alien Flora of Tweedside. The donation of ten pounds was given me by a friend (not a member), who wished to remain anonymous, to be used "in any way you like," and £8 15s is devoted to paying the cost of printing my *Supplement* containing *Notes on Nomenclature* (the cheque did not arrive in time to include in last year's balance sheet), and the balance, £1 5s, goes towards the cost of postage incurred by the recent circular. It may be well to add that a member has paid for the cost of printing the explanatory note of seven pages which was sent with the last Report. Therefore its cost is not shown in the balance sheet.

A few particulars, additional to those given in my printed note, may be mentioned. Since 1902 the non-payment of subscriptions has amounted to over £14—*i.e.* more than enough to cover the adverse balance. During my thirteen years' management the first pleasant task was to induce members to send in their photographs and signatures; these were placed in an album and presented to Mr Charles Bailey as a slight memento of the service he had rendered to the Club. It is an open secret that he means to give to Manchester University his British collection of 70,800 sheets, in addition to his herbarium of European and Mediterranean plants, estimated at 188,000 sheets. The lower cryptogams contained in this herbarium have not yet been computed.

Our members and friends in the same period have contributed nearly £70 for benevolent purposes. With the assistance of another member I was enabled to secure for a well-known botanical worker, then in advanced age, a pension of £40 a year, which soothed his declining years; and an appeal, which was strongly supported by us, led to another well-known botanist, who has also gone to his rest, receiving a substantial sum from the Royal Bounty.

We have also supplied our Reports to the honorary and corresponding members. In 1908 each member received a copy of my *British Plant List*, and in 1912 all the members had a reprint of twenty-two

pages describing the floristic results of the International Phytogeographical Excursion in the British Isles. The annual pagination of our Report 1903-1914 averages 150 pages, which contrasts most favourably with that supplied in any similar publication. During the last three years 22,584 plants have been distributed.

In these years we have to acknowledge donations from Messrs C. Bailey, R. H. Corstorphine, J. Cryer, C. P. Hurst, W. Sanderson, the Hon. Mrs Maud Glyn, Miss Grenfell, Rev. E. S. Marshall, Hon. N. Charles Rothschild, Dr Shadwell, Professors E. Hackel and F. E. Weiss, D.Sc.

We have recently lost through death Mr R. M. Barrington, Prof. T. L. Bullock, Mrs Coker Beck, Mr F. Hamilton Davey, and Dr Vachell. In the last list of members the names of Rev. A. Gregor, the Hull Museum (Mr T. Shepherd), Harvard University, and Plymouth Museum (Mr T. Hodgson) were duplicated. Four members have lapsed through non-payment of subscriptions. The resignations in 1915 include Mr J. Backhouse, Rev. W. Butt, Dr Caldecott, the Botanical Department, Cambridge University; Sir F. Crisp, Bart.; Mr W. B. Crump, Miss B. Reid, Mr R. Stapledon, Mr A. G. Tansley, and Mr C. West.

Since the last Report was printed, the new members include:—Mrs Atherley, The Ashmolean Natural History Society of Oxfordshire, Mr E. Gilbert Baker, Rev. W. M. Bell, Mr F. A. Bellamy, M.A., Rev. E. B. Brackenbury, Miss Bourne, Mr Cedric Bucknall, Mr R. F. Burton, Miss H. Butler, Lady Octavia Bentinck, Miss Chamberlain, Mr A. H. Church, D.Sc., Dr H. Clarke, Mr Creed, Sir R. Curtis, Bart., Miss Drummond, Mr H. A. Evans, M.A., Miss Fry, Mr T. H. Green, Mr D. A. Haggart, the Right Hon. L. Harcourt, M.P., Mr H. F. Hayllar, Prof. Augustine Henry, Mr J. Jack, F.L.S., Prof. T. J. Jenkins, Mr J. Lamb, Countess de Baillet Latour, Dr McLachlan, Rev. T. A. Martyn, Mr C. Nicholson, Mrs Howard Pease, Miss Post, Lieut. H. Porter, Rev. R. Quirk, Mr H. N. Ridley, F.R.S., Mr J. F. Rayner, Mr W. L. B. Ridge, Mr W. Robinson, V.M.H., Mrs Sandwith, Mr A. Soper, Rev. T. Stephenson, Mr W. H. St Quentin, Miss Talbot, Sir Everard im Thurn, Miss Todd, Mr A. W. Trethewy, Mr G. Creswell Turner, Miss Vachell, Rev. Canon J. Vaughan, Mr A. S. Wade, Mr J. S. Whyte, Prof. G. S. West.

We have to offer our thanks to Mr R. H. Corstorphine for so ably acting as Distributor in 1915, and editing the Report for 1914. This

Report contains many items of great interest. Such as are new records are dealt with in the subsequent pages. The specimens sent in numbered 6537 from thirty-four contributing members. These on the whole were excellently prepared. They included beautiful examples from Mr W. H. Pearsall, the discoverer of *Hydrilla verticillata* var. *pomeranica*, and also of *Najas flexilis*, the latter new to England. Mr F. Robinson sent excellent specimens of *Cucubalus baccifer*, which was extinct in its old habitat, and also of *Deyeuxia neglecta* from an unexpected locality, which greatly increased its known range in England, both notable additions to the Norfolk flora. *Arabis alpina* from Skye, where it was discovered some years ago by the late Mr Hart, was distributed for the first time in Britain.

Owing to the War the publication of the Report was delayed till November.

It is with much regret that I have to say that so far I have been unable to elicit any reply from M. Isodore Maranne as to our *Erophilas*, and I am afraid his silence is due to the War.

Following the usual plan, I have prepared a Review of the salient features of British Sytematic Botany for the year, with other matter which may interest those studying British Botany. This being my own compilation in no way assumes that it carries with it any but purely personal authority, but all rights in its publication are reserved. New county records, new localities, or other particulars are always gladly received. Plants sent to be named should always be accompanied by full details of their occurrence, e.g.—“No. 4. Grass, limestone cliff, Cheddar, Somerset.” If a duplicate is retained with a similar number it saves the trouble of returning specimens. Should the specimens be required, return postage must be enclosed, with a direction label. Any information that I am able to give on British Botany is entirely at the service of the members.

It is a matter of satisfaction to know that all our members are impressed with the importance of avoiding reckless or careless gathering of plants which endanger any local species, and that they are anxious to do all that is possible to protect them from injury. Will they suggest to their Botanical friends the desirability of becoming members? With a roll of 250 the financial strain will be entirely removed.

THE UNIVERSITIES OF LOUVAIN AND WARSAW.

Since the Botanical Library and Herbarium at Louvain have been burnt by the Germans, and as Professor Chmielevsky of Warsaw has sent me an especial appeal to replace his specimens, books, microscopical material, &c., which are now in the hands of the enemy, and the University has been removed to Rostov-on-the-Don, I think our members would be glad to render such assistance as lies within their power. I would suggest that members having duplicate plants should send in two specimens poisoned and mounted on thin cartridge paper, 15 in. x 10 in., with their label attached. These will be stamped with the B.E.C. stamp, and I will undertake to store them till opportunity offers to send them to Louvain and Warsaw as the offering of their British confrères. Reprints, journals, and botanical works would also be gladly received. Each should have the name of the donor on it, with an intimation as to which University it is to be sent.

PLANT NOTES, ETC., FOR 1915.

(Mostly New Plants to the British Isles.)

18 (2). *RANUNCULUS ACONITIFOLIUS* L. Alien, Europe. As the "flore pleno" form, in the Den of Craigston, Turriff, Banff, 94, Prof. TRAIL, in *Scot. Nat.* 246, 1885.

68 (2). *ACONITUM INTERMEDIUM* DC. Syst. i., 374. Alien, Europe. Garden outcast, Windermere, L. Lancs., 69 b, G. C. DRUCE and W. H. PEARSALL.

73 (3). *BERBERIS DARWINII* Hook. Ic. t. 672. Alien, Chili. Near Ulverston, PETTY, in *Naturalist* 83, 1892.

73 (4). *BERBERIS BUXIFOLIA* Lam. Illust. t. 283, f. 3. Alien, Magellan. Near Usan, Forfar, 90, 1914, R. & M. CORSTORPHINE. There it fruits freely.

80. *PAPAVER RHOEAS* L., var. *CONICUM* Legr. Stat. Bot. Forez, ex Rouy and Fouc. *Fl. Fr.* i., 154, 1893. Plateau stigmatifère aigu, conique. The stigmatic rays are velvety black and very prominent. Hunsbury Hill, Northants., 32, 1914. Fedde (*Bull. Herb. Boiss.* 2, v., 169, 1905) named this var. *omphalophorum*, and (in *Pflanz.*) described it "capsula non stipitata, discus subpyramidatus umbilicatus." He cites No. 769, Bourgeau's *Canary Plants*, with which our plant agrees in fruit characters, although it is freer from hairs. G. C. DRUCE.

171. *COCHLEARIA ANGLICA* × *OFFICINALIS* = × *C. BRIGGSII* mihi. Growing with both parents at Mariston, near Plymouth, Devon, and differing from *anglica* in the broader and more deeply toothed leaves, and smaller, often abortive, capsules. See *Rep. B.E.C.* 9, 10, 1872-4; 8-10, 1875. Dr Boswell, reporting on them, says in several instances they were so intermediate that he felt "at a loss which name ought to be applied." G. C. DRUCE.

185 b. *SISYMBRIUM ORIENTALE* L., var. *SUBHASTATUM* (Willd.) Thell. Par, Cornwall, 1, 1914, C. C. VIGURS. Det. A. THELLUNG.

193 (2). *SISYMBRIUM TURCZANIOWII* Sonder, in Harvey and Sond. *Fl. Capensis* i, 26. Alien, S. Africa. Tweedside, Selkirk, 79, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

195 (2). *ERYSIMUM AURIGERANUM* Timb. Massif Llaurenti, 155. Alien, France. Blaby, Leicester, 55, 1904, W. A. VICE. Differs from *cheiranthoides* in the emarginate bilobed stigma.

247 (5). *LEPIDIUM BONARIENSE* L., var. *STUCKERTIANUM* Thell. in Fedde *Repert.* xiii., 302, 1914. Alien, Argentina. Tweedside, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

247 (6). *LEPIDIUM OXYTRICHUM* Sprague, in *Kew Bulletin* 123, 1915. Replaces *L. papillosum* F. v. Muell., in *Rep. B.E.C.* 152, 1912.

247 (7). *LEPIDIUM LINOIDES* Thunb., var. *IBERIOIDES* (Desv.). Alien, S. Africa, St Helena, Ascension, Mauritius. Galashiels, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

247 (10). *LEPIDIUM PSEUDO-DIDYMUM* Thell., nov. forma *GLOMERATUM* Thell. "Racemis densissimis abbreviatis 1-2 to 2½ cm. longis, pedicellis silicula subbrevioribus (septo subaequilongis), foliorum segmentis ½ mm. tantum latis." A. THELLUNG, 1915. Tweedside, Selkirk, 79, Miss I. M. HAYWARD.

247 (15). *LEPIDIUM AFRICANUM* (Burm.) DC. *Syst.* ii., 552, var. *CAPENSE* (Thunb. *Prod. Fl. Cap.* 107) Thell. Galashiels, Selkirk, 1915. Miss I. M. HAYWARD. Det. A. THELLUNG.

252 c. *IBERIS AMARA* L., var. *ARVATICA* (Jord.) Gren. *Rev. Pl. Mt. Jura*, 42. Cornfield above Watlington, Oxon., 1915, G. C. DRUCE.

270 (2). *RAPISTRUM TENUIFOLIUM* (Sibth. and Sm.) Benth. and Hook. f. = *DIDESMUS TENUIFOLIUS* DC. Alien, E. Europe. Near Welwyn Tunnel, Herts., 20, J. E. LITTLE. Det. A. THELLUNG.

284. *RESEDA LUTEA* L., var. *PULCHELLA* J. Muell. *Mon.* 91 (see Rouy and Fouc. *Fl. Fr.* ii., 248). Worms Heath, Surrey, 17, C. E. BRITTON, in *Rep. B.E.C.* 121, 1914. This is the *R. gracilis* Reichb. *Ic. Fl. Germ. et. Helv.* ii., 22, t. 4445; but not the *R. gracilis* Tenore, which A. Irvine recorded from Wandsworth in *Fl. Surrey*, 313.

var. *c. LONGIFOLIA* Tenore Sylloge Fl. Neap. 232 (see *Rep. B.E.C.* 454, 1913). Grosmond, York, 62, 1913, J. E. LITTLE, and agreed to by Dr THELLUNG. Rouy and Fouc. *l.c.*, put this as a sub-var. of the var. *stricta* J. Muell.

336 *c.* *SILENE CUCUBALUS* Wib., vel. *S. INFLATA* Sm., vel. *S. VENOSA* Aschers., vel. *S. LATIFOLIA* R. & B., var. *c. RUBRA* (DC. under *inflata*). Plant large, diffuse; lower leaves obovate, upper ovate, glabrous, darkish green; inflorescence large, many flowered; flowers rose-purple; calyx large, 17 × 14 mm., strongly veined. On the shingly border of Loch Tay, near Fearnan, Mid-Perth, 88, where it has been known to Mr D. A. Haggart for some years. The sub-var. of the var. *Tenoreana*, which Le Grand named *carneiflora*, has narrow linear-lanceolate or sublinear leaves. G. C. DRUCE.

354 *b.* *SILENE NUTANS* L., var. *DUBIA* (Herbich). The older name is *S. transsylvanica* Schur, i.e. *S. nutans* L., var. *transsylvanica* (Schur) comb. nov. This is the *S. dubia* Herbich, distributed in 1914, from the shingle near Lydd, Kent. G. C. DRUCE.

357. *CUCUBALUS BACCIFER* L. The very interesting discovery of this plant in Norfolk by our member, Mr F. Robinson, of which specimens were distributed in 1915, and commented on in the Distributor's *Report*, deserves a more detailed notice, since even the reference to it in Syme's *English Botany* is incomplete. It was first mentioned as a British plant in How's *Phytologia*, p. 5, 1650, from "sylvis udis," and in the Dillenian edition of Ray's *Synopsis*, 267, 1724, as "*Cucubalus Plinii* Lugd. 1429. In sepibus Insulae Monae collegit & mecum communicavit D. Foulkes de Lhanbeder prope Ruthin: Dr Richardson." This record has never been confirmed, either by the Rev. H. Davies (*Welsh Botany*, 1813) or by Mr J. E. Griffith (*Fl. Anglesey and Carnarvon*, 21), the latter saying "he has carefully searched the locality, in which it was stated to be growing, for several years, but in vain." This statement is somewhat cryptic, since no precise locality is mentioned by Dr Richardson, and from a letter published in the *Correspondence of Linnaeus*, ii. 171, 1821, Mr Foulkes afterwards stated he only received an account of it "from one who pretended to know plants very well," but that he could never find it. It was, however, discovered "on the banks of the ditch on the left-hand side of the road from Blackwall

to the Ferry House, Isle of Dogs, rather nearer the latter than the Docks," by Mr G. Luxford, A.L.S., who, in a note read before the Linnean Society, November 21, 1837, said, "if not truly indigenous, it is at least perfectly naturalised." T. Westcombe found it there in considerable quantity in 1852 (see *Phyt.* iv., 605, and *Fl. Middlesex*, 50). Syme (*l.c.*), who collected it in 1853, thought it was certainly introduced. Mr F. Robinson kindly showed me the plant last September in the locality in West Norfolk where he has seen it growing for the last eight or nine years, but he says it shifts its ground from year to year. There it grows in ditches and in a wood containing larch and oak, and has the appearance of being indigenous. Its distribution on the Continent, where it is very widely spread, is in favour of its being native here, since it affects similar habitats, and is of a somewhat sporadic nature. In the young state *Cucubalus* recalls *Stellaria aquatica*, but the fleshy fruit, unique in its order, affords a ready means of recognition when the plant is mature in September. Mr Robinson tells me he first found it about eight or nine years ago on the border of a wood, and a year or two afterwards it covered a hedge within a quarter of a mile of the same place. Last summer he found it in two or three places in the immediate neighbourhood, growing in an open wood, through and amongst brambles. Its origin was unknown to the gardeners or gamekeepers on the estate. He never found it growing twice from the same root.

G. C. DRUCE.

412. SPERGULARIA MEDIA Presl, vel. S. MARGINATA Kit., forma ROBUSTA. Plant with strong perennial root stock. Sea cliffs, Arbroath, Forfar. G. C. DRUCE.

414. SPERGULARIA ATHENIENSIS Heldr. and Sart. In *Rep. B.E.C.* 12, 1872-4, Mr T. Archer Briggs records for St Germans Beacon, E. Cornwall, 2, "a glandular hairy form of *rubra*, or something between that species and *rupestris*," which suggests the desirability of searching this locality to see if this plant may not be *atheniensis*.

G. C. DRUCE.

416 c. POLYCARPON TETRAPHYLLUM L., var. DENSUM Rouy and Fouc. *Fl. Fr.* iii., 312. "Plante plus courte, d'un vert glaucescent ou pâle, plus densément feuillée; fleurs moins nombreuses mais disposées en cymes courtes, denses; feuilles ordinairement plus larges,

ovales, membranceuses." When in the Channel Isles in 1906 and 1907 I collected several forms of *Polycarpon*. One which I gathered at Bel Royale, on the Quenvais, and at St Ouen's, at L'Ancrese, Guernsey, and in Alderney, differed very much from the more common form. I hoped it was *alsinoides*, but I never saw the open flower. Mr Hunnybun, who was in Guernsey in 1913, in answer to my request kindly examined it in the fresh state, and noticed it had only three stamens, a character which Rouy and Foucaud (*l.c.*) do not mention, and he sent me specimens, remarking "you might well make the query, one might watch for days without the chance of seeing a flower open." These specimens convinced me they were not *alsinoides*, which in colour, habit, and foliage they resembled. They agree with the description cited above, except that the leaves are not notably broader, they are more fleshy than in the type, but like that are tetraphyllous. It is interesting to learn from Mr Hunnybun that this is the form which Mr Bowles Barratt sent him from the Chesil Bank, Dorset. I have, however, seen the type from that county. It is somewhat remarkable that it is the plant in the Dillenian Herbarium which represents *Alsine maritima supina*, *foliis Chamaesices* = *Frankenia pulverulenta*, but we have no other evidence, that I am aware of, of either *Polycarpon* or *Frankenia* (Dickson's spec. in his *Fasciculi*, xix., n. 4, labelled "Seashore, Sussex," was doubtless of garden origin) being a Sussex plant.

G. C. DRUCE.

437 d. *HYPERICUM HUMIFUSUM* L., var. *AMBIGUUM* Gillot, in *Rev. Bot.* x., 53, 1892. Lands End, Cornwall, 1; Hadley Wood, Herts., 20; Chilworth, Surrey, 17, H. W. PUGSLEY, in *Journ. Bot.* 169, 1915. The var. *Liottardii*, recorded by Dr Drabble, Mr Pugsley says, requires confirmation.

460. *WISSADULA SPICIFLORA* (DC.) comb. nov. *Sida spiciflora* DC. Prod. i., 468, 1824, vice *W. spicata* Presl *Rel. Haenke*, ii., 117, 1835. Alien, Amer. On the site of the Exhibition of 1862. W. T. DYER, in *The Key*, 1892.

462 (2). *TILIA PETIOLARIS* DC. Alien, Europe. Barton Sea-grave, Northants., 32, in *Rep. B.E.C.* 133, 1914, G. CHESTER. Det. A. B. JACKSON.

471 (2). *LINUM JIMENEZII* Pau, in *Bot. Soc. Arag.* ii., 70. Alien, Spain. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*

488. *GERANIUM ROBERTIANUM* with tri-lobed petals. About the middle of May 1913, I noticed in a lane at Ottery St Mary, Devon, a specimen of *Geranium Robertianum* bearing a flower with tri-lobed petals. This species was abundant in the hedge adjacent, yet no other specimen with lobed petals could be found. Repeated visits during the next two years failed to find a second example. Since the original plant was not uprooted, unless it has been otherwise exterminated, it should still be there. As I am shortly returning to Japan, and therefore shall not have another opportunity of visiting the same spot in the near future, and also since I have not met with any specimen of this kind anywhere else, I venture to record its occurrence, and to call the attention of field botanists to this curious form. The flower had a long slender and hairy peduncle, of a reddish colour, and was in no way different from typical *G. Robertianum*, except for the lobing of the petals. Four of the petals were distinctly tri-lobed, while the fifth had a lobe produced only on one side of the organ, thus showing a transition to the normal type. On the same peduncle there was a flower-bud. Its dissection has revealed the fact that this bud was going to become a flower exactly the same as the other, since four of the young petals were more or less tri-lobed, while the remaining one had a notch on one side only. Unfortunately at the time of the discovery no close examination was made as to the character of the other flowers on the same plant. There was, however, no other flower with lobed petals in evidence. Since there were at least two flowers (one was in the immature condition) of the same nature present on the same plant, it might be presumed that the others were of a similar kind. Even if this abnormality were limited to these two particular flowers, if one or both of them were fertilised and set seeds, offsprings possessing this character might have been produced. At any rate it would be well worth while to look for some more examples of *Geranium Robertianum* bearing flowers of this type, and to make some careful observations whether this character is well established or an unstable one. Through the kindness of Mr G. C. Druce, I have found that the only approach to this form of *G. Robertianum* on record is sub-var. *crenatum* Rouy and Fouc. *Fl. Fr.* 95, 1897. These authors, however, do not give any proper descrip-

tion of this form, and simply say "petals crenulated." From this short description it is difficult to decide if our form corresponds with that referred to by the French authors. The lobing in our example, however, suggests that the British form ought to be treated as distinct. If the characteristic of this form was found to be stable, our plant may then be called var. *trilobatum*. H. TAKEDA.

Gen. 118 (2). *MONSONIA* L. *Mant.* i., 14, 1767.

499 (20). *MONSONIA BREVIROSTRATA* R. Knuth, in *Eng. Jahrb.* xl., 67, 1907. Alien, S. Africa. Tweedside, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

517. *EUONYMUS EUROPAEUS* L., forma *REPENS*. Sand dunes, near Seascale, L. Lancs., 69 b, August 1915, shown me by Mr D. LUMB. Specimens rooting from the lower branches. G. C. DRUCE.

539. *ULEX MINOR* Roth (*U. NANUS* Forst.), var. *LONGISPINOSUS* (Rouy and Fouc. *Fl. Fr.* iv., 244, as a var. of the race *U. nanus*), comb. nov. Spines 12-18 mm. as against 8-12 in the type. Bedwyn Brailes, N. Wilts., 7, C. P. HURST; near Early and Wokingham, Berks., 22; Harefield, Middlesex, etc., 21, 1892, G. C. DRUCE. (Rouy cites Baenitz *Hb. Europ.* 1877, from England.) The habit of this plant is erect, 2 feet high, with strong spines, but the flowers are small and paler than *Gallii*, for which it is often mistaken. G. C. DRUCE.

540 (2). *CYTISUS MONSPESSULANUS* L. Alien, Europe. On a heath far from houses, between Hyde and Wareham, Dorset, 9, 1915, Mrs DRUMMOND, vide sp.

597 b. *MELILOTUS INDICA* All., var. *PARVULUS* Rouy and Fouc. *Fl. Fr.* v., 56. "Plante très grêle, de 8-15 cm.; folioles des feuilles inférieures obovales cunéiformes, celles des feuilles supérieures oblongues-allongées, grappes florifères lâches, pauciflores, une fois plus longues que la feuille, . . . fleurs très petites, d'un jaune pâle ou blanchâtres; légumes très petits." Near Winchester, 1915, JOSHUA LAMB, vide sp.

648. *LOTUS TENUIS* Kit. I have for some time felt that we have under this name more than one form, therefore I thought members might perhaps assist by examining the specimens in their collection in

order to see if they can be separated. The one figured in *English Botany* t. 2615, *L. decumbens* Forster, is identified by M. Rouy in *Fl. Fr.* as *L. pedunculatus* Cavan. *Icones* 2, 52, t. 164. The other is *L. tenuis* Kit. in Willd. *Enum. Hort. Berol.*, 797. I have appended his description of the two forms.

L. PEDUNCULATUS.

Plant 4-8 dcm., glabrous or glabrescent.

Stems many, much branched, decumbent at base, ascending in the upper part, with long internodes.

Leaflets oblong-lanceolate or lanceolate, pointed, attenuate at base and at top. Stipules elliptic-lanceolate, truncate at base.

Peduncle elongate, slender, 6-10 times longer than leaf.

Flowers 2-5. Calyx with triangular teeth, somewhat attenuate-subulate, equalling tube.

Wings oblong, rounded at top, curved on the lower margin, but not entirely covering the keel.

L. TENUIS.

Plant 2-4 dcm., glabrous or glabrescent.

Stems many, slender, branched, ascending or erect.

Leaflets and stipules linear-lanceolate or linear, pointed, often thin, attenuate at base.

Peduncle filiform, elongate, 5-6 times longer than leaf.

Flowers 1-4. Calyx with triangular teeth, abruptly subulate, shorter than tube.

Wings narrow-oblong, truncate at top, not curved, and not entirely covering the keel.

Smith's description (*Eng. Fl.* iii., 314) is (abbreviated) as follows:— Heads of few flowers, 3-6. Stems decumbent, nearly solid, widely spreading, a foot or more in length. Flower stalk axillary, 4 or 5 times the length of the leaves. Calyx teeth lanceolate, tapering, spreading, shorter than the tube, with wide rounded interstices. Smith says he can find nothing like this species except *L. pedunculatus* Cav., the plate and description of which are not very discriminative, but its stem is said to be erect, 3 feet high, and every part of the plant is smooth. If one compares the figure (*Syme E.B.* iii., t. 369, copied from *E.B. Supplement*, 2615) it will be found that the length of the peduncle is about 50 mm.; of the leaflet 10-12 mm., *i.e.* about five times longer. The calyx teeth are distinctly shorter than the tube, and this is the case in the greater number of my sheets of *L. tenuis*. I have two small plants, one from Brixham, S. Devon, and another from Lymington, S. Hants., which agree pretty well

with Rouy's description of *tenuis*, except that the plants are not erect. G. C. DRUCE.

650. LOTUS ANGUSTISSIMUS L. × HISPIDUS Desf. = × L. DAVYAE Druce. Growing with both species at Start Point, S. Devon, and sent by Lady Davy, who noticed its intermediate characters. The foliage is more hairy than *angustissimus*; the calyx teeth are slightly longer than the tube; the peduncles, instead of being longer than the leaves as in *hispidus*, or shorter as in the other species, are variable in length, and they are 1-2 flowered. The pod is about 20 mm. in length, resembling that of *angustissimus* in shape, whereas that of *hispidus* is broader and about 10 mm. long. The seeds are somewhat larger than in *angustissimus*, but smaller and rounder than *hispidus*. It is characterised by having the foliage of *hispidus*, but the pod of *angustissimus*. Pilosus, pedunculi 1-2 flori, folio longiores vel breviores. Legumen ut in *L. angustissimo*, circiter 20 mm. Semina magnit. intermedia. G. C. DRUCE.

655. ASTRAGALUS DANICUS Retz., sub.-var. PARVIFOLIUS mihi. Leaflets small, 2-4 × 1-2 mm. Carnoustie sands, and on the cliffs near Arbroath, Forfar. The type is common and luxuriant on the Sands of Barry, Forfar. The fruits vary from intensely hairy to nearly glabrous. G. C. DRUCE.

667 (2). SCORPIURUS VERMICULATUS L. Alien, Europe, S. Tyne-side, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

723 (2). LATHYRUS HIEROSOLYMITANUS Boiss. Diagn. Ser. I, ix., 127. Alien, Syria, &c. Ware, Herts., 20, 1915, Miss TROWER and G. C. DRUCE.

787. RUBUS HEREFORDENSIS Sudre Mon. Rubi, 64 (R. PUBESCENS Rogers, p.p.). *Set of British Rubi*, No. 33, 1904. Hereford, A. LEY.

796 (2). RUBUS DUBERNIENSIS Sudre and Ley, 31 (ORTHOCLADOS × GRATUS). Hereford, A. LEY.

800. RUBUS CORNAVIENSIS Sudre, *l.c.*, 103 (LEUCOTRICHUS × PYRAMIDALIS). Pennsylvania, Cheshire, A. H. WOLLEY-DOD.

805. RUBUS WOLLEY-DODII Sudre, *l.c.* 106. Edge Park, Cheshire, A. H. WOLLEY-DOD (the *Rubus criniger* Rogers, pro. min. part).

818 (2). *RUBUS SEMIINFESTUS* Sudre, *l.c.* 150 (*INFESTUS* × *SCHLEICHERI*). Burton Wood, A. H. WOLLEY-DOD.

842 (2). *RUBUS HIRSUTISSIMUS* Sudre and Ley, *l.c.*, 51. Hereford, A. LEY.

865 (2). *RUBUS SCHLEICHERI* Weihe. Yorks., SUDRE, *l.c.*, 198.

876 (2). *RUBUS IMBRICATIFORMIS* Sudre, *l.c.*, 240 (*IMBRICATUS* × *CAESIUS*) = *R. TUBERCULATUS* J. W. White. ?Somerset.

876 (3). *RUBUS SEMIALTERNIFLORUS* Sudre, *l.c.*, 240 (*ALTERNIFLORUS* × *CAESIUS*). Chester, A. H. WOLLEY-DOD.

ROSA EGLANTERIA Hudson.

A. Petala rosea, saturate rosea, vel rosea-purpurea.

I. Pedicelli obvii glanduloso-hispidi.

a. Foliola glandulis subfoliaribus instructa.

i. Armatura dimorpha, aculeorum uncinatorum basi lata dilatata multorum et aciculorum leviter curvatorum vel rectorum setaceorum plusminus pauciorum minorum immixte composita.

var. *UMBELLATA* F.N.W. (= *R. UMBELLATA* Leers), f. *ECHINOCARPA* F.N.W. (= *R. ECHINOCARPA* Ripart). Aculei majores falcati, minores recti. Petioli tomentosi undique stipitato-glandulosi subtus aculeati. Foliola ovalia, supra glabra vel leviter puberula glandulis sparsis obducta, subtus pubescentia densius glandulosa stipulae lanceolatae, auriculis acutis erectis. Flores solitarii vel corymbosi. Bracteae ovales cuspidatae. Pedicelli aculeis longis et aciculis brevibus intermixtis armati; aculei aciculis $2\frac{1}{2}$ -3 plo. longiores. Styli obvii hispidi. Fructus glandulis stipitatis et setis aciculosi dense echinatus. On Box Hill, Surrey, last year, the sepals were spreading out on 21st September. F. N. WILLIAMS.

937. *ROSA EGLANTERIA* L., var. *CORSTORPHINAE* mihi. Bush tall, stem prickles distant, long based, uncinata, of the flowering shoots crowded, nearly straight, 2-3 mm. long, of the peduncles crowded, straight, slender. Leaves broadly ovate, densely glandular above and below, biserrate. Flowers in dense umbellate clusters, 8-10, dark rose-red, fragrant, very showy. Elata. Aculei sparsi pallidi e basi late dilatata uncinati. Aculeoli crebri, 2-3 mm., leviter curvati vel recti, tenues. Foliola late ovata utrinque dense glandulosa. Flores

grate odori, saturate rosei, 8-10, in umbellam compactam aggregati. Near Dunninald, Forfar, in plenty. Shown me by Mrs Corstorphine. In *Top. Bot.*, curiously enough, *Eglanteria* is not given as a native of the northern counties. In Forfarshire and Eastern Perth it is one of the commonest roses, and is probably as native as *villosa* or *tomentosa*. This handsome and very distinct-looking plant is quite new to me. I saw nothing in the vicinity which could suggest a hybrid origin, but the bushes were remarkably constant. Major Wolley-Dod, too, says he has seen nothing like it. If a hybrid, it is almost certainly *R. Eglanteria* × *gallica*, the armature recalling that of the latter species. G. C. DRUCE.

966. CRATAEGUS OXYACANTHA L., vel C. MONOGYNA Jacq., var. vel forma SUBCRISTATA mihi. Differs from the type by its small 8-10 × 5 mm. narrow one-styled fruit, in which the calyx lobes, instead of being recurved more or less, and closely applied to the fruit, are spreading or erect. The leaves are mostly tri-lobed, but the veins turn outwards, not as in *oxyacanthoides* inwards. Racemes many fruited, dark dull purplish red. Folia plurimum triloba, venis extrinsecus curvatis. Sepala patenti-reflexa vel recta, corymbis multifloris. Pomum 8-10 × 5 mm., rutilans. Yardley Gobion, Northants., September 1915, G. C. DRUCE.

CRATAEGUS MONOGYNA Jacq., var. HETEROPHYLLA mihi. Lower leaves and those on the fruiting branches narrow, tapering from the base, and almost entire for three-fourths of their length, but cut in the upper part into 3-5 usually shallow lobes. Leaves of the upper part of the flowering branches and of young shoots like those of normal *monogyna*, 5-7 lobed, with recurved veins, the veins of the centre lobe sometimes slightly incurved, the lateral ones slightly recurved. Fruits of medium size, one-styled, often more or less bent, few, on long stalks. Folia inferiora et ramorum fructiferorum angusta, basin versus attenuata, quoad partem quartam superiorem 3-5 loba, ceterum subintegra. Folia juniorum terminum et parte superiore ramorum floriferorum 5-7 loba, venis recurvatis. Stylus post anthesin plusminus flexus. Poma pauca mediocria, longe pedicellata. It is possible that the plant may be a hybrid with *oxyacanthoides*, but it seems constantly one-styled, the fruits are fertile, and the upper leaves are distinctly those of *monogyna*. Yardley Gobion, Northants.,

in some quantity. There is a fine bush of an allied form among the large collection of thorns in the Oxford parks, planted by W. H. Baxter, but the original label is lacking. September 1915. G. C. DRUCE.

CRATAEGUS MONOGYNA Jacq., var. URCEOLATA Hobkirk, in *Nat* iii., 19, 1867. Fruit twice as long as broad, leaves deeply divided, and not so generally serrated as type. Thirsk, York, J. G. BAKER.

CRATAEGUS MONOGYNA Jacq., var. PTERIDIFOLIA (Loudon Arb. et Fruct. iii., 831, 1838). *C. oxyacantha* L., var. *pteridifolia* Loudon, *C. pterifolia* Lodd. Cat., *C. pectinata* Hort. Like *laciniata*, but leaves longer in proportion to their breadth, and more elegantly cut. There are only small plants of this very elegant and most interesting variety in the Fulham Nursery, at Messrs Loddiges, and in one or two other collections. This differs from *laciniata* in having an extra pair of leaf lobes, and in the more oblong shape of the leaf. Woodstock, Oxon.; Humberstone, Leicester, A. R. HORWOOD.

967. CRATAEGUS OXYACANTHOIDES Thuill. (*C. OXYACANTHA* auct. Suec.), var. MICROPHYLLA mihi. Leaves small, 15-20 × 5.15 mm., roundish-oval, with three shallow roundly-crenate lobes. Ripe fruit roundish, about 8 mm. Folia 15-20 × 5-15 mm., ovali-subrotunda, tricenato-loba. Pomum 8-10 mm., superne rotundatum. By the Tove, Yardley Gobion, Northants., with bushes of the type growing close by. G. C. DRUCE.

CRATAEGUS OXYACANTHOIDES Thuill., var. MAJUS Hobkirk, *l.c.*, 1867. "Foliis amplis, serratis, utrinque pubescentibus. Hampstead Heath, Middlesex, J. B. SYME, 1864." Leaves two or three times larger than type, more elongated and somewhat hairy. Probably a hybrid.

HAWTHORN.

The English name Hawthorn is first mentioned in some early glossaries. The following quotations to illustrate its use are selected (in order of date) from the Oxford English Dictionary, v., 133, 1898: 700, *Epinal Glossary*, 19, "*Alba spina*, haeguthorn"; 725, *Corpus Glossary*, 114, "*Alba spina*, heagothorn"; 800, *Erfurt Glossary*, 19, "*Alba spina*, hagudorn"; 950, *Lindisfarne Gospels*, Matthew vii., 16, "Huether somnigas . . . of hagathornum fic-beamas" (Do men gather

grapes of thorns, or figs of thistles?); circ. 1000 (Cockayne), *Saxon Leechdoms*, ii., 54, "Haegthornes blostman"; Robert of Gloucester, *Legends of the English Saints* (1297), "onder an haythorn tree"; circ. 1300, *Guy of Warwick*, "Thiderward sir Guj him droush, And loked under an hawe-thorn boush"; circ. 1400, *Vocabulary*, ed. by Wülcker, 572/45, "*cinus*, an haythorne and an hawe"; 1450, *Merlin*, 681, "A bussh . . . of white hawthorne full of floures"; 1573, *Tusser*, *Husbandrie*, xxxv., 76 (ed. 1878), "The box and bay, Haithorne and prim, for clothes trim." In England hawthorn hedges seem to have been in use since the time of the Romans; and the alternative English name of "White-thorn" is a translation of the Latin *Alba spina*. F. N. WILLIAMS, in *lit.*

972 (3). COTONEASTER FRIGIDA Wallich Cat. 657. Alien, Himalaya. In Buddon and Quarry wood, near Gallows Lane, Willesley, Leicester, 1915, A. R. HORWOOD.

1010 (2). SEDUM ALTISSIMUM Poir. Enc. iv., 634. Alien, S. Europe. With Esparto grass, Midlothian, 1915, J. FRASER, in *lit.*

1047. EPILOBIUM HIRSUTUM × PALUSTRE (Fide E. S. Marshall). Edge of pool near Helsby Station, Cheshire, C. WATERFALL, vide sp. We congratulate our member upon adding such an interesting plant to the British Flora.

1077 (3). MESEMBRYANTHEMUM CRYSTALLINUM L. Alien, Greece.
1077 (4). M. FALCATUM L. Alien, S. Africa. 1077 (5). M. GLOMERATUM L. Alien, S. Africa. Tyneside, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

1156 (2). TORDYLIUM SYRIACUM L. Alien, Orient. Tyneside, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

Gen. 250 (2). CUMINUM [Tourn.] L.

1157 (10). CUMINUM CYMINUM L. Alien, Asia. Tyneside, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

1186 (2). LONICERA CAERULEA L. Alien, Europe. Gurnley Wood, Leicester, A. R. HORWOOD.

1195. GALIUM SAXATILE L., var. ALPESTRE Meyer. A narrow-leaved plant. Ben Vorlich, Dumbarton, E. S. MARSHALL, in *Journ.*

Bot., 159, 1915 = *G. hercynicum* Weig., var. *alpestre* (Meyer) mihi.
See *Rep. B.E.C.*, 416, 1893.

Gen. 276 (2). *AGERATUM* L. 1753.

1240 (10). *AGERATUM HOUSTONIANUM* Miller Gard. Dict., 2, 1768. Alien, Mexico. Near Melrose, Roxburgh, 1914, Miss I. M. HAYWARD.

1242 (2). *GRINDELIA* (*cf.*) *DECUMBENS* Greene. Alien, America, N. and W. Birkenhead, Cheshire, A. DALLMAN. Det. A. THELLUNG.

Gen. 285 (5). *AMELLUS* L.

1248 (10). *AMELLUS STRIGOSUS* Less., var. *THUNBERGII* Harvey. Alien, S. Africa. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD.

1254 (2). *ASTER PUNICEUS* L. Alien, N. America. Banks of the Tay, Perth, BOSWELL SYME, in *Rep. B.E.C.*, 1869; on an island at the junction of the Till and Tweed, Berwick, 1914, Miss I. M. HAYWARD.

1257 (3). *ASTER NOVI-ANGLIAE* L. Alien, N. America. Dryburgh, Roxburgh, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1257 (4). *ASTER ERICOIDES* L. Alien, N. America. Botley, Oxon., G. C. DRUCE; Dryburgh, Roxburgh, 1915, Miss I. M. HAYWARD.

1258 c. *ASTER TRIPOLIUM* L., var. *GLABER* Bolzon, in *Bull. Bot. Soc. Ital.*, 35, 1903. The involucreal scales are, in this variety, quite glabrous. New Bedford, by the Gault Hole, Sutton, Cambridge, 1881, A. FRYER; Heacham Salt Marsh, W. Norfolk, in *Hb. Druce*; near Vevyan, E. Cornwall, E. THURSTON, ex C. C. VIGURS, not quite typical; Malden, Essex. G. C. DRUCE.

Gen. 283 (3). *CHRYSOCOMA* L. 1753.

1259 (30). *CHRYSOCOMA COMA-AUREA* L. Alien, S. Africa. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

Gen. 284 (5). *MICROPUS* L.

1263 (20). *MICROPUS ERECTUS* L. Alien, S. Europe. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*

1270. *GNAPHALIUM SYLVATICUM* L., var. *SPADICEUM* (Gilib. Fl. Lituan. i., 180, as a species) comb. nov. This antedates my variety *alpestre*, and appears to be identical with the var. *nigrescens* Grenier Fl. Chaine Jurass. 427. It is often mistaken for *G. norvegicum*. Even Babington fell into the error. Glen Shee, E. Perth; Glen Dole, Forfar, G. C. DRUCE. Dr THELLUNG names it var. *alpestre* Brügg.

1278 (4). *GNAPHALIUM* (cf.) *PARVULUM* Harvey Fl. Capensis iii., 262. Alien, S. Africa. Tweedside, Selkirk, 1913, Miss I. M. HAYWARD. Det. A. THELLUNG.

1278 (11). *HELICHRYSUM ODORATISSIMUM* (L.) Less. Syn. Comp. 301. Alien, S. Africa. Tweedside, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1284 (2). *INULA GRAVEOLENS* L. Alien, Europe. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1312 b. *GALINSOGA PARVIFLORA* Cav., var. *ADENOPHORA* Thell. in *Allg. Bot. Zeitschrift*, 9, 1915. Pedunculis involucrisque (praeter pilos simplices rariores) glandulis stipitatis dense obsitis, interdum solum glandulosis (pilis simplicibus deficientibus). Kew, Surrey. In the type the peduncle is eglandular. G. C. DRUCE.

1336 (2). *SANTOLINA ROSMARINIFOLIA* L. Alien, S. Europe. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*

1346 (2). *ANTHEMIS MURICATA* Guss. Alien, Sicily. Cotton-waste refuse. Colchester, G. C. BROWN.

1356 (8). *CHRYSANTHEMUM ITALICUM* L. Mant. Alien, Italy. Tyneside, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

1363 (4). *MATRICARIA GRANDIFLORA* (Thunb.) Fenzl, and 1363 (5), *M. GLOBIFERA* (Fenzl) Thunb. Alien, S. Africa. Tweedside, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1364 (5). *COTULA SOBORIA* DC. Prod. vi., 79. Alien, S. Africa. Gala, Selkirk, 1914, plentiful, Miss I. M. HAYWARD. Det. A. THELLUNG.

1365 (8). *COTULA PUSILLA* Thunb. Prod. Fl. Cap. 162, and 1365 (9), C. ZEYHERI Fenzl, ex Harv. and Sond. *Fl. Capensis*, iii., 180. Aliens, Cape. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. Det., with some doubt, A. THELLUNG.

1365 (10). *COTULA MACROGLOSSA* Bolus. Alien, S. Africa. Galashiels, Selkirk, Miss I. M. HAYWARD.

1365 (11). *SOLIVA ANTHEMIFOLIA* (Juss.) R. Br. Trans. Linn. Soc., xii, 102, 1817. Alien, Mexico, S. America, (?) Australia, adv. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1383 (3). *ARTEMISIA AFRA* Jacquin Hort. Schonb., iv., 34. Alien, Cape. Tweedside, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

1389 (6). *ERECTITES ARGUTUS* DC. Prod., vi., 296. Alien, New Zealand. Galashiels, Selkirk, Miss I. M. HAYWARD. Det., with some doubt, A. THELLUNG.

1394. *SENECIO JACOBAEA* L., var. *CONDENSATA* mihi. Plant shorter, leaves much narrower, segments broader than type. Inflorescence very compact and rounded. 3-4 dcm. Folia angusta segmentis quam in typo latoribus. Anthemia compacta rotundata. Pl. vulgaris, 5-8 dcm., foliorum segmentis obovata-oblongis inciso-dentatis, et calathiis in corymbum compositum laxum dispositis. Dunes and sea cliffs, Arbroath, Forfar, &c., G. C. DRUCE.

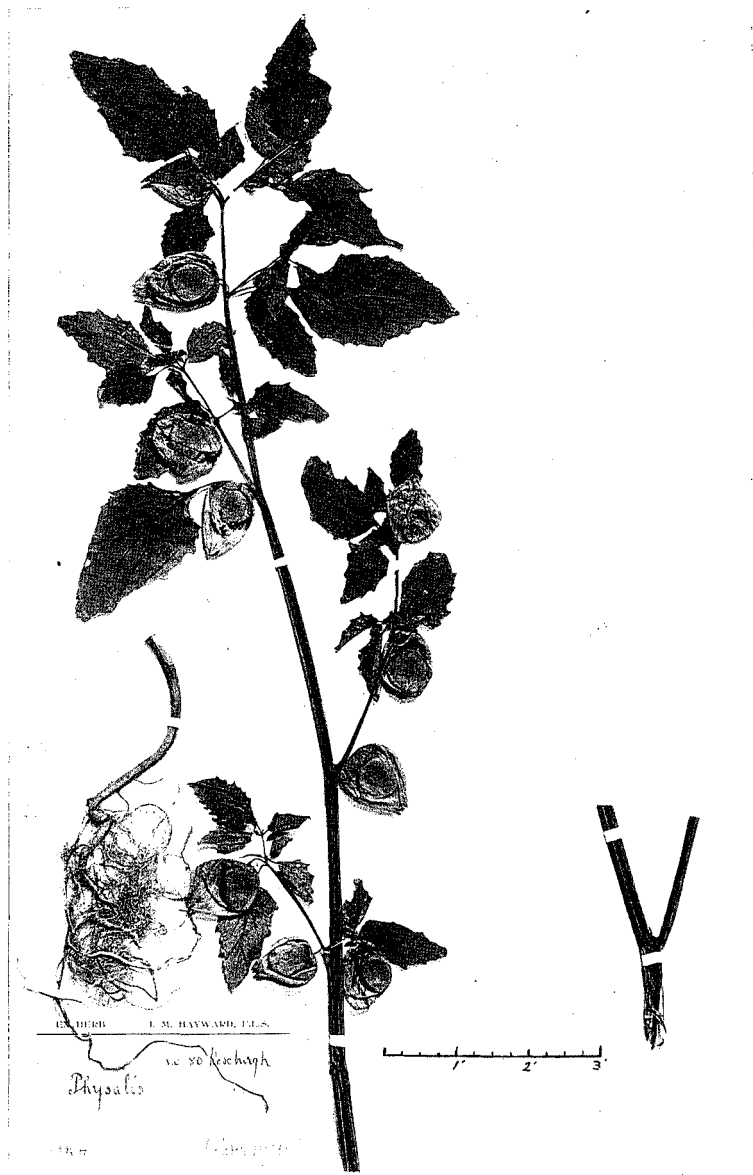
1408 (8). *SENECIO LYRATUS* L. f. Suppl., 369 (*CINERARIA LYRATA* DC.). Alien, S. Africa. Galashiels, Selkirk, 1915, Miss I. M. HAYWARD.

Gen. 331 (2). *BERKHEYA* Ehrh. Beitr., iii., 127, 1788.

1412 (10). *BERKHEYA STOBÆOIDES* Harvey in *Fl. Capensis*, 505. Alien, Cape. Tweedside, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

Gen. 331 (3). *GAZANIA* Gaertn. Fruct. ii., 451, 1791.

1412 (20). *GAZANIA SPLENDENS* Lem. Ill. Hort., vii., 1860. Alien. Of garden origin. Hartlepool, Durham, M. A. LAWSON, ex HOGG, in *Brit. Assoc.*, 1866.



PHYSALIS IXOCARPA BROT. NEAR DRYBURGH, ROXBURGH.
COLL., MISS I. M. HAYWARD, F.L.S. SEE REPORT, 203, 1915.

differs from the type by the somewhat larger leaves, which are pubescent on the under surface. The plant of Glen Dole, Callater, Glen Aan, and Ben Lawers is glabrous. See *Journ. Bot.*, 179, 1915. G. C. DRUCE.

1722 (2). *STATICE PLANIFOLIA* (Syme as a var. of *ARMERIA VULGARIS*) = *ARMERIA ALPINA* Williams Prod. Fl. Brit., 446, 1910, not of Willdenow. This alpine *Statice* seems to deserve specific rank, differing as it does not only from the continental *alpina*, but also from the pleurotrichous British maritime plant, by the larger and more membranous phyllaries and the normally broader leaves, which are more obtuse and thickened. I saw it on Ben Lawers this year, and previously in Ross, E. and W. Inverness, S. Aberdeen, Forfar, Argyll, E. and Mid-Perth, and on Snowdon. G. C. DRUCE.

Gen. 411 (10). *PHLOX* L.

1767 (10). *PHLOX PANICULATA* L. Alien, America. Cothill, Berks., garden escape. G. C. DRUCE.

1776 (2). *GILIA PUNGENS* Hook. Bot. Mag. t. 2977 (*NAVARRERIA*, cf. *SUARROSA* Hook & Arn.). Alien, N. America. Under Ladhope Bridge, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

1800 (3). *ANCHUSA PROCERA* Bess. in Link *Enum. Hort. Berol.*, i., 166. Ware, Herts., G. C. DRUCE and H. F. HAYLLAR. Det. A. THELLUNG. Closely allied to *A. ochroleuca*.

1846 c. *SOLANUM NIGRUM* L., var. *HUMILE* (Bernh.). Alien. Dryburgh, Roxburgh, 1914, Miss I. M. HAYWARD.

1847 (2). *SOLANUM COMMERSONI* Dunal, ex Poir. *Enc. Suppl.*, iii., 746. Alien, Argentina. Galashiels, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

1851 (3). *PHYSALIS IXOCARPA* Brot. ex Hornem. Hort. Hafn. Suppl., 26, 1819 = *P. aequata* Jacq. f. Alien, Mexico. Cultivated in N. America. Near Dryburgh, Roxburgh, 1915; and 1851 (4), *P. PUBESCENS* L. Alien, America. Skinworks, Galashiels, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

1859 (5). *NICOTIANA ALATA* Link and Otto Ic. Pl. Rar. 1, 63, var. b. *GRANDIFLORA* Comes Mon. Nic. (*N. AFFINIS* Moore). Alien,

S. America. Hayes, Kent, 1912, W. H. GRIFFIN. Det. A. THELLUNG.

Gen. 445 (5). SCHIZANTHUS Ruiz and Pavon Prod. 6, i., 1794.

1859 (2). SCHIZANTHUS PINNATUS Ruiz and Pavon Fl. Peruv., i., 13, t. 17. Alien, Chili. Boddin, Forfar, 1911, J. WHYTE, ex R. & M. CORSTORPHINE. Det. G. C. DRUCE.

1862 (2). VERBASCUM SCHRADERI G. F. W. Meyer Chlor. Hannov., 326. Alien, Europe. Went Vale, York, W. D. BRAITHWAITE, in *N. H. Journ.*, 143, 1885.

1872 (2). CALCEOLARIA CHELIDONIOIDES H. B. K. Nov. Gen. et Sp. ii., 378. Alien, America, S. and W., Guatemala. Marston brick-yards; weed in the Botanical Garden, Oxford, G. C. DRUCE. Det. A. THELLUNG.

1874 (4). LINARIA DALMATICA Mill. Gard. Dict., 1768. Alien, Dalmatia. Island in Tweed, near Dryburgh, Roxburgh, 1914, Miss I. M. HAYWARD. Det. G. C. DRUCE. Near St Germans and Par Sands, Cornwall, spreading rapidly, H. DALTRY. The Cornish plant agrees with the description of var. *macedonica* (Griseb.). G. C. DRUCE.

Gen. 448 (2). ANARRHINUM Desf. Fl. Atl. ii., 51.

1888 (10). ANARRHINUM BELLIDIFOLIUM Desf. *l.c.* Alien, S. Europe. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*, as *A. corsicum* Jord. and Fourreau.

1893. SCROPHULARIA ALATA × AQUATICA = × S. HURSTII nov. hyb. With both parents, near Shalbourn, Berks., 1915, C. P. HURST. In this place it grew with both species in tangled masses, the hybrid being vegetatively luxuriant, some specimens being tall and branched. In some instances they were nearer *alata*, in others *aquatica*, and the leaves especially showed these transitional forms. Leaves palish green, darker and usually duller than *alata*, but paler and brighter than *aquatica*; leaf-cutting variable, sometimes with distant crenatures, sometimes crenate-serrate, ovate-oblong, subacute. Corolla paler than *aquatica*, less green than *alata*. Staminode stunted, less bilobed, and the lobes less diverging than *alata*, but more deeply divided than *aquatica*. Capsule less acuminate than *aquatica*, usually barren, in some instances quite small and empty. Folia pallidiora et

clariora quam in α , sed magis opaca quam in β , supra partem inferiorem rectam ovali-oblonga, apice subacuta, margine crenato-serrata vel remote parceque crenata. Corolla pallidior quam in α , subtus minus viridulo-suffusa quam in β . Staminodium rudimentarium, emarginato-bilobum. Ovarium saepius sterile. Capsula interdum exigua, tumque vacua. We owe the discovery of this interesting hybrid to our member, Mr C. P. Hurst, who shortly before added *S. alata* to Berks. and Wilts. from this district. *S. alata* has a range along the Shal-bourn Stream for about three miles, nearer the Kennet *S. aquatica* comes in, and it is where the two species overlap that \times *S. Hurstii* grows. G. C. DRUCE.

1903 (2). DIGITALIS AMBIGUA Murr. Alien, Europe. Moncrieff Hill, W. BISSETT, in *Fl. Perthshire*, 228.

1907. VERONICA OFFICINALIS L., var. RIGIDA Edmonst., in *Ann. Nat. Hist.*, 287, 1841. Common on waste ground in the Shetlands. Stem erect, very rigid, leaves not serrated; all the plant glabrous; capsules very distinctly winged. This may be equivalent to and antedate Babington's var. *glabra* of the 6th edition of the *Manual*. It should be refound and tested by culture.

1948. BARTSIA ODONTITES Huds., var. Flowers white; stem very pale green, leaves without any tinge of red. Gathered by Rev. BOURNE on Northington Farm, Grimley, Worcester; near Diss., Mr WOODWARD, With. *Nat. Arr.* Ed. v. iii., 671, at the S.E. corner of a small wood called Jack Sherwood, about half a mile from Papplewick, Notts., D. COOPER, in *Ann. Nat. Hist.* v., 357, 1840.

1956. RHINANTHUS BOREALIS \times R. STENOPHYLLUS, var. MONTICOLA = \times R. GARDINERI mihi. Growing with both assumed parents in Glen Phee, Forfar. It has the habit of tall *monticola*, but with the fruits slightly hairy. The leaves are nearly linear, and there are few intercalary branches. The flowers are dull yellowish, and the seeds small. The name is given in honour of the author of the *Flora of Forfarshire*. August 1915, G. C. DRUCE.

1960. MELAMPYRUM PRATENSE L., agg., var. HIBERNICUM mihi. Under this as a sub-var. M. Beauverd provisionally puts my specimens from Millook, Cornwall. [Ref. No. 11149.] (See *Rep. B.E.C.*

154, 1914.) *Hibernicum* is the large southern yellow-flowered plant I formerly put under *hians*, but which I now think is distinct. It is abundant at Killarney. M. Beauverd considers *M. hians* to constitute a sub-species, represented in varied forms in Britain and on the Continent. G. C. DRUCE.

1961. MELAMPYRUM SYLVATICUM L., sub-var. PALLIDIFLORUM (F. B. WHITE, in *Scot. Nat.* 301, 1878, as a var.). In large masses in Glen Tilt, E. Perth. The name seems antedated by that of var. *pallens* Auserdorfer *Essicc. Tirol*, 1872. Corolla albida-flavescentes quandoque etiam labellum inferius aut tota corolla rubescens.

2033 (2). ZIZIPHORA TAURICA Bieb. Fl. Taur. Cauc., i., 414. Alien, Asia Minor. Hoddesdon, Herts., 1914, H. F. HAYLLAR.

2044 c. PRUNELLA VULGARIS L., var. c. NEMORALIS Beguinot Fl. Ital. Exs., n.s. ii., n. 1744. A tall, erect plant, with long internodes, and long flowering spikes, S. Hinksey, Berks., 1889. G. C. DRUCE.

2044. PRUNELLA VULGARIS × LACINIATA nov. hyb. Hardwick, Cambridge, C. E. MOSS, in *Journ. Bot.*, 8, 1915.

2048 (2). SIDERITIS ROMANA L. Alien, S. Europe. Hoddesdon, Herts., 1915, H. F. HAYLLAR.

2048 (3). SIDERITIS LANATA L. Alien, Greece, Orient. Inveresk, Edinburgh, 1906, J. FRASER; Hoddesdon, Ware, Herts., H. F. HAYLLAR; near Bristol, 1915, T. H. GREEN, vide sp.

Gen. 479 (2). MONARDA L.

2052 (20). MONARDA DIDYMA L. Alien, America. Island in Tweed, near Dryburgh, Roxburgh, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

2054 (2). STACHYS CRETICA L. Alien, Europe, Orient. Railway, Leeds, 1914, Mr JOHNSON, vide sp.

Gen. 496 (2). PRASIMUM L.

2078 (5). PRASIMUM MAJUS L. Aberdeen, Prof. TRAILL, in *Ann. Scot. Nat. Hist.*, 178, 1906.

2084. *AJUGA PYRAMIDALIS* × *REPTANS*. Betty Hill, W. Sutherland, with both parents, July 1907, clearly intermediate. Leaves nearly those of *pyramidalis*, inflorescence nearer *reptans*, offshoot suberect. In foliis et floribus illam revocans, in verticillastris hanc simulans, stolonibus epigaeis suberectis nec in orbem expansis. *A. pyramidalis* is without stolons, so that this hybrid is remarkable in having offshoots which are suberect, and therefore intermediate in character between stolons and flowering stems. To this may also probably be referred plants gathered by Mr P. B. O'Kelly near the coast of Co. Clare. G. C. DRUCE.

2090. *PLANTAGO CORONOPUS* L., var. *TRANSIENS* Beguinot. Berrow, N. Somerset, E. S. MARSHALL. See *Rep. B.E.C.*, 157, 1914. Det. E. G. BAKER.

2090. *PLANTAGO CORONOPUS* L., var. *CRITHMIFOLIA* Willd. Millook, Cornwall, 1914, G. C. DRUCE. Det. E. G. BAKER.

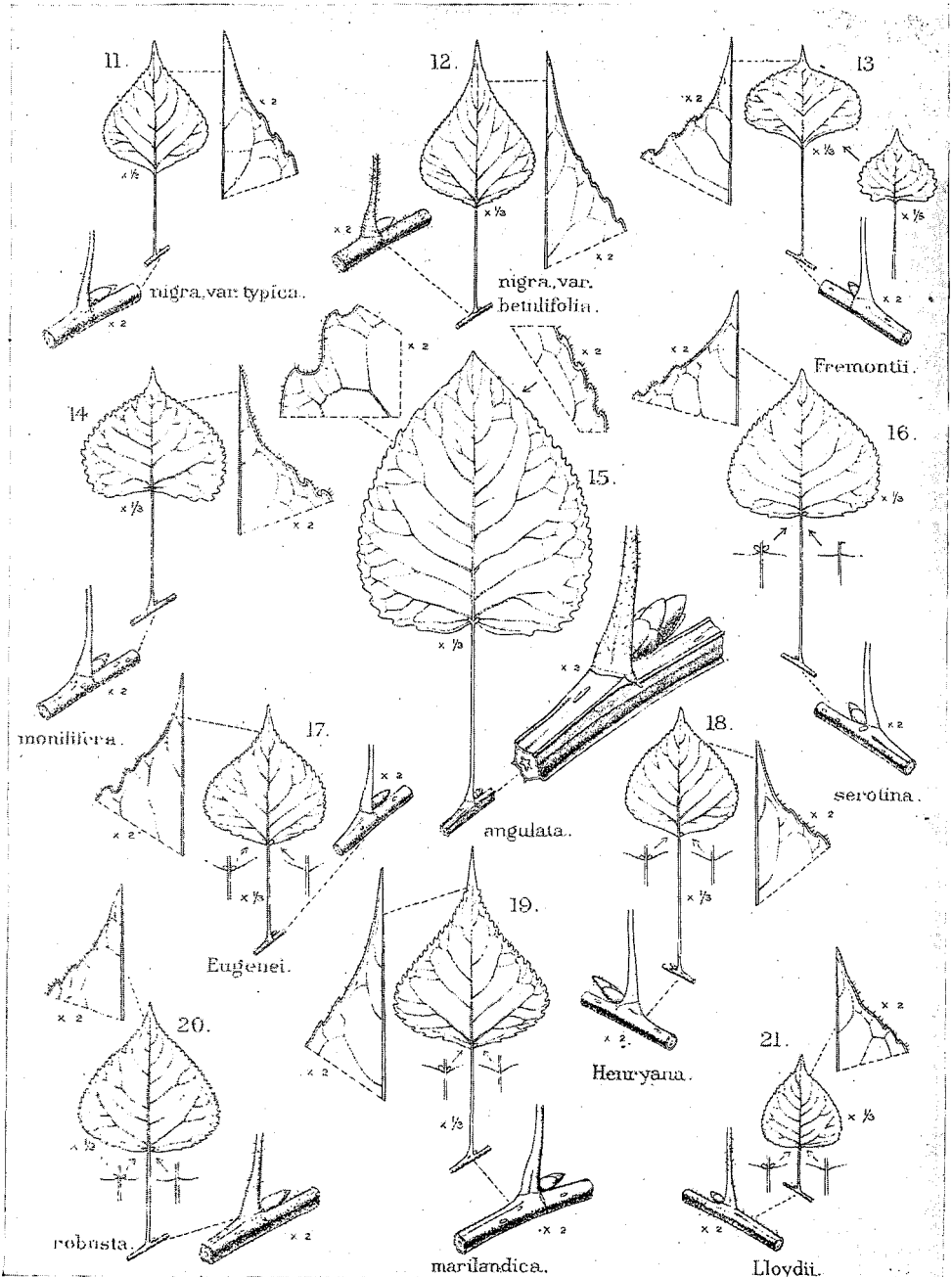
2092. *PLANTAGO LANCEOLATA* L., var. *ELLIPTICA* mihi. Laminis ellipticis (100 × 35 mm.) ad basin et summitatem attenuatis capitalis 15-20 mm. longa. In smaller specimens the leaves measured 25 × 80 mm. On the lawn of Captain Butler's house at Hambledon, Hants., with all three species; near Watlington, Oxon. Another broad-leaved form from Arbroath, Forfar, Mr E. J. Baker says approaches var. *dubia* Lilj. = *P. dubia* L. G. C. DRUCE.

2098. *PLANTAGO MEDIA* L., var. *LANCEOLATIFORMIS* Druce. Mr E. G. Baker says this closely resembles var. *Monnieri* Rouy & Fouc. Fl. Fr. x., 133, and it may have to be merged into it. Near Penge Wood, Berks., 1915, V. MURRAY; Biddesden, Wilts.; Hambledon, S. Hants., G. C. DRUCE.

2098 c. *PLANTAGO MEDIA* L., var. *LONGIFOLIA* Meyer Chloris Hannov. Biddesden, Wilts., 1915. This may prove to be *media* × *lanceolata*. G. C. DRUCE.

2116 (2). *AMARANTHUS ANGUSTIFOLIUS* Lam. Encyc. i., 115 (A. GRAECIZANS L.). Alien, Reg. Medit. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. Det. A. THELLUNG.

2116 (4) *AMARANTHUS CHLOROSTACHYS* Willd. Amaranth. 34, t. 10, var. *ARISTULATUS* Thell. in Asch. and Graeb. *Syn.* v., 354, 1914



POPULUS LEAVES.

(Kindly lent by the Proprietors of the *Gardener's Chronicle*.)

2219 (2). *EUPHORBIA SPINOSA* L. Alien, Europe, Mer. Tyneside, Winch, ex HOGG, in *Brit. Assoc.*, 1866.

Gen. 527 (2). *PEDILANTHUS* Necker *Elem.* ii., 354, 1790.

2239 (10). *PEDILANTHUS TITHYMALOIDES* Poit. Alien, S. America. Tyneside, Winch, ex HOGG, in *Brit. Assoc.*, 1866.

Gen. 536 (2). *PILEA* Lindley *Coll. Bot.* t. 4, 1821.

2253 (10). *PILEA MICROPHYLLA* (L.) Liebm. in *Vid. Selsk. Skr.* v., ii., 302, 1851 (*L. MUSCOSA* Lindl. I.K.). Alien, America, trop. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

2260. *CORYLUS AVELLANA* L., var. *LACINIATA*. Belvoir, Leicester, 1915, A. R. HORWOOD.

2291. *POPULUS NIGRA* L. See A. HENRY in *Gard. Chron* 1, 46, 66. July 1914. This has no cilia on the margin, or glands on the base of the leaf in front. The American Black Poplar has both cilia and glands. Each species has a pubescent and a glabrous form, the Linnean *P. nigra* being glabrous. The latter is limited to Southern and South-Eastern Europe. Its natural habitat is the alluvial lands bordering the Danube and its tributaries, the Po and Volga.

Populus nigra L., var. *betulifolia* has dense short pubescence on its orange-yellow twigs, readily seen with a lens. It is apparently wild in South England and France, and curiously it first received a name from Michaux, who saw a few trees in New York City, and on the banks of the Hudson, near Albany, evidently introduced. He called it *P. Hudsonica*. It attains an enormous size. One cut down in 1912 at West Stow, near Bury St Edmunds, was 92 feet in height and 19 feet in girth at five feet from the ground. 225 annual rings were counted. The timber was quite sound, and measured 748 cubic feet. Prof. Henry holds that the Lombardy Poplar is not a distinct species, but a sport of the typical *P. nigra*, the original tree being staminate. The rare female fastigiata trees, he considers, are the offspring of the female type pollinated by the Lombardy Poplar. The fastigiata form of *P. nigra* var. *betulifolia* is *P. plantierensis* Dode, so named from Plantières, near Metz, where, in the nursery of Simon Louis, it originated. There are three forms of the American Black Poplar.

1. *P. deltoidea* Marshall, var. *monilifera* Henry.

2. *P. deltoidea* var. *occidentalis* Rydberg, a xerophytic form, not yet introduced.

3. *P. deltoidea* var. *missouriensis* Henry, native of the south and south-eastern parts of the United States, not introduced in Britain.

The Poplar hybrids include :—

1. *P. serotina* Hartig. The Black Italian Poplar. It is our common and well-known tree. It grows to a great height. Mr A. Bruce Jackson records one at Albany, Sussex, 150 feet high. A tree, exactly 100 years old, at Watford, measured 130 feet, and yielded 1000 cubic feet of timber.

2. *P. regenerata* Schneider. This is a female tree, and closely resembles in foliage the foregoing, but it opens its leaves a fortnight earlier and its habit is narrower.

3. *P. Eugenei* Simon Louis. This is a male tree. The leaves and twigs are similar to *P. serotina*, but the leaves are smaller and open earlier, and the habit is narrower than *serotina*. Simon Louis believes it to have been the progeny of *P. regenerata* × The Lombardy Poplar. The original tree, Prof. Henry thinks, is the most vigorous tree in Europe, as at 81 years old it measured 150 feet in height and 25 feet in girth. This hybrid is seen in good condition at Kew, where a tree planted 24 years ago is 90 feet high.

4. *P. Henryana* Dode. A staminate tree of a wide-spreading habit, the origin of which is unknown. The leaves are cuneate at the broad base. A specimen at White Knight's, Reading, Berks., is about 100 feet high.

5. *P. marilandica* Bosc. Always pistillate, twigs glabrous (as in the four preceding), leaves like *nigra*, but these are glandular at the base with strong cilia on the margin, and the placentae and stigmas are variable, two, three, or four in number.

6. *P. robusta* Schneider (*P. nigra* var. *betulifolia* × *P. angulata*).

7. *P. Lloydii* Henry (*P. nigra* var. *betulifolia* × ?). The flowers have 2-3 stigmas. There are large trees at Major Lloyd's, Seaton Knolls, Shrewsbury.

8. *P. angulata* Aiton. This closely resembles the Southern American Poplar (*P. deltoidea* var. *missouriensis*) in twigs and foliage, but is very different in the shape of the scales of the flowers. It was at first conjectured by Mr Henry to be a mutation on the American species that originated in Europe, but he now writes to me that it is in all probability also a hybrid. It retains its leaves, which are very large, till late in November.

NOTES ON ORCHIS.

The following plants have come under my observation in 1915, and although not necessarily new forms, they are brought together for convenience here :—

2325. *ORCHIS LATIFOLIA* L. Hambledon, S. Hants. ; near Winchester, S. M'DOWALL ; Guildford, Surrey, Lady DAVY ; Frilford, Berks. ; Eynsham, Oxford ; Marsworth, Herts. ; Longwick, Bucks. ; Buckholm, Selkirk, Miss I. M. HAYWARD. In almost all cases hybrids with other species occurred.

O. latifolia × *praetermissa*. Winchester, D. G. LOWNDES ; Hambledon, S. Hants. ; Frilford, Abingdon, Berks.

O. latifolia × *incarnata* = *O. Aschersoniana* Haussk. Hambledon, S. Hants. ; Longwick, Bucks.

2325. *ORCHIS FOLIOSA* × $\left\{ \begin{array}{l} O. MACULATA \\ O. LATIFOLIA \end{array} \right. = O. HEPBURNII$ mihi.

Plant 8-9 dcm. Stem nearly solid, 1.5 cm. diam. Lower leaves oval-lanceolate, narrowed into a bluntish apex, blotched with purple, 6 cm. broad, 20 cm. long, sheathing the stem, the sheaths greyish green, membranous. Leaves gradually reduced in size, the uppermost 5 cm. long by 1 cm. broad, gradually acuminate ; about 6 cm. of naked stem. The lower bracts 3 cm. long, becoming gradually smaller, and eventually shorter than the ovaries. Inflorescence cylindric, dense, 15-22 cm. long by 3 cm. broad. Flowers large, lilac, with purplish-violet hieroglyphic markings. The middle lobe of labellum smaller and shorter than the lateral, upper petals reflexed ; spur slender, cylindric, very slightly curved, 1.5-2 mm. long, deeply furrowed. This fine plant appeared spontaneously in the beautiful grounds of our member, Sir Archibald Buchan Hepburn, at Smeaton-Hepburn, where it grew with the Madeiran *O. foliosa*, and the showy hybrid *O. latifolia* × *maculata*. He kindly forwarded me fresh specimens in July and August 1915.

2326. *O. INCARNATA* L. Chalk Downs, Winchester, P. M. HALL, in *lit.* ; Hambledon, S. Hants. ; Easton, N. Hants. ; Abingdon, Cot-hill, Frilford, Berks. ; above Godstow, Oxford ; Silverdale, Yorks. Untypical *incarnata* has been seen from Freshfield, Lancs., W. G. TRAVIS ; Ballyvaughan, Co. Clare, P. B. O'KELLY.

O. incarnata L., var. *dunensis* mihi. Plant small, 5-10 cm., spikes 3 cm., loose; flowers bright rose-red, leaves more recurved, somewhat attenuated from a broad base. In abundance on the slacks on the Sands of Barry, Forfar, R. & M. CORSTORPHINE; sandhills, Freshfield, S. Lancs., W. G. TRAVIS.

O. incarnata × *praetermissa*. Hambledon, S. Hants.

2326 (2). *O. PRAETERMISSA* Druce. Lizard, Cornwall, Toller, Dorset, Dr F. J. SMITH; Hambledon, S. Hants., Miss BUTLER and G. C. DRUCE; Easton, N. Hants.; near Chobham, &c., Winchester, D. G. LOWNDES; Surrey, Lady DAVY; Marsworth, Herts.; near Henny, N. Essex, G. C. BROWN and G. C. DRUCE; Wilston, Herts.; Cothill, Abingdon, Frilford, Berks.; near Wytham, Eynsham, Weston, Haseley, Oxford; Longwick, Wilstone, Bucks., G. C. DRUCE; Wittering Marsh, near Thrapston, Northants., *Hb. Bailey*; Kirkby, L. Lancs., W. H. PEARSALL; Ashwell, Derby, C. BAILEY, 1876. Untypical specimens from Wareham, Dorset, R. V. SHERRIN; Bolchester, Leicester; Luffenham, Rutland, A. R. HORWOOD; Wicken Fen, Cambridge, C. E. MOSS. These are probably what Babington called *O. incarnata* var. *angustifolia*, the leaves being erect and the bracts short. Aberdeen, T. STEPHENSON; Port Patrick, Wigton, C. BAILEY. A hybrid, perhaps with *latifolia*, meadow near Croft, Leicester, H. P. READER. Newbould's *angustifolia*, from Holme Fen, is quite a different plant, and may be *praetermissa* × *Fuchsii*.

2326 (3). *O. TRAUUNSTEINERI* (Saut.) Koch. Perhaps as a form of this may be best put a curious Orchid from Tregaron Bog, Cardigan, 1915, T. STEPHENSON. The tubers are markedly different from the palmate ones of *incarnata*, *latifolia*, or *praetermissa*, being narrow, with two long fleshy divisions, which do not divaricate, reminding one of the root of *Mandragora*. It differs from Rouy's description of *Traunsteineri* by the stem being 1.5 dcm., not slender, leaves not very short, not always narrowly lanceolate, nor sublinear, nor always pointed. The spike is somewhat dense-flowered, with 10-30 flowers, not 5-10. Labellum not usually three-lobed. Spur conical, straight, or nearly so, relatively stout. It is near *incarnata* in its narrow reflexed flowers, and near *praetermissa* in the colour of flowers (dark purple), but the outline of the lip is narrower, and the root tubers quite different.

2327. *O. MACULATA* L., vera (ERICETORUM). Tregaron, Cardigan, T. STEPHENSON; Grace Dieu, Keyham, Leicester, A. R. HORWOOD.

Sub-var. *leucantha*. Tregaron Bog, Cardigan, with sides of labellum strongly reflexed; median lobe very small, almost obsolete, T. STEPHENSON; Ballyvaughan, Co. Clare, P. B. O'KELLY. As a strong form with stiff stems, Tregaron Bog, Cardigan, T. STEPHENSON; Tackley, Oxon.

Forma *vespertilio* Lindm. Near Byfleet, Surrey; Tregaron, Cardigan, T. STEPHENSON.

Forma *hieroglyphica* Lindm. Menmarsh, Oxon.

Forma *striata* Lindm. Tregaron, Cardigan, T. STEPHENSON.

Forma *purpurea* Lindm. Clova, Forfar; Kenmore, Mid-Perth.

O. maculata × *praetermissa* = × *O. Hallii* Druce. Water meadows, Winchester, D. G. LOWNDES; Tregaron, Cardigan, T. STEPHENSON; as a variant with the upper sepals pale pinkish-purple, Freshfield, Lancs., 1914, W. G. TRAVIS, vide sp.

O. maculata × *latifolia* = × *O. Braunii* Hal. Edmondsham, Dorset, LINTON and SHERRIN, *Orchis Review*, 367. See also *Proc. Bournemouth Nat. Soc. Science* iii., 41. Tregaron, Cardigan, T. STEPHENSON, vide sp.

O. maculata × *Habenaria Gymnadenia*, vel *G. conopsea*, with narrow leaves, long spur, and fragrant flowers. Tregaron Bog, Cardigan, 1915, T. STEPHENSON, vide sp.

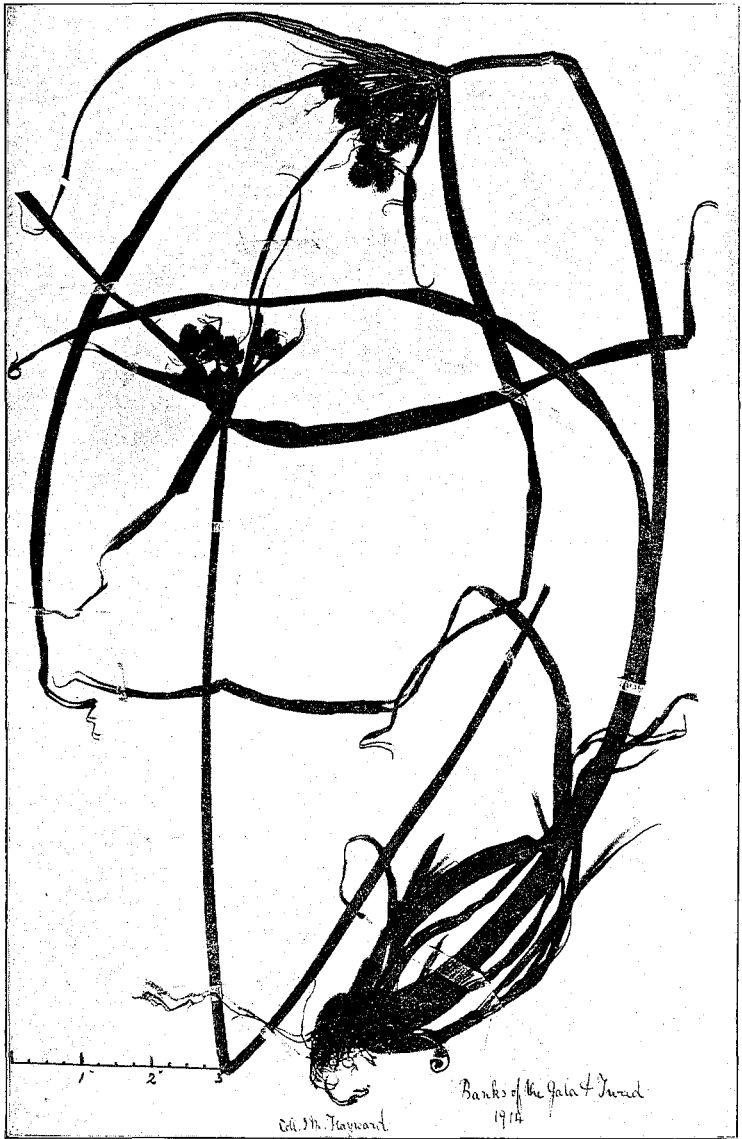
2327 (3). *O. OKELLYI* Druce. On magnesium limestone, near Partington wood; near Aberford, Leeds, York, Carleton Rea, 1915, vide sp.; Kilcolgan, Galway, Dr F. J. SMITH.

2327 (2). *O. FUCHSII* Druce. (*O. maculata* Sm. et auct.) A variable species, especially in the shape and markings of the labellum.

Var. *trilobata* (Bréb.) Druce. Hailey, Oxon., G. C. DRUCE; Salthy Heath, Leicester, A. R. HORWOOD; Dalton-in-Furness, W. H. PEARSALL; Kenmore, Mid-Perth, G. C. DRUCE.

O. Fuchsii × *latifolia*. Pennypot, Surrey, Lady DAVY; Winchester, D. G. LOWNDES, 1915; Aberdeen.

O. Fuchsii × *maculata* = × *O. transiens* mihi. St Mary Church, S. Devon, Miss C. E. LARTER; Winchester, S. Hants., D. G. LOWNDES and R. QUIRK; Menmarsh, Oxon.; Wytham, Berks.; Northants. Plants under this have often the stiff habit of *Fuchsii*, but with the flower form of *maculata*, and have often been mistaken for *latifolia*.



CYPERUS CONGESTUS VAHL. BANKS OF GALA AND TWEED.
COLL., MISS I. M. HAYWARD. SEE REPORT, 215, 1915.

2527 (2). *CYPERUS CONGESTUS* Vahl Enum. ii., 350 (*MARISCUS CONGESTUS* C. B. Clarke). Alien, S. Africa, Australia, Mediterranean. Banks of the Gala and Tweed, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

2529. *ELEOCHARIS PALUSTRIS* Br., var. *ARENARIA* Sonder Fl. Hamb. 22, 1851. Culmo abbreviato (digitali), spica oblongo-ovata. Drigg, Cumberland, A. WALLIS, ex C. E. SALMON, in *Journ. Bot.*, 310, 1915.

Gen. 632 (2). *SCLERIA* Berg. in Vet. Handl. Stockh. xxvi., 142, 1765.

2556 (10). *SCLERIA BRACTEATA* Cav. Ic. v., 34. Alien, S. America. Halstead, Leicester, E. A. WOODRUFFE-PEACOCK, ex A. R. HORWOOD.

2558 b. *CAREX PSEUDO-CYPERUS* L., var. *MINOR* Hampe Prod. Fl. Herc. 299, 1873. "Plante plus grêle ; épis femelles plus petits et plus courts, dressés ou peu inclinés, même à la maturité," Rouy *Fl. Fr.*, xiii., 483. Near Yarnton, Oxon.

2559. *CAREX RIPARIA* Curt. A tall form, 4 feet high, was noticed at Yarnton, Oxon., with smaller spikes, and slightly smaller fruits, but it grew in a tree-shaded swamp.

2560. *CAREX ACUTIFORMIS* Ehrh. Another variable sedge, probably hybridising with *gracilis* and *riparia*.

Carex acutiformis × *riparia*. With both assumed parents in Bate's Leys and Weston, Oxon. ; Wytham, Berks. The plants were usually barren, and the male spikelets were intermediate in colour between the rufous tint of *acutiformis* and the tawny colour of *riparia*. The glumes of the male spikelets were less strongly cuspidate, and the leaves less glaucous than *riparia*, but plants varied towards the one or the other parent.

Carex acutiformis × *gracilis*. This has the male spikes of *acutiformis*, but the female spikes have the fruits of *gracilis* (only in part fertile) and the long acuminate glumes. In appearance it was a good intermediate. Mr Bennett thinks it may possibly be the hybrid. A more slender form occurred in Bate's Leys, Oxon., growing with both species. The anthers were paler than those of true *acutiformis*, the leaves narrower, and the spikes long and narrow. A similar plant

occurred near Abingdon, Berks., and at King's Weir, Oxford. In each instance the Rev. E. S. Marshall agrees with the suggested name.

2561. *CAREX VESICARIA* × *RIPARIA*. A barren intermediate. Grew with both species at Ambrosden, Oxon., but it is quite a different form from × *C. csomadensis* Simonk., which grows near Grendon, Bucks., and of which specimens have been distributed,

2561. *CAREX VESICARIA* × *INFLATA*. This hybrid was gathered by myself and Mr Pearsall, at Esthwaite, L. Lancs., last August. Both parents were growing there.

2565. *CAREX LASIOCARPA* × *RIPARIA* = × *C. EVOLUTA* (Hartm.) Eastern end of the peat moor between Edington and Street, N. Somerset. It has the habit of small *C. riparia*, and the very hairy fruit of *C. lasiocarpa* (*C. filiformis* L.), found by Mr H. S. THOMPSON, *Journ. Bot.*, 309, 1915.

2572. *CAREX BINERVIS* Sm. × *C. FLAVA*, var. *OEDOCARPA* Anders. = × *C. CORSTORPHINEI* mihi. Growing with both the assumed parents on wet grassy slopes, at about 2000 feet altitude, in Glen Phee, Forfar, August 1915. The plant differs from *binervis* by the green lines on the glume being obsolete, by the pale golden-brown coloured spike, and the yellower-green foliage. The perigynia are shorter than *binervis*, but the beak is also short. The fruit seems mostly infertile.

2576. *CAREX OEDERI* Retz., forma *LONGIBRACTEATA*. Sands of Barry, Forfar, and a somewhat intermediate form on the shingle of Loch Tay, Mid-Perth. G. C. DRUCE.

2576. *CAREX FLAVA*, var. *OEDOCARPA* And. × *FULVA*. Great Bedwyn, Wilts., with both parents, C. P. HURST, vide sp.

CAREX FLAVA × *OEDERI*, var. *ELATIOR* = *C. SUBELATIOR* Kük. Mon. Car. 678. Copyhold, Sussex, Lady DAVY; Water Beach, Cambridge, Miss TODD, 1915, vide sp.

2588. *CAREX FLACCA* Schreb., var. *SYLVATICA* (Asch. & Graeb., Syn. Fl. Mitt. Eur. 135. under *C. GLAUCA*) mihi. Plant 5-7 cm., male spikes slender. Wood in the Chalk Downs, near Tring, Bucks., 1915, G. C. DRUCE.

Var. AMBLEOCARPA (Willd. Sp. Pl. iv., 307, as a species) mihi = *C. Micheliana* Sm. Glen Dole, Forfar, G. C. DRUCE.

2601. *CAREX GRACILIS* Curt., var. *FLUVIATILIS* Hartm. Scand. Fl. iii., 219. Wytham, Berks., G. C. DRUCE.

2648 (2). *SORGHUM HALEPENSE* L. Alien. Hinckley, Leicester, 1915, A. R. HORWOOD.

2669 (4). *STIPA BRACHYCHAETA* Godr. Alien. America S., Argentina, Uruguay. Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

2669 (5). *STIPA* (*cf.*) *LEPTOTHERA* Spegazz., and 2669 (11), *STIPA CAESPITOSA* Spegazz. (? *NASSELLA*). Aliens, Argentina. Selkirk, Miss I. M. HAYWARD. Det. A. THELLUNG.

2713. *HOLCUS BIARISTATUS* Parnell (not of Weber). Outer palea of lowermost floret with a long dorsal awn, arising immediately beneath the summit. The plant is about 2 feet high. Near Edinburgh, *Ann. Nat. Hist.*, 254, 1842.

2720 *b.* *AVENA SATIVA* L., var. *ARISTATA* Kr. Alien. Bayswater, Oxon., August 1912, G. C. DRUCE. Det. Prof. PERCIVAL.

2729 (2). *CHLORIS VENTRICOSA* R. Br. Prod. 186. Alien, Australia. Near Bristol, 1915, T. H. GREEN, *vide sp.*

2733. *PHRAGMITES COMMUNIS* Trin., vel *P. VULGARIS* Trin., vel *ARUNDO PHRAGMITES* L., var. *FLAVESCENS* Custor, ex Gaud. *Fl. Helv.*, vi., 341, 1830. Serotina, panicula flavescens, spiculisque minoribus. *Phragmites Isiaca* Reichb. Fl. Excurs., 140 (bis), 1830, Ic. t. 108, f. 1730, non Kunth. Panicles large, glumes golden-brown (typically), from chestnut-brown to yellow, panicles dense or effuse, plant tall, robust. Miss Pallis agrees with me in referring our British plant to this variety, and Dr Stapf said that our British plant could not be separated. It will be observed that our British purple-glumed plant has usually about four flowers. Jersey, near Roose Vear, and near Lantia Bay, F. RILSTONE (rather dark coloured), *Hb. Druce*; Pendarves Marsh, 1878, *Nat. Herb.*; Ryde, Isle of Wight, 1838, *Nat. Herb.*; Lewes, Sussex, *Hb. Druce*; Chatteris, Cambridge, not quite typical, *Hb. Druce*; Pidley, Hants., A. FRYER in *Hb. Druce*; Phillips Marsh, Bristol, W. H. PAINTER; Banbury, Oxon., *Hb. Druce*; Sut-

L. complanatum L.
a. aureo Milde

Determinavit N.T. May 1915



Cairngorm Junca
Bannff + Easterness
July 1887 Gb Druce



HERBARIUM BRITANNICUM.

Gycofodium complanatum
near Worcester Gloucestershire
Coll. J. P. Reader 1881 and first
described as British Gymn. Journ. Bot. 321, 1882

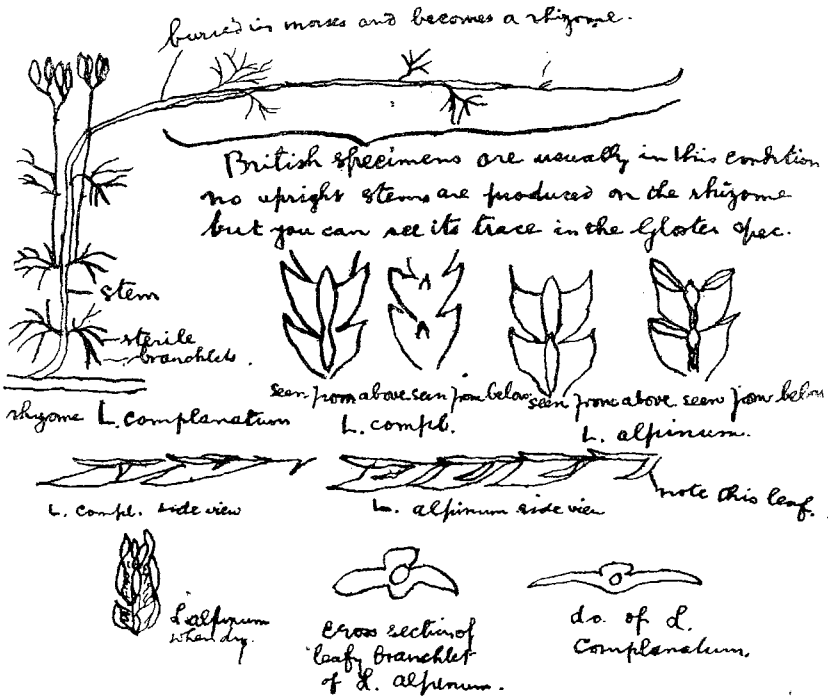
G. CLARIDGE DRUCE, M.A., J.P.,
YARDLEY LODGE, OXFORD.

2927 (2). *LYCOPodium COMPLANATUM* L. In 1881, through Mr Bolton King, I received a specimen of a *Lycopodium* which had been gathered by the Rev. H. R. Reader, near Woodchester, Gloucestershire, which differed from *L. alpinum* by its more flattened branches. Subsequently Father Reader sent me fruiting specimens, and these were submitted to Mr J. G. Baker and Mr Carruthers, both of whom agreed it must be referred to *L. complanatum*, notwithstanding the spikes were pedunculate, not sessile, Mr Baker placing little value on the latter character. As *complanatum* I therefore recorded it in *Journ Bot.*, 321, 1882. There had been previous records of it for Britain. Spring's *Mon. Lycop.*, gave it for Scotland in the *Compendium to the Cybele Britannica*, 604. Mr Watson gives "near Bramshot, Hants. (?), Worcestershire (?), error (?), *Bab. Man.*, ed. 6, p. 445, Leefe MS." In the *Manual*, eds. 6 and 7, Babington puts it in brackets and adds, "Stated to occur at Bramshot. I have not seen it, and doubt its being correctly named." In Hooker's *Student's Flora*, 480, 1870, it is said to be "no doubt confounded with *L. alpinum*." Regarding the reference to Leefe MS. there must be some error, since the Rev. J. E. Leefe told me he had never found either *alpinum* or *complanatum* in Worcestershire. Possibly the record belongs to the Rev. Prof. Churchill Babington, who found, as the author of the *Manual* informs me, in July 1837, on Hartlebury Common, Worcestershire, a plant which he thought might be *L. complanatum* or *L. Chamaecyparissus*, but which he had of late considered to be only a form of *alpinum*, growing in a rather low situation. An imperfect barren specimen was sent by Mr James Lloyd, who called attention to the undergrown creeping branch, from Lower Wagners Wells, in the parish of Bramshot, where the soil is a sandy peat (*Gard. Chron.*, 753, 1866), which the Editor recorded as *L. complanatum*. It was discovered by a working woman, Sarah Young. The following year (*l.c.* 808, 997) Lloyd (the discoverer of *Dryopteris uliginosa*) sent better specimens, which, having compared them with Welsh plants, he believed to be *alpinum*, but at that time Babington, to whom they had been referred, was inclined to think they might be *L. Chamaecyparissus*. In the eighth edition of the *Manual*, however, Babington, having evidently come to the conclusion that they were *alpinum*, omits all reference to *complanatum*. In the *Flora of Hants.*, the Bramshot plant is also referred to *L. alpinum*, and in the *Flora of Worcestershire* the *Lycopodium*,

whichever it was, is said to be extinct for very many years. Mr J. G. Baker exhibited specimens which he named *complanatum* at the Linnean Society on November 22nd, 1882, which had been collected by Professor Lawson in Skye in 1868, and Dr Trimen (*Journ. Bot.*, 1882) also referred one of Gardiner's specimens from the Sidlaw Hills, Forfar, to the same species. At Dr Boswell's request I lent him my Gloucestershire plants, and Mr N. E. Brown made a drawing of it for the twelfth volume of *English Botany*, ed. 3, plate 1884, as is shown by Boswell's letter to me of June 5th, 1883, in which he says, "I have named your specimen on the plate of *English Botany*, *Lycopodium alpinum* var. *decipiens*. I do not believe it has anything to do with *complanatum*." Unfortunately Dr Boswell gave no description of var. *decipiens* in the text, so that it is a nomen solum. In the same year Babington issued a supplementary leaflet to the eighth edition of his *Manual*, in which he describes *L. complanatum* as occurring in Hants., Gloucester, Worcester, Ross, and Skye. In the third edition of the *Student's Flora*, Sir Joseph Hooker amends the description of *L. complanatum* so as to include *L. alpinum*, but retains the character of peduncled cones for the Gloucester and Worcester plants, which they do not possess. In 1887 (*Journ. Bot.*, 26, 1888) I gathered good specimens resembling the Gloucester plant on the Cairngorms, both in Easternness and Glen Aan, Banff, which I recorded as *complanatum*. In *Journ. Bot.*, 178, 1891, H. and J. Groves contend "that at present there is no evidence upon which to include *L. complanatum* in the *British Flora*." In the *Annals of Scottish Natural History*, 182-5, 1892, I gave the history of the *Lycopodium* and added a description, hitherto lacking, of *L. alpinum* var. *decipiens*, pointing out that its figure in *English Botany*, xii., 1834, was not so characteristic as that given in the *Journal of Botany*.

In April 1915, Dr H. Takeda, who had been studying the world forms of *Lycopodium*, borrowed my material. In May last he wrote, "As a matter of fact, the specimens are so rich and excellent, and also contain many of those previously referred to in several publications, that I wanted to study them very carefully. Above all, my intention was to get a clear and definite idea of *L. alpinum* var. *decipiens* Syme, and the type specimen of yours has thrown much light on the elucidation of this matter. The specimen collected by Reader, and reported by you as *L. complanatum* in 1882, and identified later by Groves as *L. alpinum*, and which finally formed the type

of var. *decipiens* Syme, is much better than that kept at the British Museum, and figured in the *Journal of Botany*. I have been rather surprised to find it to be, not *L. alpinum*, but *L. complanatum* L., a. *anceps* (Wallr.) Milde, monstr. *fallax* Celak. Reader's specimens are the only British specimens of *L. complanatum* with spikes. All other specimens I have seen are sterile. . . . Syme's name, *L. alpinum* var. *decipiens*, is therefore to be regarded as a synonym of *L. com-*



planatum. Now there is another *L. alpinum* var. *decipiens*. This name applies to those specimens of *L. alpinum* growing in heathy localities, and having a slightly luxuriant form, and a rather flattened appearance, such as those collected by the Rev. E. S. Marshall at Allt Dubh in Mid-Perth, &c. This is only an extreme form of *alpinum*, and ought not to be regarded as a variety. I personally have doubts as to whether this form can be easily recognised in the

fresh condition. All the specimens of *alpinum* I have seen growing on the Welsh and Scottish mountains are flat, and they assume a more or less terete appearance when they become dry. Sometimes the sterile branches completely roll up (or I should say the lateral leaflets roll inwards), and then the specimen becomes a typical *alpinum*. Sometimes, however, only some of the branchlets do so, while others remain flat. There are all the transitional degrees from the typical form to the completely flat form. It appears to me, however, that the heath form usually assumes the flat condition, while those growing in drier situations become terete when dry. You can see a good example of transition in the specimen from Orkney. One part of the specimen represents the typical *alpinum*, while the other represents the flat form. The typical *complanatum* is very characteristic, but the British forms (not to be distinguished as a var. or forma) are rather difficult to recognise. The accompanying diagrams may help you."

L. complanatum L., var. *anceps* Milde, is represented in my herbarium, as named by Dr Takeda, from Woodchester, Gloucester; Glen Easan Biorach, Arran, alt. 900 feet, July 2nd, 1895, A. SOMERVILLE; S.W. slope of Gealcharn, Glen Feshie, Easternness, 2700 feet, July 1909, J. A. WHELDON and A. WILSON; Cairngorms; Banff; Easternness, July 1887, G. C. DRUCE. In W. Borrer's herbarium at Kew, Dr Takeda says there is also a specimen from Easedale, Westmoreland, 1850. The heath plant *L. alpinum* forma *Issleri* (Rouy and Fouc. *Fl. Fr.*, xiv., 489, as a race) is represented from Allt Dubh Ghalair, Glen Lochay, Mid-Perth, 1890, E. S. MARSHALL; and from Hill of Ackla, Ophir, Orkney, October 1883, H. H. JOHNSTON; also from Aonach Mhor, Westernness, 1891; Glyder Fawr, Carnarvon, July 1900; Glas Thulachan, Mid-Perth, 1899, my own gatherings. Dr Takeda says the heath form cannot be properly designated as a "race," nor is there any necessity for distinguishing *alpiniforme* and *complanatiforme*. G. C. DRUCE.

2927 (3). LYCOPodium CHAMAECYPARISSUS A. BRAUN, *L. COMPLANATUM* var. *CHAMAECYPARISSUS* Döll Fl. Bad. 80, *L. COMPLANATUM* subsp. *CHAMAECYPARISSUS* Asch. & Graeb. Fl. Mitt. Eur. i., 156. In Mr Charles Bailey's splendid herbarium there is a sheet labelled *L. alpinum* with three specimens on it; one of these is from Lochnagar, Coll. R. Br. 1838; one from Ingleborough Hill, 1816, H.S.; and a

third, close to this, is a specimen of the pedunculate *L. Chamaecyparissus*. This differs from *complanatum* in its more slender habit, the secondary branches are much narrower, less compressed, shorter, almost tetragonous, erect, fastigiata and compact, and the spikes are peduncled. This plant may well be native in Britain, since it occurs in Denmark, Sweden, North and West Germany, Holland, Belgium, France, Switzerland, &c. The evidence of its occurrence on Ingleborough requires confirmation, since its presence on the sheet of mixed specimens is not without suspicion. It rests on somewhat similar evidence to *Salix reticulata* on Cader Idris and *Epilobium collinum* in England. This record may, however, stimulate anyone visiting Ingleborough to make a special search for this plant. In the broad sense *L. complanatum* L., emend. may be taken as the super-species with *L. alpinum* (L.) and *L. Chamaecyparissus* (A. Br.) as sub-species, but the third is nearer *complanatum* than *alpinum*.
G. C. DRUCE.

2728 b. LYCOPODIUM ANNOTINUM L., var. LATIFOLIUM Takeda in *Bot. Mag. Tokyo*, xxiii., 16, 1909. This is the common British plant. The var. *angustifolium* Takeda is not known to occur in Britain.

The following aliens, which have been recently determined by Dr A. Thellung, will be more fully mentioned in next year's *Report*. I owe them to Mr E. Ch. Horrell.

184 b. SISYMBRIUM ALTISSIMUM L., var. RIGIDULUM (Decaisne). Kirkstall, York.

237 (2). LEPIDIUM CHALEPENSE L., var. AURICULATUM (Boiss). Tingley railway bank, York, 1915.

341. SILENE DICHOTOMA Ehrh., var. RACEMOSA Otth. Rohrb. Kirkstall, York.

366 (3). SILENE SCHAFTA Gmel. Ludlow, Salop.

398. ARENARIA HOLOSTEOIDES C. A. Mey. Kirkstall, York.

505 c. OXALIS CORNICULATA L., var. MINOR Lang. Thornton Dale, York.

560 (2). TRIGONELLA FISCHERIANA Ser. Kirkstall, York.

RECENT PUBLICATIONS.

THE POTAMOGETONS (PONDWEEDS) OF THE BRITISH ISLES. ALFRED FRYER and ARTHUR BENNETT, illustrated by Robert Morgan and others. Royal 4to. L. Reeve & Co. Part III. Grass-leaved Potamogetons and Introduction, 4 pages, by Arthur Bennett, pp. 77-94. This latter portion describes *P. zosteraefolius* [*P. compressus* L.] *P. acutifolius*, *P. obtusifolius* [the plate drawn from an Esthwaite specimen has narrower leaves than the Midland plant], *P. Friesii*, *P. rutilus* [from a foreign specimen. It is given for Anglesey and Orkney (?). The first locality, Mr Bennett tells me, was probably Llyn Coron, where Mr Griffith who sent it from Anglesey, believed he gathered it, but it has not been confirmed] *P. Sturrockii* [without a plate], *P. pusillus*, *P. trichoides*, *P. pectinatus*, *P. vaginatus* [also from a foreign specimen], *P. interruptus*, *P. marinus*, and the adventitious *P. pennsylvanicus*. Since the Monograph was written Mr Pearsall has added *P. Sturrockii* to the English Flora. We are grateful to Mr Bennett for completing this work, but we much wish he had given us, from his unique store of knowledge, more details of the habitats which he could so well have supplied, and we lack the copious and vivid notes of the life-history of these plastic plants which made Mr Fryer's portion of the work of such intense interest. With regard to *P. Drucei*, which Mr Fryer described as a probable hybrid in an early portion of the work, having cultivated it for some years, he found it to produce fruit freely, and therefore (*Journ. Bot.* 524, 1899) established it as a *full species*. The fruit, as he told me, was quite unlike that of any species he had met with. I have also found it fruiting on the Loddon River, its only known habitat. It is rather remarkable that neither *P. compressus* nor *P. acutifolius* have been met with in Ireland. A serious drawback to the work is the unlabelled plates. The dates of the publication of the various parts should have been clearly indicated, separated as they are by so many years, and a supplementary note on the earlier part, so as to bring the whole of the work up to date, would have been much valued. In passing we may point out that in the portion written up by Mr A. H. Evans there is no reference to the note in *Journ. Bot.* 212, 1907, on \times *P. salignus*, where the following quotation is made from vol. i., p. 129, of the *Victoria County History of Devonshire*, "*P. salignus* A. Fryer (probably a hybrid) differing from *P. salicifolius* Wolfg. by the outermost vein of the leaves

starting near the base of the midrib and not from the base of the margin of the leaves." This is more to be regretted because the laconic habitat, Herefordshire, gives little information. The plant was originally found in 1866, in the river Wye, near Sellack, by our late member, the Rev. Augustin Ley, where I have seen it growing, but I believe it has not been found recently. It was first recorded as British in our *Report* for 1877, p. 10. Nor is there any allusion in the Monograph to the references in *Bab. Man.*, ed. 9, p. 439, and in *Journ. Bot.* 251, 1908. The name *salignus* cited Fryer MS. should (teste *Journ. Bot. l.c.*) be given as Fryer *Victoria County History of Devon*, i., 129. No reference is made to *P. rutilus* recorded from Ely in *Journ. Bot.* 24, 1895, nor to the plate No. 407 (drawn from one of Power's specimens), and its description in *Journ. Bot.* 66, 1900, where the plant is recorded from Coventry Canal, Atherstone, Marl Pits, Fradley, Staffs. ex. Herb. Power, and Rye, Sussex, 1898, C. E. Salmon. Are all these only forms of *P. pusillus*? As they are not quoted in the Monograph, these early references are probably erroneous. The discrepancy should have been indicated and the matter made clear, as in the future it may cause trouble and confusion. Although *P. vaginatus*, of which no more precise locality than Shetland is given, is said to belong to the *marinus* group, it is put between the two closely allied species *pectinatus* and *interruptus*. The locality (*Rep. B.E.C.* 259, 1907) is Tingwall Loch, Shetland. Notwithstanding the high price of the Monograph, one feels sure that it cannot be remunerative to the publishers, who have had unusual trouble, in part caused by the long delay, which must have been very prejudicial. This is greatly to be regretted, for important Monographs of special groups have been too few in Britain. It is to be hoped that all our members who can afford it, will obtain a copy. The illustrations are beautifully executed, and will always be of value.

HAYWARD'S BOTANIST'S POCKET BOOK. Fourteenth edition, revised and enlarged by G. Claridge Druce, pp. xlv., 288. 4/6. G. Bell & Sons. Preface dated August 1913. The appendix of 7 pages gives many of the critical plants which have appeared in the pages of our *Reports*.

THE JOURNAL OF BOTANY for 1915 contains, among other material, the following papers and notes:—*Brunella laciniata* × *vulgaris*, C. E.

Moss at Hardwick, Cambridgeshire, p. 8. Smith's Flora Britannica, F. G. Wiltshier, p. 34. This appeared in three volumes, the first two in 1800, the third in 1804. The plate of *Carex teretiuscula* in *E.B.* No. 1065, dated December 1, 1796, was not actually published till 1802. British Association in Australia, A. B. Rendle, p. 23. Note on *Hypericum calycinum* (found by T. Brewer in 1730, at Bradford, Wilts.), Editor, p. 68. Sussex *Rubi*, Rev. W. Moyle Rogers, pp. 49, 84. Includes *R. Bakeri*, *R. Scheutzii*, *R. silvaticus* [*R. hesperius*], *R. uncinatus*, *R. amplificatus*, *R. lasiocladus*, var. *longus*, *R. scaber*, *R. Durotrigum*. Obituary of M. C. Cooke, J. Ramsbottom, p. 58. A most valuable account of the work of this prolific writer. *Vaccinium uliginosum* L., var. *pubescens* Lange, Kingshouse, Argyll, Marshall, 1888, S. F. Blake, pp. 90 and 179. The plate 581 in *English Botany* was drawn from this variety, but it is not localised. *Juncus balticus*, Ansdell, W. Lancs., E. S. Marshall, p. 91. *Helleborus viridis*, with sepals blotched with purple, Miss I. M. Roper, p. 113. Notes on Somerset plants for 1914, E. S. Marshall, p. 122. Supplementary Records of British *Rubi*, Rev. W. Moyle Rogers, p. 139. Further notes on *Arctium*, A. H. Evans, p. 145. Scottish Highland Plants in 1914, E. S. Marshall, p. 158. British forms of *Hypericum humifusum* and *H. linariifolium*, H. W. Pugsley, p. 162. *Oxalis corniculata* L., A. J. Wilmott, p. 172. Surrey Plants, C. E. Britton, p. 177. *Melampyrum pratense* var. *purpureum*, C. E. Salmon, p. 177. Notes on *Statice*, C. E. Salmon, pp. 237, 325. Mycetozoa of Australia and New Zealand, W. N. Cheesman and G. Lister, p. 203. *Calamintha Acinos*, H. S. Thompson, p. 217, suggests that *C. Acinos* Clairv. and *C. arvensis* Lam. are not identical, the latter from Guildford; the former from St Vincent's Rocks. Anomalies in the Vice-County Divisions of Perth, Eleanora Armitage, p. 218. County Records of Potamogetons, A. Bennett, p. 236. *Polygala dunense* at Crosby 59, Lytham &c., 60, Aberafon, 41, J. A. Wheldon, p. 250. Watsonian Divisions of Perthshire, W. Barclay, p. 250, suggests 87½ Lomond, Perth, for that portion of County draining into Loch Lomond. Herbarium of John Lightfoot, Editor, p. 269. *Polygala dunensis*. Sussex; Blea Gill, Durham, C. E. Salmon, p. 279. *Calamagrostis stricta* var. *Hookeri*, Nayland Hundred, W. Norfolk, A. Bennett, p. 281. *Diotis maritima* Cass., Par Sands, Cornwall, W. Wise, p. 281. *Azolla* in the Lea Valley,

H. Peirson, p. 308. × *Carex evoluta*, in Somerset, between Edington and Street, 6, H. S. Thompson, p. 309. *Heleocharis palustris*, var. *arenaria* Sond., C. E. Salmon, p. 310. *Wolffia Michellii*, in N. Somerset, Cecil Sandwith, p. 311. *Scorzonera humilis* L. in Dorset, Cecil Sandwith, p. 311, and C. B. Green, p. 373. Correct name for *Atriplex arenaria* Woods, S. F. Blake, p. 355, contends that *A. sabulosa*, used in the Cambridge Flora, should be superseded by *A. maritima* Hallier, p. 355. Note on Article 45 of the Vienna Code, G. Claridge Druce, p. 356, shows that *Limonium* is a valid name for the Sea Lavenders. Dialysis of Corolla in *Convolvulus arvensis*, G. S. Boulger, p. 359, describes the form with cut corolla as var. *schizocarpa*, but the variety is previously described as var. *Stonestreetii* by myself in our *Report* for 1913, p. 330, based upon a specimen in Herb. Du Bois, circa 1700, which was gathered near Henley, Oxfordshire. Strictly speaking, this (and also the analogous form of *Erica cinerea* and *Tetralix* (*Rep.* p. 329), is not a true variety, but a lusus). New *Salicornia* variety, *S. disarticulata* var. *humifusa*, and a hybrid of it with *S. Smithiana*, Dawlish, S. Devon, E. S. Marshall, p. 362. *Rumex maritimus* E. A. Woodruffe-Peacock, p. 363, suggests that *R. limosus* is a hybrid of *R. maritimus* and *conglomeratus*. This is so marked in my List, p. 62. *R. palustris* Sm., may prove to be a distinct form. R. M. Barrington, Memoir, R. L. Praeger, p. 364. The supplement contains valuable papers on the Lichens of Perthshire by J. A. Wheldon and Albert Wilson, and on *Narcissus poeticus* and its allies, by H. W. Pugsley. Three new specific names are established *N. verbanensis*, *N. hellenicus*, and *N. exertus*.

SET OF BRITISH WILLOWS. Fasc. 3. Supplement. Rev. E. F. Linton, December 1914.

THE THIRTIETH ANNUAL REPORT OF THE WATSON BOTANICAL EXCHANGE CLUB, 1913-1914, vol. ii., No. 10, Cambridge, J. Webb & Co., 1915. Distributor, Mr J. E. Little; Editor, Mr G. Goode. Contains a short note on *Spartina Townsendi*, which was first published as a species in our *Report* for 1880, p. 37, by H. & J. Groves, but only alluded to as a form of *stricta* in *Journ. Bot.* 277, 1879. An appendix of four pages is devoted to an account of *Draba verna* by Mr J. E. Little.

PROC. BOURNEMOUTH NAT. SC. SOC., vol. iv., contains interesting notes on *Spartina Townsendi* by R. V. Sherrin, F.L.S., with two excellent photos of the grass growing in Poole Harbour.

TRANSACTIONS OF THE SCOTTISH ARBORICULTURAL SOCIETY, vol. xxix., pp. 19-28, 1915. The planting of sand dunes at Culbin, P. Leslie, M.A.

WINCHESTER COLLEGE NATURAL HISTORY SOCIETY REPORT, 1913-1915, contains an account of some of the hybrid Orchids of the neighbourhood, and excellent plates of *Habenaria conopsea* × *praetermissa*, *H. conopsea* × *maculata*, *H. conopsea* × *viridis*, × *Gymplatanthera Jacksoni* (× *H. Jacksoni*) and *H. viridis* × $\left\{ \begin{array}{l} O. incarnata. \\ O. maculata. \end{array} \right.$ A list of local additions is also given which includes *Salvia pratensis*.

PAISLEY NATURALISTS' SOCIETY TRANSACTIONS, vol. v., pp. 120, edited by Rev. C. A. HALL, includes a list of Renfrewshire plants.

BIOLOGICAL SURVEY OF CLARE ISLAND. Section I. contains the Botanical records. Williams & Norgate, 1911-15.

WHITBY WILD FLOWERS. BERNARD REYNOLDS. pp. 60, 1s. Horne & Sons, Whitby.

DEVONSHIRE BOTANY, Sixth Report of the Botany Committee, edited by Miss C. E. LARTER, 1914.

PLANTS FROM THE COUNTRY OF CHESHIRE, 1910-14. C. WATERFALL.

A BOTANICAL SURVEY OF SOME FIELDS NEAR LEICESTER, Miss C. E. C. MEASHAM, with map, pp. 14, 1915. Leicester.

THE NATURALIST, 1915. *Deyeuxia neglecta* in York, A. BENNETT, p. 95. *Gagea lutea* in thousands, as a weed, among bulbs in Doncaster nursery. Specimens of this would be much valued by the Secretary (9 Crick Road, Oxford).

RUGBY SCHOOL NATURAL HISTORY SOCIETY REPORT, 1914. Records several *Rubi* for Northamptonshire, by Mr L. CUMMING, including *R. lasiocladus*, var. *angustifolius* from Badby Wood.

LIST OF LESS COMMON PLANTS IN THE AREA OF THE BERWICK FIELD CLUB, recorded in the Proceedings since 1831, by Mr ADAM ANDERSON. A very useful compilation, which necessarily does not include many records which have been published elsewhere.

PROC. COTTESWOLD NATURALISTS' FIELD CLUB, vol. xviii, pp. 231-242, 1914. Notes on *Helosciadium*, Rev. H. J. RIDDELSDELL, M.A. In this paper the author describes *H. nodiflorum* var. *longipedunculatum* forma *simulans* from Oxford, Cheshire, Suffolk, Haddington, *H. repens* from Skipwith, York. \times *H. Moorei* and *H. inundatum* var. *fluitans* Fries, in which all the leaves are capillary, are also described.

TRANSACTIONS OF THE WORCESTERSHIRE NAT. CLUB, 1915. *Azolla filiculoides* in Worcestershire, Carleton Rea.

PLYMOUTH AND DISTRICT FIELD CLUB TRANSACTIONS No. I., 1912-13, contains a list of plants which include several additions to Briggs's Flora, and some new County Records, which are included in our present *Report*.

THE JOURNAL OF ECOLOGY. Editor, Mr FRANK CAVERS, March 1915. 5/. Includes, among others, notices of the botanical features of the Algerian Sahara, W. A. Cannon, ex Carnegie Inst., Wash. Publ., 178, pp. 81, 1913. June, 1915, 5/-. Maritime Ecology of Holme next the Sea, Norfolk, A. S. Marsh. Ecology of the Purple Heath Grass, *Molinia caerulea*, T. A. Jefferies, pp. 93-109, the district described being Slaithwaite Moor, near Huddersfield.

NEW PHYTOLOGIST. Further observations on the Heath Association of Hindhead Common, F. E. FRITSCH and E. J. SALISBURY. April-May, 1915, 4/-. June-July, 1915, 4/-.

TRANSACTIONS OF THE BOTANICAL SOCIETY OF EDINBURGH. Vol. xxvi. Ecology of Knockdow, Argyllshire, Miss Lamont. Blakeney Point in 1914, Report of Committee of Management, mentions the rapid spreading of *Limonium (Statice) binervosum*, and the occurrence of a probable hybrid, *L. binervosum* \times *reticulatum*, the continuance of *Pneumaria maritima*, and the use of *Suaeda fruticosa* for the protection of shingle. The Report is edited by Prof. Oliver. Dune Plants of Holland, D. J. Gesweit, Bei. Bot. Centr. xxxi., abt. 2,

Heft. 2, pp. 332-372. Biology of European Flowers, Rob. Ltäger, *l.c.*, pp. 281-321. In this paper the Pollination of many Alpine species is detailed. In an area 90 cm. square, the author counted on the Col de Jorat, 720 single flowers of *Anthyllis Vulneraria* and in another 2360 of *Cerastium latifolium*, and on Salamp Alp, in a similarly constricted area at 1950 metres, 5160 flowers of *Peticularis*, and 2960 of *Galium asperum*.

WONDERS OF PLANT LIFE. F. M. & L. T. DUNCAN. Sm. 8vo. Six volumes, of about 80 pages each, 1/-. Frowde, Hodder & Stoughton.

THE ENGLISH COUNTRYSIDE. ERNEST C. PULLBROOK. A pleasing work with beautiful illustrations, among which may be singled out the Buckinghamshire scene in a Chiltern Valley, and a primrose wood in early spring. Lge. 8vo., pp. 136, 126 illustrations, 7/6. Batsford, London.

ZANNICHELLIA REPENS BOENN. IN NORD EUROPA. C. A. M. LINDMAN, in Bot. Notiser, 141, 1915. It occurs in Sweden, Norway, Denmark, Finland, North Germany, Schleswig Holstein, Hamburg, Dantzig, France, Switzerland, Vosges, Altai, Mongolia, Egypt, Canada, Nebraska.

PRIMULA OBCONICA in its micro forms, I. BAYLEY BALFOUR, in Trans. Bot. Soc. of Edinburgh, pp. 302-344, with 45 plates, 1914?

ACAENA. Die Gattung Acaena, GEORGE BITTER, in Bibl. Bot., 37 tt. 98 text figures, Heft 54, pp. 386, 1911.

ASTER. Species and Variation of Biotian Asters. EDW. S. BURGESS, pp. 419, 108 fig. In Bulletin Torrey Club, New York, 1906.

A TEXT-BOOK ON GRASSES (AMERICAN). A. S. HITCHCOCK. 8vo., pp. xvii., 276, 6/6. Macmillan, New York.

SVENSK BOT. TIDSKRIFT, 1915, Bi. 9, h.i. *Rosa mollis* Sm. Ofversikt af de Nord Europeoenska Formerna af *R. mollis* Sm., L. P. REINHOLD MATSSON. In this minutely critical revision 123 sub-species of *mollis* are described.

ACTA HORTI BERGIANA. Tom. V. 1914. Forms of *Picea excelsa*, B. WITTRICK, pp. 91. *Verbascum* Hybridier, S. J. BLUMQUIST, 6 text figures, pp. 40.

PLANTAE IN HORT. BOT. BERGIANS ANN., 1912-13, critically examined, ERIK LUNDSTROM, p. 122. Contains beautiful figures and critical descriptions of *Iris* species.

REPORT SPEC. NOV. REG. VEG. Prof. Dr F. FEDDE, 1914. Thellung reduces *Polygonum calcatum* to a sub-species of *P. aviculare*, and I should put *P. microspermum* and *P. aequale* in the same grade. Brand describes two new Boraginaceous genera, one named in honour of our member, Mr C. Lacaita, i.e., *Lacaita*, and *Vaupelia*, p. 81. The species and hybrids of *Potamogetons* are enumerated on p. 191, and Topitz gives diagnoses of a large number of *Menthae*, p. 68.

'FLORE DES ALPES' MARITIMES. EMILE BURNAT. Vol. v. prem. part. Supplement aux quatre premières volumes par François Cavillier, with map, pp. 95, 1913, and 2^e partie par John Briquet and François Cavillier, pp. 375, 1915. Araliacees. These form an important addition to our knowledge of the botany of a most interesting region. The treatment of the genus *Galium* is keenly critical. *G. sylvestre* Pollich is once again changed to *pusillum* Murray Prod. Stirp. Gott. 44, 1770. *Galium palustre* has under it var. *lanceolatum* Uechtr. Presl's *elongatum* is, the author says, confined to Sicily. Hudson's *G. anglicum* is made only a sub-var. of *parisiense* L. *G. Vaillantii* DC. Fl. iv., 263, 1805, is made a var. of *G. Aparine* as *echinospermon* (Wallr.). "Fruits rendus hispides par de nombreux poils faiblement renflés à la base." *G. spurium* L. is also made a var. as *leiospermon* (Wallr.). Our *G. Vaillantii* requires further study. *Kentranthus* Necker is used in preference to *Centranthus* DC., but they cite the authors who have established the species as *Centranthus*, i.e., *ruber* DC. *Valeriana sambucifolia* is put as a sub-species of *V. officinalis*. The genus *Valerianella* is wrongly attributed to Pollich. Miller has precedence (and so, too, with *Petasites*). *V. Morisonii* DC. is used in the place of *V. dentata* Poll., since Krok says "Synonymon autem *V. dentata* Poll. plene citare haud aussumus, quum descriptio manca sit." *Knausia* is kept distinct from *Scabiosa*, and *Scabiosa maritima* is made a var. of *S. atropurpurea*. *Sherardia arvensis* var. *maritima* (see *Fl. Berks.*, 266), which some of our botanists consider to be of little importance, is referred to as a modification "plus importante caractérisée par des pièces calicinales très réduites ou nulles." There are many valuable notes on nomen-

clature, and some critical remarks upon the plants included, and the Index in itself, with its mass of detail, adds another feature to this most suggestive Flora.

STUDIES ON THE VEGETATION OF CYPRUS, based upon Researches during the Spring and Summer, 1905. JENS HOLMBOE. 4to., pp. 344, 7 tt. 137 text figures. Bergens Museums Skrifter, Ny Raekke, Bind 1, No. 2, 30 Kronen, Bergen, John Griegs, 1914. This very valuable summary of the botany of "the brightest jewel in our Crown" is written in English, and as an introduction gives a general sketch of the physical geography. The highest mountain, Chionistra, attains an altitude of 1953 metres, and has a well on its side at 1643 metres, and there are others about Rodrofo at 1400 and 1500 metres. There are no real constantly flowing rivers in the island. Even the Pedias, the longest river, only exceptionally runs six weeks in the year. There are no mountain lakes, but a lowland piece of water at Paralimni is about 800 acres in extent, but it is very shallow, and in the summer the bottom is laid bare. A few years back I was the fellow-traveller to Ceylon, where he was Attorney-General, of the Hon. A. Lascelles and his sister, who did so much excellent work at the botany of this island; and last year, through the kindness of the Greek Minister, I met M. P. G. Gennadius in Athens, who was for some time the Minister of Agriculture in Cyprus, and from these authorities I realised the difficulties which agriculture had to endure from this shortage of water, since Cyprus is one of the hottest and driest, so far as summer rainfall goes, of the Eastern Mediterranean Islands. The rainfall, March to October, is only one-eleventh of the total, *i.e.*, 240 mm. (1881-91), but a small patch of snow remained on Chionistra till Midsummer Day. *Acer obtusifolium*, which Smith locates from Mont Sphak, in Crete, was doubtless, the author believes, collected by Sibthorp in Cyprus. In several instances there is no doubt Sibthorp's plants were shifted from their original covers, and thus errors were made. Four species of *Centaureium* (under the name *Erythraea*), are given, *i.e.*, *C. umbellatum*, *C. tenuiflorum*, *C. pulchellum*, and the yellow-flowered *C. maritimum*. The latter I gathered in Corfu last year. It is not given from that island in Halacsy's *Flora*, but has been added, on the authority of Pieri, in the *Supplement*. A new and beautiful *Onopordon* is described, as well as many other new species. A chapter is devoted to the Fossil

Quaternary Flora, another to Cyprian topographical names derived from plant names, and then a fascinating and suggestive sketch of the more important Plant Societies. One of the photographs shows *Pinguicula crystallina*, "which has clear drops on its leaves, glistening like diamonds in the sunshine," a plant discovered by Bauer, whose figure of it is on t. 11 of the sumptuous *Flora Graeca*. Near it grows, in its more western locality, the oriental *Helleborine veratrifolia* (Boiss. & Hohen., as an *Epipactis*), which was originally found here by Lascelles, and which also occurs on Elbrus. It is referred in *Index Kewensis* to *consimilis* Wallich. Our Oxford botanist, Professor Sibthorp, whose biography Professor Vines and myself are producing, visited Cyprus in 1787, but there are earlier notices of its plants, stretching back to Dioscorides and Theophrastus. Sibthorp was only there from the 8th April to 13th May, when he was accompanied by his unequalled draughtsman, Ferdinand Bauer, and his friend Mr Hawkins, once of Dallington Hall, Northants, one of the executors who carried out the publication of the *Flora Graeca*. A concise and informative history of botanical research in the island precedes the author's own itinerary. There is a red-flowered form of *Silene Cucubalus* Wibel or *latifolia* R. & B., which I saw also last year at Delphi, in Greece. The author holds that the European and American *Liquidambar*, from which incense, or one of its ingredients, is collected, are specifically identical, and that *Geranium purpureum* and *modestum* Jord. can hardly claim even the value of distinct varieties. *Euphorbia Thompsonii* is named after Mr H. Stuart Thompson. It was gathered in Cyprus by Kotschy and Lascelles, and is closely allied to *Characias*. Notes on the spreading of some Cyprian plants are given, as well as a brief survey of the Affinities and History of the Cyprian Flora. The island, situated as it is near the three continents, has a vegetation of a marked Mediterranean character, and as the author of the excellent *Flora of Palestine*, the Rev. G. E. Post, remarks, it has a selection of the plants of Syria, Cilicia, and Pamphylia. The African influence is the least marked. Sixty-nine species, fourteen sub-species, and six varieties are endemic; eight of these were discovered by Sibthorp. The author says (p. 25): "The maintainers of great species have seen the close relations connecting forms which differ from one another only in characters of less importance, and they have feared that an extreme separation would render the perspicuity difficult. On the other hand, the 'pulverisators'—a

word often applied, almost as a term of abuse—have observed the astonishing constancy with which even inconspicuous forms transfer their qualities upon their offspring, and the independence in geographical and other respects which they often possess. The experimental cultures of Jordan, Wittrock, de Vries, and others have shown to evidence that the considerations of both opposite tendencies are right in the main. If we adopt as a new systematical unity the sub-species and make use of this term for the ‘species’ of Jordan and his successors, the conflict between the two opposite camps will be in reality smoothed.” In this work the author has treated as sub-species “several forms, only differing from each other in characters, which may seem to be rather inconspicuous . . . whenever they possess distinctly separate areas of distribution, or it can be otherwise concluded . . . that they constitute independent hereditary types. . . . The name variety is reserved for such forms as appear occasionally at various places within the area occupied by the species, either by mutations altering the type in a single respect—colour of flowers, absence of ray flowers in composites, etc., or by some variation in direct correlation with the natural conditions, climatic or ecological, in their growing place. An arrangement with so many degrees of systematical value, as, for instance, Ascherson & Graebner’s *Synopsis*, is impracticable when a Flora is concerned in which the polymorphy of the species is yet imperfectly known.”

THE BOTANY OF ICELAND. L. K. ROSENVINGE and E. WARMING, Editors. By Professor T. THORODDSEN. Fig. 34, pp. 191-343. Wheldon & Co., London.

DANSK EXCURSIONS-FLORA. Tredie Udgave ved. C. H. OSTENFELD og C. RAUNKAER. 8vo., xxii., pp. 330, 1914. Copenhagen and Christiania.

BEIHEFTE Z BOTANISCHES CENTRALBLATT, xxxiii. Heft. i., February 1915. Flora von Bormio. E. FURRER and M. LONGA. pp. 1-112.

SUB-ALPINE PLANTS. H. STUART THOMPSON, F.L.S. 33 coloured plates, 168 fig., by GEORGE FLEMWELL, pp. 325, 1912. A useful and practical work, which will be found valuable to botanists wishing to become acquainted with Swiss flowers.

LES ILES D'HYERES. EMILE JOHANDIEZ. Dex. Geol. Flore Laun. 1914, 8 francs. The botanical portion occupies 99 pages. Cargulcranne, Var.

FLORA OF NORWAY AND ITS IMMIGRATIONS. DR N. WILLE, in Ann. Missouri Bot. Guid., vol. 1.

FLORA OF ADEN. FATHER ETHELBERG BLATTER. In vol. viii. No. 2 of *Records of Botanical Survey of India*, pp 79, tt. 5. The arid cinder heap on which Aden is situated has 250 species recorded, which include 10 trees and 104 woody perennials—two specially interesting species, the bushes yielding myrrh, *Commiphora abyssinica*, and the frankincense, *Boswellia Carterii*.

FLORA OF JAMAICA. WILLIAM FAWCETT and A. B. RENDLE. Vol. iii., Piperaceæ to Connaraceæ, 8vo., pp. xxiv., 280, 113 text illustrations, tt. 5, *Brit. Mus. Nat. Hist.*, 1914, 15/-. Longmans.

FLORA OF NEW MEXICO. E. O. WOOTON and PAUL C. STANDLEY. Contr. from the *United States National Herbarium*, vol. 19, large 8vo., pp. 794, 1915. A model flora of a most interesting region, comprising 122,000 square miles, from sea-level to over 10,000 feet. The species are clearly defined, and are said to number 2975. The nomenclature is based on the law of priority, and is, on the whole, logically carried out. The authors do not shrink from using *Eruca Eruca* (L.) Britton, which has the advantage of using the earliest trivial, and is not more annoying than *Sagina Saginoides*. The keys to the species are clear, concise, and most helpful. Underneath many of the species suggestive details are given as to its distribution and uses. The genera are somewhat more split than in the *Genera Plantarum*; for instance, the genus *Echinochloa* is kept distinct from *Panicum*, *Ribes* from *Grossularia*, *Potentilla* from *Argentina*, *Rubus* from *Rubacer*, *Sophia* from *Sisymbrium*, *Cerasus* from *Prunus*. Earlier authority for var. *glabrescens* of *Bromus hordeaceus* is to be found on p. 592 of the *Flora of Berkshire*, 1897. This European species is widely introduced in the United States, and has been found in Willow Creek, New Mexico. *Rubus nutkanus* is put in the genus *Rubacer*, as *R. parviflorus*, and if retained as a *Rubus* it must be called by the older but somewhat misleading name, *R. parviflorus* Nuttall Gen. Pl. i., 308, 1818, which is seven years earlier than the *Prodromus*. *Savastana*, *Juncoides*,

Cirsium, *Dryopteris*, *Dondia*, *Radicala* are among other genera wisely retained.

NOTES ON THE FLOWERS AND TREES OF CALIFORNIA. C. F. SANDERS. pp. xii., 286, 1914, 7/6. Grant Richards. A fascinating description of the beautiful species met with in that wonderful region.

JOURNAL KEPT BY DAVID DOUGLAS DURING HIS TRAVELS IN NORTH AMERICA, 1823-27, together with a particular description of 33 species of American Oaks and 18 species of Pinus, etc. Edited by Rev. W. WILKS. Demy 8vo, pp. 364, £1 1/- net. Wesley, London. Much interesting matter relating to this intrepid traveller, who was born at Scone, Perth, is given. Douglas met a tragic death in the Sandwich Islands in 1834. Among 200 species which he sent home to our gardens and parks are the Douglas Pine and many beautiful Californian species. A fairly complete set of his dried specimens is preserved at Kew, and very many in the National Library in Cromwell Road.

THE WEED FLORA OF IOWA. Dr L. H. PAMMEL and Others. 8vo., pp. 912, 1913. *Iowa Geological Survey Bulletin*, No. 4. A useful and comprehensive account of the weeds (many of European origin) by the author of *The Grasses of Iowa*. 555 figures are given from photographs. Many of the seeds are also carefully delineated. The descriptions of the plants are good, and practical methods of destroying pernicious weeds are given.

FIELD BOOK OF AMERICAN TREES AND SHRUBS. F. SCHUYLER MATHEWS. 8vo., pp. xvii., 465, 7/6 net. Putnams, Sons, London and New York.

THE GENUS PINUS. GEORGE RUSSELL SHAW. 4to., pp. 96, tt. 39, £2 12/6. 1914. W. Wesley & Son, London. Sixty-five species are described.

JOURNAL OF HEREDITY, Washington, September 1915. Large Broad-leaved Trees of the United States. The largest tree is claimed to be *Platanus occidentalis*, in Indiana, which has a girth of 42 feet and a height of 150 feet; but one cut down in 1864 had a girth of 67 feet. The tallest tree is the Tulip tree, *Liriodendron tulipifera*. It is 198 feet high, with a girth of 34 feet, and grows in N. Carolina.

This year witnesses the completion of Dr F. Ducane Godman and Osbert Salom's *Biologie Central America*, the Botany of which, by W. B. Hemsley, in 5 vols., appeared in 1879-1888. Mr Hemsley now estimates the number of genera at 2000, and the species at 15,000. Botanists and zoologists of repute favour the theory of a former land connection with Africa and South America, and there are evidently close relationships in the floras of E. Asia and Eastern N. America.

THE FLORA OF SOUTH AFRICA. RUDOLF MARLOTH. Vol. iv. Monocotyledons. 4to., 42 coloured and 18 monochrome plates, £2 2/-. W. Wesley & Son, London. An excellent work by an enthusiastic worker, whose kindness the writer is indebted to during his all too short visit to the Cape.

FLORA CAPENSIS. The parts of vol. v. containing Thymeleaceae, Penaeaceae, Geissolomaceae, Loranthaceae, Santalaceae, Euphorbiaceae (first instalment) have now appeared.

THE FERNS OF SOUTH AFRICA. T. R. SIM. Ed. 2. Demy 8vo., pp. x., 384, tt. 186, 25/- net. Cambridge University Press. 220 species are enumerated.

PLANTS AND THEIR WAYS IN SOUTH AFRICA. BERTHA STONEMAN, D.Sc. 8vo., pp. x., 387, with 354 text figures, 5/-. Longmans.

SOME DESERT FLOWERS COLLECTED NEAR CAIRO. GRACE M. CROWFOOT. pp. 50, tt. 35; 5/-. W. Wesley & Son, London.

THESIUM IN THE CAPE FLORA. Diagnoses of 52 new species. 128 species in all are described by A. W. HILL in *Kew Bulletin*, 1915.

NATIVE PLANTS OF THE AZORES. Dr H. B. GUPPY. See *Kew Bulletin*, 1914.

ON THE TRAIL OF THE OPIUM POPPY. A narrative of travel in the chief opium provinces in China. Sir ALEXANDER HOSIE. I., pp. viii., 300; II., pp. 308. 2 vols., 25/-. 1914. J. Phillips & Co.

THE POTAMOGETONS OF THE PHILIPPINE ISLANDS. A. BENNETT. Reprint, *Philipp. Journal of Science*, pp. 339-344, 1914. 13 plants are described, and here Mr Bennett uses the name *P. angustifolius* for *Zizii* as a full species.

NOTES FROM THE ROYAL BOTANIC GARDEN, EDINBURGH. Vol. viii. Some new plants from Japanese mountains, H. Takeda, p. 299. An enumeration of Chinese *Astragali*, with descriptions of new species, N. D. Simpson, p. 239. 66 species are enumerated, including 17 new species. Asiatic Polypodiums—Chinese and Japanese specimens in the Herbarium of the Royal Botanic Garden, Edinburgh, H. Takeda, p. 265-312. Diagnoses Specierum Novarum in Herb. Hort. Regii Bot. Edin. cogn., p. 313. *Moultonia*, a new genus of the *Gesneraceae*, from Borneo, Professor Bayley Balfour and W. W. Smith, p. 349. A Key to the *Labiatae* of China, S. T. Dunn, vol. vi, p. 128. 47 genera are mentioned.

AUSTRALIAN VEGETATION. J. H. MAIDEN, F.L.S. A reprint from the *Federal Handbook on Australia*, in connection with the visit of the British Association in 1914, pp. 163-209. Australia covers about 3,000,000 square miles (rather more than the United States). F. von Mueller estimated its vascular plants at 8909 species. Since that time 1856 species have been added. The largest order is *Leguminosae* with 1084 species, *Myrtaceae* coming next with 666 species, and *Proteaceae* with 599 species, and there are more species of Orchids than Grasses. In contrast with this the Flora of New Zealand has, according to Mr T. F. Cheeseman and Dr L. Cockayne, 1771 species of flowering plants. Here, too, are a great proportion of endemic plants; indeed, no fewer than 30 genera belong to this class.

JOURNAL OF THE HORTICULTURAL SOCIETY. Chinese Trees and Shrubs, W. J. Bear, p. 215, 1914. Some Garden Irises, W. R. Dykes, M.A. South African *Gerberas*, R. A. Dümmer. Trees of the Cambridge Botanic Garden, R. J. Lynch, p. 1, 1915. Trees and Shrubs of the Pacific Coast, F. R. S. Balfour, p. 21, with magnificent photographic reproductions of *Cornus Nuttallii*, etc., of Mount Rainier, with *Verastrum viride* and *Abies amabilis* in the foreground. Mount Rainier, the highest mountain in the United States of America, is over 14,000 feet. *Xerophyllum tenax*, discovered by Douglas, affords another striking illustration. On Pressing Flowers to Retain their Colour, Dr Claud F. Fothergill. The method suggested is to place the flowers between layers of cotton wool, and more than three layers, then put between two wire grids with half-inch meshes. The necessary pressure is given by leather straps. These grids, with their contents, are

placed before an open fire, or in the hottest possible sun, so as to dry them very rapidly. The Passing of Darwinism, Rev. Professor G. Henslow, p. 47.

KEW BULLETIN, 1915, No. 2. The Care of Old Trees, W. J. Bear, p. 82. 1915, No. 6 gives an excellent account of the work of Walter Hood Fitch, by Mr W. B. Hemsley. It states that Fitch made nearly 10,000 published drawings, of which 5000 are coloured. His small but vivid illustrations to Bentham's *Handbook* are perhaps better known to the field botanists of to-day than any other. They even bear the severe test of enlargement. Biographical notice of Sir James Murray, S. A. Skan, p. 350, 1915. Interesting details respecting the author of the English Dictionary. The Arboretum at Tortworth, p. 298. The genus *Phelipaea*, Otto Stapf, p. 285. In this paper Stapf describes the three species contained in the genus, which does not contain *Orobanche purpurea* and *ramosa*, which by many botanists have been, it seems, erroneously included in the genus. A monograph of the genus *Sansevieria*, by N. E. Brown, pp. 185-261. *Rhamnus Frangula* for Charcoal, p. 304.

THE STANDARD CYCLOPEDIA OF HORTICULTURE. Edited by L. H. BAILEY. Vol. i., A to B, pp. xx., 602; vol. ii., C to E, pp. 603-1300. 25/- each. Macmillan & Co., New York.

SAXIFRAGES. W. IRVING and R. A. MALBY. pp. 148; 2/6. Headley Bros. With colour and half-tone illustrations.

MY GARDEN IN SPRING. E. A. BOWLES. pp. 315, tt. 39; 5/-. T. C. & G. C. Jack, 1914.

GARDEN CRAFT IN EUROPE. N. INIGO TRIGG. 35/-. Batsford.

MY SHRUBS. EDEN PHILLPOTTS. 4to., pp. 132; 10/. John Lane. With 50 illustrations.

COLOUR SCHEMES FOR THE FLOWER GARDEN. GERTRUDE JEKYLL. 8vo., pp. 159, third edition; 12/6. Country Life.

WALL AND WATER GARDEN. GERTRUDE JEKYLL. 8vo., pp. 214; 12/6. Country Life.

A WOMAN'S HARDY GARDEN. HELENA R. ELY. 8vo., pp. 216 ; 7/6. Macmillan.

OUR MOUNTAIN GARDEN. MRS THEODORA THOMAS (ROSE FAY). 8vo., pp. 212 ; 6/6. Macmillan.

MY GARDEN IN SUMMER. E. A. BOWLES. 8vo., pp. viii., 316 ; 5/-. T. C. and G. C. Jack, London.

MY VILLA GARDEN. S. GRAVESON. 2/6. Headley Bros.

CIVIC ART STUDIES IN TOWN PLANNING. Parks, Boulevards, and Open Spaces. T. MAWSON. 4to., pp. 376. Batsford.

CLIMBING PLANTS. W. WATSON. pp. xi., 132. Plants suitable for pergolas, walls, etc., belonging to 100 different genera, are described, and there are some beautiful illustrations.

THE HERBACEOUS GARDEN. ALICE MARTINEAU. 8vo., pp. 298 ; 7/6. Williams & Norgate.

HOME LANDSCAPES. W. ROBINSON. 4to., pp. 78 ; £2 12/6. John Murray. Sumptuously illustrated with beautiful views of Sussex County.

LE BON JARDINIER. 150th edition. Lib. Agric., 26 Rue Jacob, Paris. 8vo., pp. 1000. Paper covers, 10 francs. Many illustrations. Edited by MM. BOIS and CRIGNAN and about 40 collaborators.

THE STUDY OF PLANTS. An Introduction to Botany and Plant Ecology. T. W. WOODHEAD, M.Sc., Ph.D., F.L.S. 8vo., pp. 440, with 257 text figures and plates ; 5/6. Oxford Clarendon Press, 1915. This eminently useful book can be strongly recommended. In it the fundamental principles of plant physiology are clearly demonstrated. There are excellent chapters on the structure and germination of seeds, on the structure, work, and forms of roots, on the structure and work of the shoots, others on buds and branches. Hibernation and the movements and attitudes of plants, which are so simply written that those who run may read, as the instruction is conveyed in so lucid a manner, are explained, and the examples selected are of easily obtainable species. The illustrations, being original and not dragged in irrespective of the context, are singularly good. The second part

is devoted to the biology of the reproductive organs, the structure of seeds and their dispersal. Systematic botany is dealt with in part three, while part four is devoted to common trees and shrubs, in which there are excellent photographs of the trunks of the ash, elm, and oak. The fifth part is a capital and practical explanation of Plant Ecology, a subject which is peculiarly the author's own, one to which he has devoted much attention, and which he luminously describes in the ten chapters devoted to the subject. This part alone would well repay the purchaser of the volume. The author wisely eschews the jargon of recently coined words, repelling as they are to so many would-be students. The subject is one which no field botanist can ignore, and one to which this volume gives a clear and useful introduction.

BOTANY, A TEXT BOOK FOR SENIOR STUDENTS. D. THODAY, M.A. Large cr. 8vo., pp. xvi., 474, 205 figures; 5/6. Cambridge University Press, 1915. This clearly-written and practical manual is intended primarily for use in connection with the Senior Cambridge Local Examinations, but it will be found to be very useful to teachers, as well as scholars in upper forms of Secondary Schools, and to those who begin to study botany for the first time. The method of growth of the Sunflower, Annual Poa, Dandelion, and Horse-chestnut are contrasted and described. Nutrition is clearly explained, as is the conveyance and storage of food, and respiration and transpiration. The function of root-hairs, the mineral food of plants, and adaptations are dealt with in the same lucid manner. The internal structure of plants is briefly but adequately dealt with, as are special forms and functions. The flowers, fruits, seeds, and seedlings are very effectively demonstrated. The conditions of germination and growth are well illustrated. Nearly one hundred pages are devoted to the classification of plants. There are capital chapters on trees, climbing-plants, and water-plants. The distribution of plants and the factors which govern it are pleasantly explained. The volume is well printed, and there are many attractive illustrations. The price being quite reasonable, it should command a considerable sale.

THE STORY OF PLANT LIFE IN THE BRITISH ISLES. A. R. HORWOOD, F.L.S. Vol. ii., cr. 8vo., pp. 358, with 78 illustrations. Chapter I., Buttercup group to Strawberry group; Chapter II., Spindle-wood

group to Cornel group; Chapter III., Woodbine group to Primrose group; 6/6. Vol. iii., pp. 514, and 121 illustrations. Chapter I., Privet group to Dead-nettle group; Chapter II., Strapwort group to Pine group; Chapter III., Frogbit group to Grass group; 6/6. J. A. Churchill, London. The photographic reproductions are most excellent and are well selected, and should give the work a permanent value, as well as stimulate an increased interest in field botany. The text is full of suggestive detail.

PRACTICAL FIELD BOTANY. A. R. HORWOOD, F.L.S. Cr. 8vo., pp. xv., 193, tt. 20, 26 text figures; 5/-. C. Griffin & Co.

TREES—A WOODLAND NOTE-BOOK. Containing observations on British and Exotic Trees. Right Hon. Sir HERBERT MAXWELL, Bart., F.R.S., &c. 4to., pp. 235; 2/- net. MacLehose, Glasgow.

EVOLUTION OF SEX IN PLANTS. J. M. COULTER. pp. ix., 140; 4/-. Cambridge University Press.

FUNDAMENTALS OF PLANT BREEDING. J. M. COULTER. pp. xiv., 347; 6/-. Appleton, New York, 1914.

POCKET SYNOPSIS OF THE FAMILIES OF BRITISH FLOWERING PLANTS (based upon the system of Engler). W. B. GROVE, M.A. Sm. 8vo., pp. vi., 49; 1s. Longmans.

PLANT LIFE. Prof. J. BRETLAND FARMER. Sm. 8vo., pp. 256; 1/-. Williams & Norgate.

TRANSPIRATION AND THE ASCENT OF SAP. H. H. DIXON, Sc.D., F.R.S. pp. vi., 216; 5/- net. Macmillan & Co., London, 1915. Subject to certain reservations, the ascent of the sap is caused by haulage, the power of which is induced by the leaf cells. The author suggests that volatile oil in plants slows down transpiration, hence enabling the plant to exist in very arid situations.

A SECOND CONTRIBUTION TO OUR KNOWLEDGE OF THE ANATOMY OF THE CONE AND FERTILE STEM OF EUISETUM. Lady M. P. ISABEL BROWNE. Reprint from *Annals of Botany*, pp. 231-265, April 1915.

DETERMINATION OF SEX. L. DONCASTER, F.R.S. 7/6. Cambridge University Press, 1915.

SYMBIOGENESIS. The Universal Law of Progressive Evolution. H. REINHEIMER. Demy 8vo., pp. 450; 10/6. Knapp, Drewett, Westminster.

PLANT WORLD. Vol. xviii., November 1914. Longevity of Seeds. Dr Shull says seeds buried in mud for 70 years germinated on the mud floor of an old reservoir. 140 species of plants appeared. He gives experiments showing that seeds submerged for seven years (including *Juncus bufonius* and *tenuis*) subsequently germinated. Mr Kidd (*Gardener's Chronicle*, lv., p. 186, and lvi., p. 4) shows that the presence of 10 per cent. to 20 per cent. of carbon dioxide surrounding the seeds provokes a persistent latency. "How long life remains in these seeds has yet to be determined." I once assisted in some experiments with Prof. Romanes, which showed that seeds placed in pure dry chlorine and nitrogen for two years germinated.

JUNIOR BOTANY. DR CAVERS. 8vo., pp. xii., 288, with 14 text figures. University Tutorial Press.

PLANT BREEDING. Prof. L. H. BAILEY. pp. xviii., 474; 8/6. Macmillan & Co., 1915.

PLANT LIFE. C. R. HALL. pp. xi., 380. 50 coloured plates and 24 plain illustrations. 20/-. 1915.

THE HUMAN SIDE OF PLANTS. ROYAL DICKSON. pp. xix., 201; 7/6. Grant Richards, 1915.

PLANTS WE PLAY WITH. H. R. ROBERTSON. 40 pictures (20 in colour); 3/6. Wells, Gardner, Darton & Co.

THE HAIRS OF ROCK PLANTS. K. E. SHYAN. With special reference to the glandular hairs of Saxifrages. Science Knowledge, September 1915.

A MANUAL OF WEEDS. A. E. GEORGIA. pp. xi., 593, with 385 illustrations; 8/6. Macmillan & Co., New York. An excellent work on American weeds. The descriptions are terse and clear, and a mass of information given of each species.

ALL ABOUT LEAVES. F. J. HEATH (the late). pp. ix., 228; 4/6. Williams & Norgate, 1914.

THE MUTATION THEORY IN EVOLUTION, WITH PARTICULAR REFERENCE TO OENOTHERA. R. RUGGLES GATES, Ph.D. 8vo., pp. xiv., 353; 10/. With 114 text figures. Macmillan & Co., 1915. Dr Gates recognises 28 species. *Oe. Lamarckiana* was collected by Michaux about 1796, and is probably the plant described by Lamarck as *Oe. grandiflora* in that year, as it was grown from seed sent by Michaux from North America, and Seringe changed the name to *Lamarckiana*, since it differed from Solander's *grandiflora*, an Alabama plant. (See also *Rep. B.E.C.*, 44, 1914).

THE ESSENTIALS OF ILLUSTRATION. A practical guide to the reproduction of drawings and photographs for the use of scientists and others. T. G. HILL. 8vo., pp. xii., 91, with 12 plates and 38 engravings. 10/-. W. Wesley & Son, London, 1915. This eminently useful volume treats of intaglio printing, including line engraving. Curtis's *Flora Londinensis* is quoted as an excellent example of hand-coloured copper engravings, indeed it has set a standard never yet reached in other work on British Botany, either for care in details, clearness and accuracy of outlines, or truth and fidelity of colouring, but the finest plates ever published in a botanical work are said by Mr Hill to be those given in Thoret & Bornet's *Etudes Phycologiques*, published in Paris in 1878. Riocreux made the drawings from the preparation, and his drawings were engraved on steel by Picart, Thomas, and others. The methods of etching, soft ground etching, mezzotint, and photogravure are then described. Plane surface printing is next explained. Under this comes lithography, an art discovered by Senefelder towards the end of the eighteenth century. The method of working is detailed, and again the highest praise is given to Thoret & Bornet's *Notes Algologiques*. Chromo-lithography is next described, and then in turn, photolithographic processes, collotype, and the preparation of illustrated pages. Relief printing is then explained, and under it are grouped woodcuts and engravings, in which is a reference to Fitch's wood blocks for Bentham's Handbook, perhaps the best known of any modern British botanical work. The half-tone process, of which an excellent example is given, showing *Suaeda fruticosa*, and a Ring Plover's nest with four eggs, doubtless on Blakeney Shingle, is described. Plates 8, 9, and 10 show the same view as represented by photogravure, collotype, and half-tone. The half-tone three-colour

process is next illustrated and described, and an example cited is Church's magnificent drawings for his *Floral Mechanism*. Photo-mechanical line blocks, commonly known as zinco, are in a sense the lineal descendant of the old wood block. Very practical and valuable information is contained in the chapters relating to the drawing of microscopic details, diagrams, and apparatus, maps, graphs, and curves. The swelled gelatine process is described, and an eminently useful chapter on the relative cost of blocks and plates by various processes, completes this compact mass of information, which is well printed and contains excellent examples of the various types of illustration.

REVUE GENERALE DE BOTANIQUE, 1915, contains an appreciative and critical article of the work of the well-known *Hieracium* student, M. Arvet Touvet, by M. MARCEL MORANDE, pp. 67-76, 117-127, 142, 157.

HISTORY AND FUNCTION OF BOTANICAL GARDENS. A. W. HILL (Assistant Director of Kew). *Annals Missouri Bot. Gard.* 4to, pp. 185-240.

LIFE OF LORD AVEBURY. W. J. HUTCHINSON. Vol. i., pp. xiv., 338; vol. ii., x., 324, 2 vols., 1914.

JOURNAL OF EDINBURGH ROYAL BOTANIC GARDEN GUILD. The first number opens with an appreciation of its President, Prof. Bayley Balfour, who has done so much, not only for systematic botany, but for horticulture, and has made Edinburgh Gardens so attractive and useful. His discoveries in Socotra were very valuable, and he has been indefatigable in introducing fresh plants into culture. An admirable portrait of him enhances the interest of this number.

THE ROMANCE OF BOTANY was the title of a lecture given by Prof. G. S. Boulger to the Horticultural Club, and reported in the *Gardener's Chronicle*, p. 62, 1915.

FLOWERS OF MILTON. CANON ELLACOMBE. See *Gardener's Chronicle*, 1915.

TRAVELS IN CHINA. REGINALD FARRER. See *Gardener's Chronicle*, 1915.

MOSSES IN THE STOMACH OF A MAMMOTH FOUND IN LIAKHOV ISLE include *Polytrichum sexangulare* and our British *Hypnum stellatum* and *Hypnum revolvens*. Gardener's Chronicle, 1915.

SUBMERGED FORESTS. CLEMENT REID. 1/-. Cambridge University Press.

POT POURRI MIXED BY TWO. Mrs C. W. EARLE and Miss ETHEL CASE. 8vo., pp. 451. 7/6. Smith, Elder, London, 1914.

THE COUNTRY MONTH BY MONTH. J. A. OWEN and G. S. BOULGER. 8vo., pp. x., 492.

FLORAL RAMBLES IN HIGHWAYS AND BYWAYS. Rev. Prof. J. HENSLOW. pp. 294. 6/-. S. P. C. K.

OBITUARIES.

DANIEL CHARLES OCTAVIUS ADAMS, born at Anstey, Warwickshire, in 1822, died 1914. He was the son of Thomas Coker Adams, Vicar of Anstey with Shilton. He was educated at Merchant Taylor School, which he entered in 1833, and came to St John's College, Oxford, in 1841, as Andrew's Exhibitioner, and took his B.A. in 1845. He was ordained deacon the following year, and priest in 1847. After serving in a curacy in Foleshill, he worked in the parish of Christchurch, St Pancras. There his health broke down, and he returned to Anstey Hall to live with his sister, Lady Adams, the widow of a Crimean general, who erected Anstey spire in memory of her husband. There he helped his brother, the vicar, until the death of Lady Adams, when he came to live with his sister, Mrs Coker Beck, the widow of the Rector of Crowell, at her home at Monk's Risborough. For twenty-two years he was Organising Secretary to the S.P.G. for the Archdeaconry of Coventry. He was the founder and the heart and soul of the Missionary Studentship Association, in which he was successful in obtaining over a hundred men ordained for foreign work. He published in two series *The Saints and Missionaries of the Anglo-Saxon Era*, which evinced much literary taste. He was one of the most courteous of men, reminding one in many ways of Newbould. He knew Fungi well, and largely assisted

Mrs Coker Beck and Miss Beatrice Taylor in compiling the list of the Chiltern Fungi. He got bitten with the *Rubi*, and was with the Rev. W. Moyle Rogers when he visited the rich bramble neighbourhood of Crowell. I well remember being a fellow guest with him at Crowell Rectory. We had enjoyed a great day on those beautiful hills, when *Gentiana germanica* was in its glory, and a large number of Fungi had been seen, and one of these was diagnosed as being a great delicacy for the table. There was not much of it, and at dinner that evening it had shrunk to small dimensions. It was handed to me on a silver dish, but perhaps with mixed motives. Our dear friend had described its flavour with such gusto that one felt one would be robbing him of a treat. Then there was a slight doubt cast by Mrs Coker Beck upon the exact identity of the species. So I passed the dish, as did everyone else, and it was triumphantly placed upon Mr Adams's plate. Loud was his exclamation of delight upon the flavour. Quite a wrong idea of Mr Adams's character would be conveyed if this anecdote suggested that he was a gourmand. He was the most temperate and abstemious and one of the most kindly and saintly of men. At breakfast time next morning his chair was vacant, and it turned out that he had had a very bad time. There had clearly been a mistake in the identification, for he was nearly poisoned. Unfortunately he did not persevere with his study of the brambles, but his love for the English flowers continued to the last. When he was nearly ninety I happened to call, and found him and his sister, Mrs Coker Beck, trying to make out the differences between the two hawthorns which I had been recently describing.

RICHARD MANLIFFE BARRINGTON, born in 1849, died at Fassaroe, Co. Wicklow, September 15, 1915. He graduated in Science honours at Trinity College, Dublin, and studied for the Bar, to which he was called in 1875. He, however, relinquished legal matters and occupied himself in land valuation. This was especially congenial, as he could follow his favourite pursuits of Natural Science in his long journeys through Ireland. He was one of A. G. More's most valued helpers in preparing the second edition of *Cybele Hibernica*, and to his exertions a most important addition to our knowledge of the Irish Flora is due. His published papers include those in the *Journal of Botany*:—*On some Plants recorded from Ireland*, 108, 1872. In it he records an

unsuccessful search for *Erica vagans*, which had been recorded for Islandicane, west of Tramore, Waterford, and *Euphorbia Peplis* from Tramore coast. *On Fertilization of Cereals, l.c.*, 109. *Rosa britannica* Déség. at Bray, Co. Wicklow, 270, 1876. *Plants of Ireland*, 178, 1877. *Plants of Tory Island, Donegal*, 263, 1879. The island is about three miles long by half a mile broad, the highest point being 282 feet. On it he found 145 species. The form of *Cirsium pratense* which grows there is evidently my var. *polycephalum*. *Epilobium alsinefolium* in *Leitrim*, new to Ireland, 247, 1884. *Notes on the Flora of St Kilda*, 213, 1886. The highest point is 1220 feet. The group consists of six or seven islands and rocks. On four of these vegetation exists, but he found no plant on either which did not occur on St Kilda proper. Twenty-nine species had been previously recorded by Macgillivray (*Ed. Phil. Journ.* 47, 1842), but eleven of these were not found by Barrington. The plants found included *Cerastium vulgatum* var. *alpinum* Koch, *Saxifraga oppositifolia*, *Salix herbacea* down to 500 feet, *Carex rigida*, *Ophioglossum vulgatum* var. *polyphyllum*. *Trientalis europaea* in *Foula*, 315, 1890. *Proc. Royal Irish Academy: Flora of the Basket Islands*, vol. iii., 368, 1881. These show 174 species. The Galway Aran Isles have 372 species, the Donegal Aran Isles have 232 species, and Inishbofin in West Galway 303 species. *Report on the Flora of the Shores of Lough Erne, l.c.*, vol. iv., 1, 1884. *Report on the Flora of Ben Bulbin and the adjoining Mountain Range, l.c.*, vol. iv., 493, 1895 (in conjunction with R. P. Vowell). *Report on the Flora of the Shores of Lough Ree, l.c.*, vol. iv., 693, 1887. *Rediscovery of Rubus Chamaemorus* (with H. C. Hart), see *Irish Naturalist*, 124, 1892. Mr Barrington was one of the founders of the Dublin Naturalists' Field Club, and was on the Council of the Royal Irish Academy of the Dublin Society and the Zoological Society of Ireland. From 1880 he made friends with the various lighthouse-keepers along the Irish coast, and induced them to send him the various birds that had been attracted by the light, and by this means he was enabled to add many species to the Irish list, including four species of warblers, two larks, and two redpolls. He had a very extensive museum and collection of bird skins at his delightful country residence at Fassaroe. I had corresponded with him for some years, but it was not till April 1914, after a short visit to the Marquis of Lansdowne's beautiful estate of Derreen on Kenmare Bay, when the Reeks were snow-topped and presented a scene of wonderful beauty, contrasting

as they did with the wealth of vegetation, Bamboo, Eucalyptus, Azalea, Rhododendron, and Kalmias, which were planted by the present Marquis and which have changed the gloomy moor and coast into a veritable garden, that I had the opportunity of seeing Mr Barrington at home, and it was a real delight. We breakfasted with the "Zoo" in Dublin, and walked round with an orang-outang arm in arm with one of the Committee, and Barrington was the life and soul of the party. His narratives of his landing at St Kilda, his struggling up the friendly ropes, his experiences with the birds, his wonderful alpine climbs—over 80,000 feet in eleven days—on the Swiss Alps, his visits to the stormy islets with the privations there necessitated, his cheery outlook on the future of his country, his pleasant criticism of the botanists of to-day, and not less the charm of his home life made the visit a memorable one, and I little realised it was the last time I was to see him in the flesh. I had one or two extremely kind and sympathetic letters from him in July, full of the joy of life, and the news of his sudden death at a time when even the deaths of so many of one's friends had partly dulled sensation stung one with keen pain and seemed almost impossible to be true. He leaves behind a splendid record of good honest work, and a vacancy in our ranks very difficult to fill.

SARAH COKER BECK, *née* ADAMS, born at Anstey, Warwickshire, January 20, 1821, died at Monk's Risborough, Bucks., November 8, 1915. She married Mr Coker Beck, who was for many years Rector of Crowell, Oxfordshire, a village picturesquely situated at the base of the Oxfordshire Chilterns. There she studied Fungi with great assiduity, and the long list of them which appeared in my *Flora of Oxfordshire* is due to her industry and the collaboration of her brother, the Rev. D. Octavius Adams, and Miss Beatrice Taylor. Mrs Coker Beck, who was the schoolfellow of Miss Charlotte Palmer, another botanist and member, was the President of the Chiltern Natural History Society, and many pleasant reunions we had under her hospitable roof. On one of these occasions we added *Polygonatum multiflorum* to Oxfordshire, and she also found *Rubus rudis* in 1891. In 1891 she discovered, for the third time in Britain, the curious and striking Discomycetous Fungus *Gyromitra gigas* Cooke, in Sherbourne Wood, Oxford. I went with her to secure the specimens figured in *Journ. Bot.* 129, 1893, t. 334, where it was described

by W. Phillips. Mrs Beck was a remarkably handsome woman, keenly intellectual, and a brilliant conversationalist. She retained her faculties to the last. Last May when I called on her she was just as keen as ever to hear of any discoveries on her loved Chilterns, under the shade of which she passed peacefully away in the early November of this sad year, and was buried in the churchyard of Monk's Risborough.

THOMAS LOWNDES BULLOCK, born on September 27, 1845, died at Wood Lawn, Oxford, 1915. He was the son of the Rev. J. F. Bullock, of Radwinter, Essex, and was educated at Winchester, and New College, Oxford. He married Florence, daughter of S. Norton, of Shifnal, Salop. He was a member of the British Consular Service in China from 1869-1897, a barrister of the Inner Temple in 1890, and Professor of Chinese in the University of Oxford from 1899-1915. When in China he was much interested in botany, and made a collection of dried specimens, some part of which is in the Fielding Herbarium. He also formed a considerable collection of Alpine and British plants. These for the greater part have been given to Colchester by Mrs Bullock. He was a genial and cultured man, and for some years was a valued representative of the University on the Oxford City Council. He added one alien to our British list, the Indian *Polygonum affine*, from the Lake district.

MORDECAI CUBITT COOKE, born at Horning, Norfolk, July 12, 1825, died 1915. For a lengthy period Dr Cooke was one of our most prolific writers, but the subject which he made peculiarly his own was outside our domain. All field botanists, however, owe him a debt of gratitude, as for many years, as Editor of *Science Gossip*, 1865, he made the subject attractive, and drew together many kindred workers. I made his acquaintance under the roof of our old member Mr James Bagnall. I do not know which smoked the most or longest, but in the small hours it was difficult to see either of them across the room, itself of no vast dimensions. I owed much to Dr Cooke, for he asked me to contribute to his paper when I was quite a beginner, and I had nothing but kindness from him. His output of work was prodigious. He helped to form the Society of Amateur Botanists in 1862, which met in rooms above Hardwicke's in Piccadilly, and of this he was President. He also helped to form the Quekett Club, and was Editor

of *Grevillea* from 1872-1892. His *Plain and Easy Account of British Fungi* appeared in 1862; *Rust, Smut, Mildew, and Mould* in 1865; *Handbook of British Fungi*, in two vols., 2810 species, in 1871, second edition in 1883-5; *Mycomycetes of Great Britain* in 1877; *Edible Fungi* in 1891; *Handbook of British Hepatics* in 1895; *The Illustrations of British Fungi*, 1881-1891—a magnificent work with 1200 coloured plates; *Introduction to Fresh Water Algae: An Enumeration of all the British Species* in 1890; *A Handbook of the British Hepaticae* in 1894. These are only a part of his contributions to Science. His collection of 46,000 specimens and drawings are at Kew. Saccardo, the eminent Italian Fungologist, founded the genus *Cookella* in his honour.

FREDERICK HAMILTON DAVEY, born at Ponsanooth, 1867, died 1915. In his schooldays Canon Saltern Rogers influenced him in the study of the Zoology and Botany of the Kennal Vale. In 1891 the Royal Cornwall Polytechnic Society (of which at one time he was assistant librarian) awarded him their first silver medal for a monograph on the rushes, sedges, and grasses of that area, which was supplemented by carefully-selected and well-mounted specimens. He began the business of life in one of the mines, and eventually became manager of the Cornwall Arsenic Works at Bissoe. In this occupation his kindness of disposition and tactful manners stood him in good stead, and it was very pleasing to see how popular he was with the workpeople and respected by those about him. He worked very diligently at the *Flora of Cornwall*, and in 1901 recorded five new plants in the *Journal of the Royal Institution of Cornwall*. When Mr A. Hume went to that county on one of his wholesale collecting raids he secured the assistance of Davey, whose knowledge, zeal, and energy so impressed him that he rendered Davey substantial aid in publishing in 1902 *A Tentative List of the Flowering Plants, Ferns, &c., of Cornwall*, which occupied 276 pages. It was printed on one side of the paper only, and, as was explained, was meant to induce fellow-botanists to send in additional material. He joined the Linnean Society in 1903, and was then the youngest Fellow. In 1905 he received the Henwood Gold Medal from the Royal Institution of Cornwall for the best scientific paper that had appeared in their *Journal* during the three previous years. In 1909 he issued the *Flora of Cornwall*, lxxxviii., 570, with six portraits. It was dedicated

to his father, "who inspired me with a love for the flowers of the field." The Flora was a well-written and trustworthy description of a very interesting area, to which Davey himself added fifteen species, altogether forty-two species additional to the *Tentative List* being given. Davey also prepared the article on Botany for the *Victoria County History of Cornwall*, i., 56-69. He acted as Examiner in Agricultural Botany to the Cornwall County Council, and lectured in Natural Science at the Central Technical Schools, Truro. To the *Journal of Botany* he contributed *Notes on Cornish Plants*, 354, 1900, which added *Hippophae* and *Zannichellia pedunculata* to Cornwall. In 1906 *Polygala serpyllacea*, a new variety (*vincoides* Chodat) to Science, 34; *Cornish Plants*, 131; *Narcissus odoratus*, 215; *Eriophorum angustifolium* var. *triquetrum*, 279; *Carex montana* forma, 280; *Veronica peregrina*, 359; *Cornish Rubi*, 426; *Hieracium umbellatum* var. *curtum* Fr. 428. In 1907, *Notes from Cornwall*, 119, and a species of *Euphrasia* - *E. Vigursii*, new to science, but perhaps too near *Rostkoviana* to be more than sub-specifically distinct, 217. In 1908 *Fumaria occidentalis*, 57; *Cornish Plants*, 199; and a *Biographical Note on R. V. Tellam*, 360. In 1910 *Agrostis verticillata* at Falmouth, 80; *Malaxis paludosa*, 259; *Herniaria hirsuta*, 260; and *A new hybrid heath Erica vagans* \times *cinerea*, 333 (this the writer has since identified and described as *E. vagans* \times *Tetralix* = \times *E. Williamsii*). In 1911 he sent a note on *Thalictrum dunense* in Cornwall. In that year he became a member of our Society, but his health had long been delicate, so that he took no part in Exchange, and when about 1910 I made his acquaintance he was not able to take long walks. He, however, regained strength to some extent, and acted as our very efficient guide in 1911 during the visit of the Phytogeographical Excursion into Cornwall. He contributed an excellent account of these expeditions to the local papers. In his latter days he removed to a cottage he had built at Perranarworthal. In 1912 he had a cerebral seizure which prematurely laid him low, and after that he never left his room. He died from another attack on September 23, 1915. He was buried in the Wesleyan Cemetery at Ponsanooth, his friend Dr Vigurs reading the lesson at the memorial service. By his illness Botany lost a devoted disciple, and to him who so loved the book of nature the confinement to his room for so long must have been inexpressibly trying. He was, however, able to read and write nearly to the last. Indeed, on July 8 he wrote to congratulate me on

the success of the "Society and Club," and to say that he was rather anxious to dispose of his herbarium of 4000 mounted plants, representing the labour of many years. He was a delightful companion in the field, and was blessed with a keen critical eye and a good memory. His cheerfulness and sympathy gained him the goodwill of both employees and employed, and his outlook on things, places, and men was broad and cheery. His Flora will long remain a standard work of reference.

HENRY PIERSON, born at Hertford, October 22, 1852, died Hertford, June 4, 1915. He found *Orchis maculata* × *Gymnadenia conopsea* = × *G. Le Grandiana*. See *Journ. Bot.* 369, 1899; 278, 1907.

CHARLES TANFIELD VACHELL, M.D., born at Cardiff, 1848, died there, 1914. He was descended from an old Reading family who had migrated to Wales. From an early age he delighted in Field Botany, and at Hereford Cathedral School he was enabled to cultivate his taste. He qualified as a medical practitioner, taking his degree from London University. He settled in his native town, where he achieved success in his profession. At the same time he threw himself into the study of Natural History, founding the Cardiff Natural Society of Science, of which he became Secretary for ten years, and served as President four times. He was on the Council of the National Museum of Wales since 1908, for which, originally known as the Cardiff Municipal Museum, he had performed yeoman service. He was instrumental in having a Botanical Garden set apart at Rooth Park. He induced his Society to expand Storie's *Flora of Cardiff*, and in 1903 a Committee was formed, of which Professor Trow was chosen Editor, to produce a Flora of Glamorganshire, Dr Vachell and his daughter acting as Secretaries, and collating the records sent in. This was published in five sections—Thalamiflorae (in vol. 39), 1906; Calyciflorae (in vol. 40), 1907; Corolliflorae (in vol. 41), 1908; Incompletae (in vol. 42), 1909; and Vascular Cryptogams (in vol. 43), 1910—the whole published separately in one volume in 1911. "Possessing great personal charm and a dignified presence, his generous instinct and wide sympathies secured him the confidence of his colleagues, and made him a welcome member of public bodies. . . . His public services over a long period, carried on

without ostentation, leave the commonalty sensibly poorer for his loss." See Memoir by Dr R. Paterson in *Trans. Cardiff Bot. Soc.* 47, 1914.

I. MEDLEY WOOD, A.L.S., born at Mansfield, Notts., 1828, died at Durban, Natal, August 26, 1915. He went to South Africa in 1852. In early life he practised as a solicitor, later he traded in Zululand, and farmed land, chiefly cultivating arrowroot and castor oil. In 1882 he became Curator of the Durban Botanic Garden, of which he was subsequently appointed Director. The enterprising and competent Corporation of Durban took over the Garden later, when Dr Wood was made Director of the Natal Herbarium. There I saw him in 1914, and had the pleasure of being shown over the Garden by him. He was a keen observant naturalist, and for over thirty-three years he closely studied the Natal Flora, which he has described in six important volumes already printed. He was delighted to show me a new species just received from the north of Natal, and pointed out with justifiable pride the magnificent Indian *Beaumontia* with its large white showy blossoms, covering a long reach of trellis, and the sweet-scented *Brunfelsia* with its flowers one day purple, another lilac, and a third day white. In Dr Wood there was the happy combination of the systematist and the practical agriculturist, so rarely to be met with. In the latter sphere he did excellent service in improving the sugar-planting industry of Natal.

NEW COUNTY AND OTHER RECORDS.

9. *ANEMONE NEMOROSA* L., var. *PURPUREA* DC. and var. *CAERULEA* DC. Near Frilsham, Berks., 22, the latter noticed there by Mr R. H. HOOKER, and new to the County.

24. *RANUNCULUS FLAMMULA* L., var. *SERRATUS* Persoon = *ALISMIFOLIUS* Glaab. Pennypot, near Chobham, Surrey, 17, and keeping very distinct over a considerable area. This form was noticed on the first excursion into Surrey of the Botanical Society of London in 1838. July 1915, Lady DAVY and G. C. DRUCE,

28. *R. SARDOUS* Crantz. Near Alvechurch, Worcestershire, 37, W. B. GROVE, vide sp. A rare species in the county for which it is already recorded.

38. *R. TRICHOPHYLLUS* Chaix. Pipe Gate, N. Staffs., 39, W. L. B. RIDGE in *Rep. N. Staffs. Field Club*, 156, 1914-15.

38. *R. RADIANUS* Revel. Herts., 20, Miss TODD, vide sp.; Thame, Oxon., 23; Hockham, Norfolk, 28, G. C. DRUCE.

40. *R. HETEROPHYLLUS* Weber. Staffs., 39, W. L. B. RIDGE in *Rep. N. Staffs. Field Club*, 146, 1914-15.

var. *TRIPHYLLUS* (Wallr.). Marsh Gibbon, Bucks., 24, July 1913, G. C. DRUCE; Exton, Rutland, 55 b, Earl of GAINSBOROUGH.

41. *R. SPHAEROSPERMOS* Boiss. Canal, Broad Oak, N. Hants., 12, C. E. PALMER in *Hb. Druce*; Cuxham, Oxon., 23; Halton, Bucks., 24, G. C. DRUCE.

51. *HELLEBORUS VIRIDIS* L., var. *occidentalis* Druce. Near Slade's Bottom, Oxon., 23, April 1915, W. B. TURRILL. A new locality.

57. *NIGELLA DAMASCENA* L. Alien. Marston, Oxon., 23, G. C. DRUCE.

63. *DELPHINIUM CONSOLIDA* L. Barnack, Northants, 32, 1915, A. R. HORWOOD, in *lit.*

91. *ROEMERIA HYBRIDA* DC. Alien. Ware, Herts., 20, H. F. HAYLLAR.

104. *FUMARIA CAPREOLATA* L. Ormesby, 28, *Fl. Norf.* Is this restricted *pallidiflora*?

105. *F. PURPUREA* Pugsley. W. Lothian, 84, J. FRASER, in *lit.*

107. *F. BORAEI* Jord. Hunstanton, 28, *Fl. Norf.*

108 (3). *F. PARADOXA* Pugsley. Reigate, Surrey, 17, C. E. SALMON, in *Rep. B.E.C.*, 114, 1914.

109. *F. BASTARDI* Bor. Midlothian, 83; W. Lothian, 84, 1915, J. FRASER, in *lit.*

125. *RADICULA AMPHIBIA* Drüce. Denholm Dean, Roxburgh, 80, *Berwick Proc.* xvi., 66.

130. *BARBAREA ARCUATA* Reichb., teste A. B. Jackson. Banks of Cherwell, Marston, Oxon., 23, 1911, G. C. DRUCE.

131. *B. INTERMEDIA* Bor. Ranworth, 27, *Fl. Norf.*; Askham, L. Lancs., 69 b, D. LUMB, in *Rep. B.E.C.*, 115, 1914.

141. *ARABIS GLABRA* Bernh. Henfield, Sussex, 13, 1915, A. WEBSTER.

143. *CARDAMINE AMARA* L. Dunglass Dean, Haddington, 82, *Proc.* viii., 410.

148. *C. BULBIFERA* Cr. Billacombe, Harford, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 20, 1913; Millbrook, S. Hants., 11, J. F. RAYNER.

157. *ALYSSUM INCANUM* L. (*FARSETIA*) Alien. Herts., 20, H. F. HAYLLAR; King's Lynn, Norfolk, 28, Rev. E. BRACKENBURY; Market Bosworth, Leicester, 55, W. B. HARRIS, ex A. R. HORWOOD; Lunan, Forfar, 90, R. & M. CORSTORPHINE.

162. *DRABA MURALIS* L. Alien. Gaywood, 28, *Fl. Norf.*; Selkirk, 79, *Proc.* vii., 354.

164. *EROPHILA PRAECOX* DC. Hunstanton, 28, *Fl. Norf.*; Askham, L. Lancs., 69 b, D. LUMB; Sands of Barry, Forfar, 90, R. & M. CORSTORPHINE, in *Rep. B.E.C.*, 119, 1914.

169. *COCHLEARIA MICACEA* E. S. MARSHALL. Ben Vorlich, Dumbarton, 99, E. S. MARSHALL, in *Journ. Bot.*, 159, 1915.

170. *C. GROENLANDICA* L. Boddin, Forfar, 90, R. & M. CORSTORPHINE, in *Rep. B.E.C.*, 119, 1914.

172. *C. DANICA* L. South of Fast Castle, Berwick, 81, *Proc.* xi., 205; Dunbar Castle, Haddington, 82, *Proc.* viii., 8.

184. *SISYMBRIUM ALTISSIMUM* L. Alien. Hoddesdon, Herts., 20, H. F. HAYLLAR; Col Fen, Cambridge, 29, Miss NEILD, vide sp.; Chester, 58, C. WATERFALL, vide sp.

188. *S. IRIO* L. Alien. Swaythling, Millbrook, S. Hants., 11, J. F. RAYNER.
208. *BRASSICA RAPA* L., var. *BRIGGSII* Wats. Lunan, Forfar, 90, G. C. DRUCE.
224. *B. INCANA* Doell. Alien. Galashiels, Selkirk, 79, Miss I. M. HAYWARD, vide sp.
227. *DIPLOTAXIS MURALIS* DC., forma *BABINGTONII* (Syme as var.) Druce. Barrow-in-Furness, L. Lancs., 69 b, 1912, D. LUMB.
233. *SENEBIERA DIDYMA* Sm. Yarmouth, 27, *Fl. Norf.*; Rutland, 55 b, Earl of GAINSBOROUGH, in *lit.*; Arbroath, Forfar, 90, R. & M. CORSTORPHINE and G. C. DRUCE.
239. *LEPIDIUM PERFOLIATUM* L. Alien. Ware, Herts., 20, H. F. HAYLLAR.
240. *L. RUDERALE* L. Alien. Great Bedwyn, Wilts., 7, C. P. HURST.
- 240 (2). *L. NEGLECTUM* Thell. Hastings, Sussex, 14, A. G. GREGOR, in *Rep. Wats. Exch. Club*, 432, 1913-14.
247. *L. VIRGINICUM* L. Millbrook, S. Hants., 11, J. F. RAYNER; Oxford, 23, G. C. DRUCE.
252. *IBERIS AMARA* L. Pomphlett, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 20, 1913.
255. *HUTCHINSIA PETRAEA* Br. Harford, S. Devon, 3, H. SMITH, *l.c.*
258. *VOGELIA* (*NESLIA*) *PANICULATA* Horn. Alien. Haslemere, Surrey, 17, J. LAMB, vide sp.; Colchester, 19, G. C. BROWN.
284. *RESEDA LUTEA* L. Bowden Burn, Roxburgh, 80, *Proc.* xi., 339; Springhill, Berwick, 81, *Proc.* x., 253.
294. *VIOLA RIVINIANA* Reichb., f. *PSEUDO-MIRABILIS* (Coste). Wychwood, Oxon., 23, 1915, Hon. Mrs G. BARING, vide sp.; Forest Rock, Leicester, 55, A. R. HORWOOD, in *lit.*

296. *V. CANINA* L., var. *LANCEOLATA* Martl.-Don. Dunsford, S. Devon, 3, Miss C. L. PECK.

var. *PUSILLA* Bab. Trearndur Bay, Anglesey, 52, Earl of GAINSBOROUGH, fide Mrs GREGORY.

297. *V. LACTEA* Sm., var. *INTERMEDIA* Wats. Bovey Heathfield, S. Devon, 3, Miss C. E. LARTER, in *lit.*

300. *V. CALCAREA* Greg. Newhall, Rutland, 55 b, A. R. HORWOOD.

339. *SILENE CONOIDEA* L. Alien. Ware, Herts., 20, H. F. HAYLLAR, vide sp.

340. *S. NOCTIFLORA* L. Kelso, Roxburgh, 80, *Proc.* vii., 251.

341. *S. DICHOTOMA* Ehrh. Near Lichfield, Staffs., 39, June 1915, Sir ROGER CURTIS, Bart., vide sp.

344. *S. QUINQUEVULNERA* L. Alien. Sheringham, Eaton, 27, *Fl. Norf.*; Cromer, 27, F. ROBINSON.

354. *S. NUTANS* L. Alien. A plant found near the path between Selcroft and Cliffe Road, Riddlesdown, Surrey, 17, *Croydon Nat. Hist. Soc.* viii., 28, 1915.

367 (2) *CERASTIUM TOMENTOSUM* L. Alien, Europe. Garden out-cast near Chadlington, Oxon, 23, May 1915; Lunan Bay, Forfar, 90, August 1915, with R. & M. CORSTORPHINE, on site of an old garden, G. C. DRUCE.

373. *C. SEMIDECANDRUM* L. Askham, L. Lancs., 69 b, D. LUMB, in *Rep. B.E.C.*, 127, 1915.

377. *STELLARIA AQUATICA* Scop. Denholm Dean, Roxburgh, 80, *Proc.* xvi., 66, 1896; Woodhall, Haddington, 82, *Proc.* ix., 219, vide sp.

378. *S. NEMORUM* L. Monteviot, Roxburgh, 80, June 1915, G. J. TALBOT, vide sp. Gives personal authority for v.-c. 80.

382. *S. DILLENIANA* Moench. Near Middleton, N. Essex, 19; Yarnton, Oxon, 23, but in small quantity; near Abingdon, in St.

Neot's Meadow, Berks., 22, June 1915, N.C.R. In each case growing with, but much rarer than, the var. *PALUSTRIS* (Retz.) Druce, G. C. DRUCE.

392. *ARENARIA LEPTOCLADOS* Guss. 27, 28, *Fl. Norf.*; Ketton, Rutland, 55 b, A. R. HORWOOD.

407. *SAGINA MARITIMA* Don. St Abbs, Berwick, 81, *Proc.* xiv., 401.

412. *SPERGULARIA MEDIA* Presl. Mouth of the Tyne, Haddington, 82, *Proc.* vii., 364.

418. *CLAYTONIA SIBIRICA* L. Alien. Near Hanchurch, &c., Staffs., 39, W. L. B. RIDGE.

421. *MONTIA FONTANA* L. (*M. LAMPROSPERMA* Cham.) Near Ballyvaughan, Co. Clare, May 1915, P. B. O'KELLY, vide sp.; Esthwaite, L. Lancs., 69 b, G. C. DRUCE; Eskhause, Cumberland, 70, Prof. BULLOCK, vide sp.

421 (2). *M. VERNA* Neck. Barnsdal, Rutland, 55 b, Earl of GAINSBOROUGH.

430. *HYPERICUM MONTANUM* L. Bedford Purlieus, Northants., 32, N.C.R., G. CHESTER, in *lit.*; Tolethorp Oaks, Rutland, 55 b, N.C.R., Earl of GAINSBOROUGH, in *lit.*, and vide sp. Both interesting additions to the respective counties.

438. *H. LINARIIFOLIUM* Vahl. Trearrdur Bay, Anglesey, 52, Earl of GAINSBOROUGH, ex A. R. HORWOOD.

452. *MALVA NICEENSIS* All. Alien. Belgrave, Leicester, 55, G. E. MERCER, ex A. R. HORWOOD.

463. *TILIA PLATYPHYLLOS* Scop. Stokenchurch Wood, Oxon., 23; a locality given by Bobart in *Ray Syn.*, 336, 1690, where the var. *corallina* Aiton was afterwards described. Planted near Kenmore, Mid-Perth, 88, G. C. DRUCE.

475. *GERANIUM VERSICOLOR* L. Isle of Wight, 10, Miss STONE; near Isfield, Sussex, 14 (as *lancastrienne*), Rev. C. GAUNT, 1859, vide sp.

477. *G. SYLVATICUM* L., sub-var. *ROSEUM* mihi (var. *WANNERI* auct. ang.). Torwoodlee Woods, Selkirk, 79, growing with the type, Miss I. M. HAYWARD. This appears to differ only in the flowers being pink, with darker striations, instead of purple as in the type, a somewhat analagous case to that of the var. *lancastricense* of *G. sanguineum*. A form of *G. sylvaticum*, if not a hybrid with *G. pratense*, having broader petals, &c., occurs in Glen Isla, Forfar, 90, G. C. DRUCE.

479 (2). *G. ENDRESSI* Gay. Alien. Island at junction of Till and Tweed, Berwick, 81, 1914, Miss I. M. HAYWARD; near Melrose, Roxburgh, 80, Mrs DRUMMOND; Haslemere, Surrey, 17, Mr J. LAMB, vide sp.

481. *G. PYRENAICUM* Burm. f. Near Lowlynn, Cheviot, 68, *Proc.* xii., 394; Tyne, E. Linton, Haddington, 82, *Proc.* xx., 187.

487. *G. LUCIDIUM* L. 27, 28, *Fl. Norf.*

493. *ERODIUM MARITIMUM* Aiton. Goswick, Cheviot, 68, *Proc.* xv., 239, 1895.

510. *IMPATIENS NOLI-TANGERE* L. Alien. Winchester, 12, Canon VAUGHAN; Uppingham, Rutland, 55 b, A. R. HORWOOD.

513. *I. GLANDULIFERA* Royle. Near Cark, L. Lancs., 69 b, G. C. DRUCE; Llanfairfechan, Carnarvon, 49, Miss BOURNE, 1915, vide sp.; Tweed Mill Islands at Tillmouth, Berwick, 81, Miss I. M. HAYWARD.

517. *EUONYMUS EUROPAEUS* L. Pressmennan, Haddington, 82, *Proc.* x., 470.

520. *STAPHYLEA PINNATA* L. Longleat, Wilts., 8, doubtless planted, May 1915, G. C. DRUCE.

531. *LABURNUM ANAGYROIDES* Med. Seedlings at Hertford, 20, Miss TROWER and G. C. DRUCE; gravel pit at Abingdon, Berks., 22, June 1915, G. C. DRUCE.

539. *ULEX MINOR* Roth. Docking, &c., 28, *Fl. Norf.*

544. *ONONIS SPINOSA* L. Clipsham Quarries, Rutland, 55 b, A. R. HORWOOD.

562. *MEDICAGO FALCATA* L. Alien. Millbrook, S. Hants, 11, J. F. RAYNER.

568. *M. RUGOSA* Desr., var. Alien. Belgrave, Leicester, 55, G. E. MERCER, ex A. R. HORWOOD.

581. *M. MINIMA* Bart. Alien. Par, Cornwall, 1, C. C. VIGURS.

597. *MELILOTUS INDICA* All. Chilton, Bucks., 24, Countess FORTESCUE, 1915; Roydon, Herts., 20; Yardley Gobion, Northants., 32, 1915, G. C. DRUCE; Montrose, Forfar, 90, G. C. DRUCE.

599. *TRIFOLIUM PRATENSE* L., var. *LEUCOCHRACEUM* Asch. and Prantl. Near Herts., 20, 1915, Miss TODD, vide sp.

605. *T. LAPPACEUM* L. Alien. Bristol, 1915, H. GREEN, vide sp.; Kingston, Notts., 56, A. R. HORWOOD.

618. *T. SCABRUM* L. Yetholm, Roxburgh, 80, *Proc.* xx., 209, 1908.

622. *T. RESUPINATUM* L. Alien. Whyte Gravel Pit, Chichester, W. Sussex, 13, Rev. Preb. BURDON, in *lit.*

635. *T. AGRARIUM* L. Alien. Croydon Hall, Somerset, 5, A. H. WOLLEY-DOD, in *Journ. Bot.* 123, 1915.

651. *GALEGA OFFICINALIS* L. Alien. Riverside, Roydon, Herts., 20, Misses TROWER and G. C. DRUCE; near Little Maplestead, Essex, 19, 1915, G. C. DRUCE.

653. *ASTRAGALUS GLYCYPHYLLUS* L. Stamford Quarries, Rutland, 55 b, Earl of GAINSBOROUGH.

654. *A. ALPINUS* L. In the recorded station, Ben Bhrackie, East Perth, 89, where it is said to rarely or never flower. This year, at the end of July, there was some quantity in fruit and two or three flowering specimens. It is associated with *Oxytropis sericea*. R. & M. CORSTORPHINE and G. C. DRUCE.

656. *A. HAMOSUS* L. Alien. White Hawk Down, Sussex, 1908, T. HILTON. Sent to me as *uncinatus*, but, doubting this determination, I submitted it to Dr Thellung, who thus names it.

666. *CORONILLA VARIA* L. Alien. Millbrook, Highfield, Lymington, S. Hants., 11, J. F. RAYNER; on the railway near Thrupp, Berks., 22, July 1915, H. E. PORTER, vide sp.

667. *C. SCORPIOIDES* Koch. Alien. Ware, Herts., 20, September 1915, Miss TROWER and G. C. DRUCE.

673. *ONOBRYCHIS VICIÆFOLIA* Scop. Manifold Valley, Staffs., 39, *Rep. N. Staffs. Field Club*, 95, 1913-14.

678. *VICIA TENUIFOLIA* Roth. 694. *V. PANNONICA* Crantz. Aliens. Groby, Leicester, 55, Miss RUTH EVERARD, ex A. R. HORWOOD.

687. *V. NARBONENSIS* L. Alien. Ware, Herts., 20. A very robust form, Miss TROWER and G. C. DRUCE.

691. *V. LUTEA* L. Alien. Near Falconbridge, Kent, August 1915, G. TALBOT, vide sp.; Ware, Herts., 20, G. C. DRUCE; Beacham, 28, (?) native, *Fl. Norf.*

709. *LATHYRUS LATIFOLIUS* L. Alien. Millbrook, S. Hants., 11, J. F. RAYNER, in *lit.*

718. *L. HIRSUTUS* L. Alien. Ware, Herts., 20; East Walton, 28, *Fl. Norf.*

720. *L. ANNUUS* L. Alien. Ware, Herts., 20, H. F. HAYLLAR; near Watton, Norfolk, 28, F. ROBINSON.

723. *L. CICERA* L. Alien. September 1915. 724. *L. OCHRUS* L. Alien. 726. *L. APHACA* L. Ware, Herts., 20, Miss TROWER and G. C. DRUCE.

729. *L. MONTANUS* Bernh., var. *TENUIFOLIUS* Garcke. Penhallow, Cornwall, 1, growing with the type, but flowering later. On May 25th, 1915, the type was in good flower, but not the variety. On June 14th the latter was only in flower, while several plants of the type were showing well-developed pods, F. RILSTONE, in *lit.* In

cultivation the narrow-leaved form keeps constant. See Bot. Soc. of London, in *Bot. Mag.* iii., 272, 1839. Dersingham, 28, *Fl. Norf.* The type, Pickworth, Rutland, 55 b, L. M. WHITCHER.

738. *PRUNUS CERASUS* L. In a hedge on the Caerphilly Road, about three miles from Cardiff, Glamorgan, 41, N.C.R., 1915, Miss E. VACHELL, in *lit.*

741. *P. SPINOSA* L., var. *MACROCARPA* Wallr. Twinstead, N. Essex, 19; Hanslope, Bucks., 24, G. C. DRUCE.

744. *SPIRÆA SALICIFOLIA* L. Alien. Glen Isla, Forfar, 90, R. & M. CORSTORPHINE and G. C. DRUCE.

745 (3). *S. DOUGLASII* Hook. Alien. Cheshire, 58, C. WATERFALL.

746. *S. ULMARIA* L., var. *DENUDATA* Wallr. Locally abundant in the ash grounds, Twinstead, N. Essex, 19, G. C. DRUCE.

748. *RUBUS IDÆUS* L., var. *OBTUSIFOLIUS* (Willd.) (R. LEESII Bab.). Black Den, Forfar, 90, abundant, August 1915, R. & M. CORSTORPHINE and G. C. DRUCE.

750. *R. NESSENSIS* And. Eastney Park, Herts., 20, 1915, Miss TROWER and G. C. DRUCE.

756. *R. AFFINIS* W. and N. The Moors, Alphamstone, N. Essex, 19, G. C. BROWN.

788. *R. SILVATICUS* W. & N. Badby, Northants., 32, L. CUMMING, in *Rep. B.E.C.*, 138, 1914.

802 (2). *R. MACROTHYRSOS* Lange. Bladon, Oxon., 23, G. C. DRUCE.

821. *R. DREJERI* Jensen. Bladon, Oxon., 23, G. C. DRUCE.

822. *R. LEYANUS* Rogers. Bladon, Oxon., 23, G. C. DRUCE.

832. *R. PODOPHYLLUS* P.J.M. Moira, Leicester, 55, S. A. TAYLOR, ex A. R. HORWOOD.

845. *R. SCABER* W. & N. Badby, Northants., 32, L. CUMMING, in *Rep. B.E.C.*, 139, 1914.

851. *R. PURCHASIANUS* Rogers. Crowell, Oxon., 23, Rev. D. O. ADAMS (with some slight doubt).
855. *R. HOSTILIS* M. & W. Oakmere, Cheshire, 58, A. H. WOLLEY-DOD and E. S. MARSHALL, in *Journ. Bot.*, 113, 1915.
860. *R. MARSHALLI* F. & R., var. *SEMIGLABER* Rogers. Tiptree Heath, N. Essex, 19, G. C. BROWN.
866. *R. HIRTUS* W. & K., var. *FLACCIDIFOLIUS* (P.J.M.) Owston, Leicester, 55, S. A. TAYLOR, ex A. R. HORWOOD.
872. *R. DUMETORUM* W. & N., var. *FEROX* Weihe. Uppingham, Rutland, 55 b, A. R. HORWOOD.
875. *R. BALFOURIANUS* Blox. Great Bromley, Essex, G. C. BROWN.
878. *R. SPECTABILIS* Pursh. Near Colliston, Forfar, 90, R. & M. CORSTORPHINE. Quite naturalised and seeding freely.
- 878 (3). *R. PARVIFLORUS* Nuttall (*NUTKANUS* Moç.). Near Colliston, Forfar, 90, R. & M. CORSTORPHINE. Quite naturalised.
879. *R. SAXATILIS* L. Aikengall, Haddington, 82, *Proc.* xiii., 316.
880. *R. CHAMAEMORUS* L. Lammermoors, Berwick, 81, *Proc.* x., 24.
883. × *GEUM INTERMEDIUM* Ehrh. Longleat, Wilts., 8. With this occurred a deep crimson-petalled form of *G. rivale*, G. C. DRUCE; Stoke Holy Cross, 27, *Fl. Norfolk.*; Twinpole Wood, Rutland, 55 b, A. R. HORWOOD.
885. *FRAGARIA MOSCHATA* Duchesne. Wakefield Lawn, Northants., 32. A sub-female form which sets no fruit, G. C. DRUCE.
886. *F. VESCA* L., var. *BERCHERIENSIS* Druce. Near Thompson, W. Norfolk, 28, G. C. DRUCE and F. ROBINSON.
893. *POTENTILLA HIRTA* L. Alien. Near Herts., 20, H. F. HAYLLAR.
896. *P. INTERMEDIA* L. Alien. Ware, Herts., 20, G. C. DRUCE and H. F. HAYLLAR; near the old gateway of Llanthony Abbey, Gloucester, A. S. MONTGOMRY, in *lit.* and vide sp.

902. *P. PROCUMBENS* Sibth. Clipsham Great Wood, Rutland, 55 b, A. R. HORWOOD.

902. *P. PROCUMBENS* × *REPTANS* = × *P. MIXTA* Nolte. Millook, E. Cornwall, 2, G. C. DRUCE.

906. *P. NORVEGICA* L. Alien. Millbrook, S. Hants., 11, J. F. RAYNER.

909. *ALCHEMILLA PRATENSIS* Schmidt. Near Tring, Herts., 20; Bucks., 24, G. C. DRUCE.

909. *A. ALPESTRIS* Schmidt. Near Bath, R. C. ALEXANDER, in *Hb. Edin.* A form intermediate between this and *minor*, Kenmore, Mid-Perth, 88, G. C. DRUCE.

909. *A. MINOR* Huds. (*FILICAULIS.*) Greetham Westwood, Rutland, 55 b, A. R. HORWOOD.

914. *AGRIMONIA ODORATA* Mill. Charterhouse, near Blackdown, Farrington Gurney, N. Somerset, 6, H. S. THOMPSON, in *Journ. Bot.*, 280, 1915.

923. *ROSA ARVENSIS* Huds. Newton Don, Berwick, 81, *Proc.* xiv., 232.

936. *R. MICRANTHA* Sm. Newhall Wood, Rutland, 55 b, A. R. HORWOOD.

943. *R. VILLOSA* L. (*MOLLIS.*) Holme, 28, *Fl. Norf.*

961. *PYRUS ARIA* Ehrh., var. *RUPICOLA* Syme. Moorley Hill, Leicester, 55, A. R. HORWOOD.

966. *CRATAEGUS OXYACANTHA* L., or *C. MONOGYNA* Jacq., var. *SPLENDENS* Druce. Near Hanslope, Bucks., 24; Twinstead, N. Essex, 19, G. C. DRUCE; Whetstone, Leicester, 55, A. R. HORWOOD.

var. *LACINIATA* (Wallr.). Near Castlethorpe, Bucks., 24, G. C. DRUCE.

967. *C. OXYACANTHOIDES* Thuill. Uppingham, Rutland, 55 b, A. R. HORWOOD; Melmerby, Cumberland, 70, C. WATERFALL, in *Rep. B.E.C.*, 143, 1914.

var. *ERIOCALYX* Druce. Thurnby, Leicester, 55, A. R. HORWOOD.

972. *COTONEASTER MICROPHYLLA* Wallich. On Yew Barrow, Furness Fells, altitude 600 feet, covering the steep-rock face for 50 feet square. Some of the branches are nearly half an inch thick; the nearest road is more than half a mile away, and there is no house near. L. Lancs., 69 b, June 1915, W. H. PEARSALL, in *lit.*

973. *AMELANCHIER CANADENSIS* Med. Alien. Near Lane End, Bucks., 24; wood near Ascot, Berks., 22, May 1915, G. C. DRUCE.

981. *SAXIFRAGA HYPNOIDES* L. Liddesdale, Roxburgh, 80, *Proc.* xv., 234, 1895.

982. *S. GRANULATA* L. Harford, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914.

988. *S. STELLARIS* L. Liddesdale, Roxburgh, 80, *Proc.* xv., 234, 1895.

989. *S. UMBROSA* L. Alien. Ravine near Marsh Hall, Staffs., 39, W. L. B. RIDGE, in *Rep. N. Staffs. Field Club*.

1010. *SEDUM FABARIA* Koch. In a barley field, Twinstead, N. Essex, 19, N.C.R., September 1915, G. C. DRUCE.

1023. *S. STOLONIFERUM* Gmelin. Alien. Quarry near Arbroath, Forfar, 90, July 1915, quite naturalised. Shown me by R. and M. CORSTORPHINE.

1024. *S. VILLOSUM* L. Shippeth Dean, Haddington, 82, *Proc.* xx., 272, 1908.

1032. *MYRIOPHYLLUM SPICATUM* L. 27, *Fl. Norf.*

1039. *CALLITRICHE INTERMEDIA* Hoffm., var. *ANGUSTIFOLIA* (Hoppe). In a small piece of water on the shoulder of Ben Lawers, Mid-Perth, 88, Miss TODD, vide sp.

1042. *PEPLIS PORTULA* L. Bass Rock, Haddington, 82, *Proc.* vii., 15.

1047. *EPILOBIUM HIRSUTUM* × *MONTANUM* = × *E. ERRONEUM* Haussk. Near *hirsutum* in foliage, but with small flowers, Kilsby, Northants., 32, 1914, L. CUMMING, vide sp.

1047. *E. HIRsutUM* L., forma *GLABRESCENS*. Upper surface of leaf shining, glabrescent. Bladon, Oxon, 23, August 1915, G. C. DRUCE.

1048. *E. PARVIFLORUM* × *ROSEUM* = *E. PERSICINUM* Reichb. Elsfield, Oxon, 23, with both parents, July 1915, G. C. DRUCE.

1049. *E. TETRAGONUM* × *PARVIFLORUM* = *E. WEISBURGENSE* F. Schultz, with both parents, Bladon, Wood, Oxon, 23, July 1915, G. C. DRUCE.

1049. *E. TETRAGONUM* L. 27, 28, *Fl. Norf.*

1052. *E. ROSEUM* Schreb. Exton, Rutland, 55 b, Earl of GAINSBOROUGH; Arbroath, Forfar, 90, 1915. There growing with *montanum* and affording *E. roseum* × *montanum* = *E. hetero-caule* Borbas, G. C. DRUCE.

1053. *E. LANCEOLATUM* Seb. & Maur. Alien. Garden weed, Galashiels, Selkirk, 79, Miss I. M. HAYWARD.

1054. *E. MONTANUM* × *PARVIFLORUM*. Melton Spinney, Leicesters, 55, A. R. HORWOOD.

1057. *E. PALUSTRE* L. Exton, Rutland, 55 b, Earl of GAINSBOROUGH.

1058. *E. NUMMULARIFOLIUM* Cunn. Alien. Near Uckfield, Sussex, 14, July 1915, H. ROBERTS, *vide* sp.

1061. *OENOTHERA BIENNIS* L. Lymington, S. Hants., 11, J. F. RAYNER; Shawford, S. Hants., 11, *Winton Nat. Hist. Rep.*; Ruckley, near Shifnal, Salop, 40, 1890, Prof. BULLOCK, *vide* sp.

1065. *OE. ODORATA* Jacq. Alien. Galashiels, Selkirk, 79, Miss I. M. Hayward. This is put as a sub-species of *Oe. mollissima* L. in Thellung *Fl. Adv. Montpel.*, 390, 1912.

1070 (3). *OE. LONGIFOLIA* Jacq. Alien. Millbrook, S. Hants., 11, J. F. RAYNER.

1073. *CIRCÆA ALPINA* L. Windermere, L. Lancs., 69 b, G. C. DRUCE.

1087. *SMYRNIUM OLUSATRUM* L. Jedburgh, Roxburgh, 80, *Proc.* vi., 196.
1102. *AMMI VISNAGA* L. Bristol, 6, 1915, T. H. GREEN, vide sp.
1109. *PRIONITIS FALCARIA* Dumort. (*FALCARIA RIVINI* Host.). Alien. Near Sibford, on a dry bank by the roadside, Oxon., 23, 1915, JOSHUA LAMB, vide sp.
1127. *ANTHRISCUS SCANDIX* Beck. = *A. VULGARIS* Pers. Gala-shiels, Selkirk, 79, 1914, Miss I. M. HAYWARD, vide sp.
1132. *OENANTHE AQUATICA* Poir. Wood Head, Rutland, 55 b, A. R. HORWOOD.
1138. *OE. FISTULOSA* L., var. *TABERNÆMONTANI* (Gmel.) DC. Abingdon, Berks., 22, 1915, G. C. DRUCE.
1171. *CAUCALIS LATIFOLIA* L. Alien. Ware, Herts., 20, H. F. HAYLLAR, vide sp.
- 1175 (3). *CORNUS ALBA* Willd. Alien. Several bushes in a hedge far away from any house, near the estuary of the Dyenwy, Towyn, Merioneth, 48. A. LEY, in *Rep. Bot. Rec. Club*, 41, 1875.
1178. *SAMBUCUS NIGRA* L., var. *LACINIATA* L. Near Eshton Hall, Gangrave in Craven, Yorks, 1915, Miss LINDSAY; in Torwoodlea Wood, Selkirk, 79, Miss I. M. HAYWARD, 1915, vide sp.
1179. *S. EBULUS* L. Wood border, Marten, S. Wilts., 8, C. P. HURST.
1182. *SYMPHORICARPOS RACEMOSUS* Michx. Alien. Plentiful as an undergrowth in woods near Tring, Herts., 20; Bucks., 24; Kenmore, Mid-Perth, 88, G. C. DRUCE.
1183. *LINNAEA BOREALIS* L. Gattonside, Wooden Hill, Roxburgh, 80, *Proc.* xvii., 198, 1900.
1194. *GALIUM ERECTUM* Huds. Shacklewell, Rutland, 55 b, A. R. HORWOOD.
1201. *G. TRICORNE* Stokes. Barrow, L. Lancs., 69 b, W. H. PEARSALL.

1202 (2). *ASPERULA GALIOIDES* M. Bieb. (*G. GLAUCUM* L.), *A. GLAUCA* Bess., var. *GALIOIDES* (*Bieb. Fl. Taur. Cauc.* i., 101). Thames Side, Hampton Court, Middlesex, 21, *Rep. Bot. Rec. Club*, 17, 1874; 258, 1877.

1210. *A. ARVENSIS* L. Alien. Near Welbeck, Notts., 56, Mrs DRUMMOND, 1915, vide sp.; Colchester, 19, G. C. BROWN.

1215. *VALERIANA OFFICINALIS* L. 27, *Fl. Norf.*; Clipsham Wood, Rutland, 55 b, A. R. HORWOOD.

1222. *VALERIANELLA OLITORIA* Poll., var. *LASIOCARPA* Reichb. Biddesden, Wilts., 7, July 1915, Hon. Mrs G. BARING, vide sp.

1226. *V. RIMOSA* Bast. Hitchin, Herts., 20, Miss TODD, vide sp.

1229. *DIPSACUS SYLVESTRIS* Huds. Coldstream, Berwick, 81, *Proc.* iii., 218.

1244 (3). *SOLIDAGO SEROTINA* Ait. Alien. Islet in Tweed, Dryburgh, Roxburgh, 80, Miss I. M. HAYWARD.

1249. *CALLISTEMMA CHINENSIS* (L.) Druce (vice *C. HORTENSIS* Cass.). Alien. Roxburgh, 80, Miss I. M. HAYWARD.

1255. *ASTER NOVI-BELGII*. Alien. Millbrook, S. Hants., 11, J. F. RAYNER; Brechin, Forfar, 90, R. & M. CORSTORPHINE.

1286. *PULICARIA PROSTRATA* Asch. Great Bircham, 28, *Fl. Norf.*

1338. *ANTHEMIS TINCTORIA* L. Alien. Hertford, 20, H. F. HAYLLAR.

1339. *A. NOBILIS* L. Saham Toney, 28, *Fl. Norf.*

1353. *CHRYSANTHEMUM LEUCANTHEMUM* L. A form with the white ray-florets tubular, Worcester, 37, CARLETON REA, vide sp.

1356. *C. SEROTINUM* L. Alien. Waste ground, Hertford, 20; Marston, Oxon., 23; Arbroath, Forfar, 90.

1362. *MATRICARIA SUAVEOLENS* Buch. Roadwater, S. Somerset, 5, A. H. WOLLEY-DOD, in *Journ. Bot.*, 125, 1915; Ware, Herts., 20; King's Lynn Docks, 28, *Fl. Norf.*, Rev. E. B. BRACKENBURY.

1380. *ARTEMISIA BIENNIS* Willd. Alien. Herts., 20, Miss TROWER and G. C. DRUCE.
1386. *PETASITES ALBUS* Gaertn. Alien. Black Den, Forfar, 90, covering acres of ground, and elsewhere in the county; shown me by Mr and Mrs CORSTORPHINE.
1391. *SENECIO DORIA* L. Alien. Marston Brickyards, Oxon., 23, G. C. DRUCE.
1393. *S. AQUATICUS* Hill, var. *DUBIUS* Druce. Near Hambledon, S. Hants., 11, Miss HERSIE BUTLER, vide sp. It has somewhat more deeply cut leaves, and hairy achenes, and may prove to be *S. AQUATICUS* × *JACOBAEA*, but the inflorescence is that of the former species.
1396. *S. SQUALIDUS* L. Plentiful at Bletchley, Bucks., 24, and likely to spread along the L.N.W.R. track, G. C. DRUCE.
1400. *S. SYLVATICUS* L., var. *AURICULATUS* Meyer. Near Dalton, L. Lancs., 69 b, W. H. PEARSALL; the type, Glaston Cover, Rutland, 55 b, A. R. HORWOOD.
1402. *S. CINERARIA* DC. Alien. Sea shore, Christchurch, S. Hants., 11, J. LAMB, vide sp.
1415. *CARLINA VULGARIS* L. Shippeth Dean, Haddington, 82, *Proc.* xvii., 271.
1418. *ARCTIUM LAPPALIA* L. Essendine, Rutland, 55 b, A. R. HORWOOD.
1420. *A. NEMOROSUM* Lej. Kirkby, Leicester, 55; Casterton, Rutland, 55 b; Kingston-on-Soar, Notts., 56, A. R. HORWOOD.
1421. *A. MINUS* Bernh. The Freewood, Rutland, 55 b, A. R. HORWOOD.
1434. *CIRSIIUM PALUSTRE* Scop., var. *FEROX* Druce. Near White Moor, Surrey, 17, G. C. DRUCE.
1445. *SAUSSUREA ALPINA* DC. Newcastleton, Roxburgh, 80, *Proc.* xv., 231, 1895.

1463. *CENTAUREA MELITENSIS* L. Alien. Banbury, Oxon., 23, 1914, J. LAMB, *vide sp.*

1465. *C. CALCITRAPA* L. Alien. Ware, Herts., 20, G. C. DRUCE; Galashiels, Selkirk, 79, Miss I. M. HAYWARD.

1494. *CREPIS BIENNIS* L. Watton, Norfolk, 28, F. ROBINSON; Clipsham, Rutland, 55 b, A. R. HORWOOD. *Crepis biennis* L. is stated in all books on British Botany to which I have access, and particularly in Arnold's *Sussex Flora*, 1907 edition, to be a rare plant in Great Britain, and to be found chiefly on limestone or chalk land. There is no record of it in Arnold from the greensand of the Rother valley between Pulborough and Midhurst, where it must surely have been observed by Mr Marshall when he lived at Graffham if it had been anything like as plentiful then as it is now. This year it is flowering in great profusion all round Midhurst, Selham, and Petworth, on sandy soils, particularly in grass-seeded fields, but also on waste land and road banks. It does not seem to propagate itself in permanent pasture or in the heath lands or wood lands. June 9, 1915, C. C. LACAITA.

1497. *C. CAPILLARIS* Wallr., var. *AGRESTIS* Druce. Newquay, Cornwall, 1, C. C. VIGURS, *vide sp.*; Groby, Leicester, 55, Miss R. EVERARD.

var. *EFFUSA*. Near Kilworth, Leicester, 55, A. R. HORWOOD.

1512. *HIERACIUM AURANTIACUM* L. Alien. Caledowne, Ivy-bridge, &c., S. Devon, 3, H. SMITH, *l.c.* In a field on the edge of a wood between Hughenden and Naphill, Bucks., 24, 1915. Seen there ten years ago by Rev. E. B. BRACKENBURY, in *lit.* Previously found in the County by Mr A. WALLIS.

1535. *H. CENTRIPETALE* F. J. H. Ben Vorlich, Dumbarton, 99, E. S. MARSHALL, in *Journ. Bot.*, 160, 1915.

1574. *H. SUBULATIDENS* Dahlst., var. *CUNEIFRONS* Ley. Moira, Leicester, 55, A. R. HORWOOD.

1595. *H. ANFRACTIFORME* E. S. M. Ben Vorlich, Dumbarton, 99, E. S. MARSHALL, *l.c.*

1600. *H. ACROLEUCUM* Stenstr. Moorely Hill, Leicester, 55, A. R. HORWOOD, in *lit.*

1601. *H. PINNATIFIDUM* Lönnr., var. *VIVARIUM* Lönnr. Swithland, Leicester, 55, W. BELL.

1614. *H. DIAPHANOIDES* Lindb. Moira, Leicester, 55, A. R. HORWOOD.

1641. *HYPOCHÆRIS GLABRA* L. Woodhall Spa, S. Lincoln, 53, A. R. HORWOOD, in *lit.*

1643. *LEONTODON AUTUMNALIS* L., var. *SORDIDA* Bab. Ettrick, Selkirk, 79; Arbroath, Forfar, 90, G. C. DRUCE.

1645. *TARAXACUM LAEVIGATUM* DC. (*ERYTHROSPERMUM*). Uppingham, Rutland, 55 b, A. R. HORWOOD.

1648. *LACTUCA VIROSA* L., var. *INTEGRIFOLIA* Gray. Furness Abbey, L. Lancs., 69 b, G. C. DRUCE.

1652. *L. ALPINA* Benth. Seen in flowering bud in Forfar, 90. Alien; in a sunk fence on the border of a park, probably removed from the shrubbery, with Iris roots, as there are radical leaves of the sow thistle among the shrubs, Wetmore Onibury, Salop, 40, Mrs LUCE, vide sp. et ex W. A. HARFORD.

1662. *TRAGOPOGON ORIENTALIS* L. I brought a root from the railway near Wolvercote, Oxon., 23, which has flowered and seeded in my garden. Dr Thellung refers it to this species, and plants are distributed by me this year. G. C. DRUCE.

1663. *T. PRATENSIS* L., var. *GRANDIFLORA* Syme. Long Ashton, Gloucester. Mrs and NOEL SANDWICH. Florets pale sulphur-yellow, half as long again as phyllaries. The type at Woodhall Spa, S. Lincoln, 53; Ketton, Rutland; 55 b, A. R. HORWOOD.

1672. *CAMPANULA LATIFOLIA* L. West Winch, 28, *Fl. Norf.*; Woodhall, Haddington, 82, *Proc. ix.*, 219.

1673. *C. TRACHELIUM* L. Alcombe, S. Somerset, 5, A. H. WOLLEY-DOD, in *Journ. Bot.*, 127, 1915.

1676. *C. PERSICIFOLIA* L. Alien. Glen Tilt, E. Perth, 89, recorded by F. B. WHITE in *Scot. Nat.*, 301, 1878.

1685. *VACCINIUM MYRTILLUS* × *VITIS-IDAEA* = *V. INTERMEDIUM* Ruthe. Coniston Old Man, L. Lancs., 69 b, Mr PEARSALL, Jun., and R. H. ADAMSON.

1691 (3). *GAULTHERIA SHALLON* Pursh. Alien, N. America. Completely naturalised and seeding freely over a large area of a wood near Leysmill, Forfar, 90; shown me by Mr and Mrs CORSTORPHINE; Poltalloch, Argyll, 98, Prof. SOMERVILLE.

1695. *ERICA TETRALIX* L. Alien. Luffenham, Rutland, 55 b, A. R. HORWOOD.

1707. *PYROLA ROTUNDIFOLIA* L. Prunside Bog, Newcastleton, Roxburgh, 80, *Proc.* xv., 1898.

1709. *P. MINOR* L. I added this to Wigton, 74, in 1882, as I saw it by the Cree. Sir HERBERT MAXWELL writes in *Nature*, 562, 1915, saying it had appeared in what was once Dowalton Loch, in an open space among *Salix caprea*, covering nearly an acre, and its occurrence there is remarkable, as it is not known elsewhere in the vicinity.

1736. *LYSIMACHIA NUMMULARIA* L. Dunglass and Biel, Haddington, 82, *Proc.* ix., 436.

1740. *TRIENTALIS EUROPAEA* L. Aikengall, Haddington, 82, *Proc.* xx., 272, 1908.

1742. *ANAGALLIS FEMINA* Mill. Near Duns, St. Abbs, Berwick, 81, *Proc.* xv., 225, 1896.

1745. *CENTUNCULUS MINIMUS* L. Margins of Esthwaite, L. Lancs., 69 b, August 1915, G. C. DRUCE and W. H. PEARSALL.

1747. *SYRINGA VULGARIS* L. Alien. About Watton, Norfolk, 28. A very frequent ingredient in the hedgerows in this area. F. ROBINSON and G. C. DRUCE.

1751. *VINCA MINOR* L. Near Stockwell Hall, S. Essex, 18, Hon. Mrs SAVILE; Clanfield, S. Hants., 11, Miss DRUMMOND and

Miss H. BUTLER ; Twinstead, N. Essex, 19, G. C. DRUCE. Looking native in all three places.

1757. *CENTAURIUM RAMOSISSIMUM* (Pers. as *ERYTHRAEA*) Druce = *C. PULCHELLUM*. This requires to be confirmed for the vice-counties, Som. S., 5 ; Worcester, 37, ? extinct ; Carnarvon, 49 ; and Flint, 51.

1763. *GENTIANA AMARELLA* L. Between Tay and Tummel, Mid-Perth, 88, Miss TODD, vide sp.

var. *PRAECOX* Raf. Long Ridge, Wilts., Lady KATHLEEN THYNNE and G. C. DRUCE.

var. *ULIGINOSA* Willd. Golspie, E. Sutherland, 107, G. C. DRUCE.

1765. *G. CAMPESTRIS* L., forma. Small plant, 5 cm. high ; flowers 2 cm. long ; brighter and darker blue than the type, Ben Bhrackie, E. Perth, 89, 1915, G. C. DRUCE.

1777. *POLEMONIUM CAERULEUM* L. Alien. Billacombe, S. Devon, 3, *Trans. Plymouth Field Club*, 18, 1914.

1787. *LAPPULA ECHINATA* Gilib. Alien. Lunan, Forfar, 90, R. & M. CORSTORPHINE and G. C. DRUCE ; Watton, Norfolk, 28, F. ROBINSON.

1789 (3) *BENTHAMIA LYCOPSOIDES* Lindl. (*AMSINCKIA*). Ware, Herts., 20, H. F. HAYLLAR.

1789 (5). *B. INTERMEDIA* Druce. Alien. Ware, Herts., 20, 1915, Miss TROWER and G. C. DRUCE.

1791. *SYMPHYTUM TUBEROSUM* L. Derriford, S. Devon, 3, H. SMITH, *l.c.*, 1913 ; Westacre, 28, *Fl. Norf.*

1801. *ANCHUSA HYBRIDA* Tenore. Alien. Ware, Herts., 20, H. F. HAYLLAR.

1802. *A. AZUREA* Mill. Alien. Croxton, Leicester, 55, A. R. HORWOOD ; Ware, Herts., 20, Miss TROWER.

1810. *ASPERUGO PROCUMBENS* L. Broughton, Lincs., 1701-2, PRYME, J. Britten in *Journ. Bot.*, 310, 1915 ; Ware, Herts., 20, G. C. DRUCE and H. F. HAYLLAR.

1820. *MYOSOTIS COLLINA* Hoffm. Ketton, Rutland, 55 b, A. R. HORWOOD; Dunion, Jedburgh, 80, *Proc.* vi., 292.

1821. *M. VERSICOLOR* Sm., var. *BALBISIANA* (Jord.). Ketton, Rutland, 55 b, A. R. HORWOOD.

1827. *ECHIUM PLANTAGINEUM* L. Millbrook, S. Hants, 11, J. F. RAYNER.

1839. *CUSCUTA EPITHYMUM* Murr. Staffs., 39, *Rep. N. Staffs. Field Club*, 94, 1912-13.

1840. *C. TRIFOLII* Bab. Hedderwick Hill, Haddington, 82, *Proc.* viii., 533.

1853. *LYCIUM HALIMIFOLIUM* Mill. Alien. Penmanshiel, Berwick, 81, *Proc.* iv., 155.

1860. *VERBASCUM PHLOMOIDES* L. Offington by Broadwater, Sussex, 13, October 1836. Correspondence of C. C. BABINGTON.

1862. *V. THAPSUS* L. Trow and Makerston Crags, Roxburgh, 80, *Proc.* ix., 476.

1863. *V. VIRGATUM* Stokes. Alien. Dryburgh, Roxburgh, 80, Miss I. M. HAYWARD.

1866. *V. LYCHNITIS* L. Billacombe, S. Devon, 3, H. SMITH, *l.c.*, 1913.

1877. *LINARIA PURPUREA* Mill. Furness Abbey, L. Lancs., 69 b, G. C. DRUCE.

1886. *L. CYMBALARIA* Mill. On the shingle in large patches, Hayling Island, S. Hants., 11, May 1915, Miss H. BUTLER and G. C. DRUCE.

1893. *SCROPHULARIA ALATA* Gilib. Native, near Shalbourn, N. Wilts., 8, and extending there into Berks., 22. A new record for both counties, in the latter of which I predicted (*Fl. Berks.*, 636) it would occur. Here it hybridises with *S. aquatica*, see *Rep. B.E.C.*, 204, 1915. Its discovery is due to the perseverance of our member,

C. P. HURST; Withington, E. Gloucester, 33, 1915, W. G. GREENWOOD, in *lit.*

1889. MIMULUS MOSCHATUS Dougl. Alien. Bickleigh, Brixton, S. Devon, 3, H. SMITH, *l.c.*, 1914.

1913. VERONICA ALPINA L. This was found by me on Ben Lawers in company with Mr T. F. Richards in 1888 as a solitary specimen. The record was doubted by Mr P. Ewing (*Summit Flora of the Breadalbanes*), who said "I feel confident that this does not occur." It has, however, recently been refound by Mr D. A. Haggart on Ben Lawers, and incidentally shows the danger of making too sweeping assertions. G. C. DRUCE.

1954. RHINANTHUS STENOPHYLLUS Druce. Creech Hill, N. Somerset, 6, E. S. MARSHALL, in *Journ. Bot.*, 128, 1915; Callam Lane, Leicester, 55, A. R. HORWOOD.

var. MONTICOLA Druce. Duns, Berwick, 81; Betty Hill, W. SUTHERLAND, 108; Glen Dole, Forfar, 90, G. C. DRUCE.

1956. R. BOREALIS Druce. Ben Vorlich, Dumbarton, 99, E. S. MARSHALL, in *Journ. Bot.* 160, 1915; Glen Phee, Forfar, 90, plentiful; Farr Sands, sea level, E. Ross, 106, G. C. DRUCE.

1960. MELAMPYRUM HIANIS Druce. Furness, L. Lancs., 69 b, W. H. PEARSALL; Castle Douglas, Kirkcudbright, 73, Miss CHARTERS, ex A. R. HORWOOD; near Blairgowrie, E. Perth, 89, G. C. DRUCE.

1970. OROBANCHE AMETHYSTEA Thuill. Aldeburgh, E. Suffolk, 25, 1913, G. C. DRUCE.

1974. LATHRAEA SQUAMARIA L. Haddington, 82, *Proc.* x., 5.

1976. UTRICULARIA MAJOR Schmid. Restennet, Forfar, 90, R. & M. CORSTORPHINE.

1977. U. OCHROLEUCA Hartm. Near Tummel Bridge, Mid-Perth, 88, R. & M. CORSTORPHINE and G. C. DRUCE.

1989. × MENTHA ALOPECUROIDES (Hull). Twinstead, N. Essex, 19, G. C. DRUCE; Heathpool Lynn, Cheviot, 68, *Proc.* vii., 252, 1874; Tyne, E. Linton, Haddington, 82, *Proc.* xx., 187.

1993. × *M. PIPERITA* (L.), var. *VULGARIS* (Sole). Near Roydon, Herts, 20. Since Linnaeus described it as a species, strictly speaking I suppose his name ought to be in brackets, G. C. DRUCE. Also at Willesley, Leicester, 55, A. R. HORWOOD, in *lit.*

1996. × *M. VERTICILLATA* (Huds.), var. *ACUTIFOLIA* (Sm.). Near Middleton, N. Essex, 19, September 1915, G. C. DRUCE.

1997. × *M. GENTILIS* (L.). Bradford Dene, Cheviot, 68, *Proc. i.*, 65; Primside Mill, Roxburgh, 80, *Proc. i.*, 139.

1999. × *M. RUBRA* (Sm.). Near Little Maplestead, Essex, 19, G. C. DRUCE; near Withington, E. Gloucester, 33, W. J. GREENWOOD, in *lit.*; Caldecote, Cambridge, 29, Miss TODD, vide sp.

2010. *SATUREIA GRANDIFLORA* Scheele. Near the Hotel, Great Langdale, Westmoreland, 29, October 1915; doubtless adventitious, vide sp., ex A. S. MONTGOMRY.

2012. *S. NEPETA* Scheele. Herm, 1915, not seen there for many years, T. W. ATTENBOROUGH, in *lit.*; Lakenham, 27, *Fl. Norfolk*; Clipsham, Rutland, 55 b, A. R. HORWOOD.

2013. *S. ACINOS* Scheele. Oxendean Duns, Berwick, 81, *Proc. vii.*, 300 ("only one locality," *Top. Bot.*).

2016. *CLINOPODIUM VULGARE* L. Pressmennan, Haddington, 82, *Proc. x.*, 470.

2017. *MELISSA OFFICINALIS* L. Alien. Walsingham, Norfolk, 28; Millbeck, Cumberland, 70, 1898, Prof. BULLOCK, vide sp.

2023. *SALVIA PRATENSIS* L. Near Saddlescombe, Sussex, Miss ROBINSON, vide sp.; near Shawford, S. Hants., 11, *Rep. Winch. N. H. Soc.*; Exton, Rutland, 55 b, Earl of GAINSBOROUGH.

2025. *S. NEMOROSA* L. Alien. King's Lynn, W. Norfolk, 28, Rev. E. B. BRACKENBURY, teste Kew.

2031. *S. VERTICILLATA* L. Alien. Caterham, Surrey, 17, Hon. Mrs HANBURY TRACY; Hoddesdon, Herts., 20, Miss TROWER; Millbrook and Netley, S. Hants, 11, J. F. RAYNER.

2039. DRACOCEPHALUM PARVIFLORUM Nuttall. Springfield, Boswell, Chelmsford, A. G. GRIPPER, ex Miss ROBINSON, vide sp.; Roydon, Herts., 20, shown me by Miss TROWER; near Glasgow, 77, A. Webster, vide sp.

2056. × STACHYS AMBIGUA (Sm.) Acre, 27, *Fl. Norf.*

2059. S. ANNUA L. Alien. Hitchin, Herts., 20, J. E. LITTLE; near Lunan Bay, Forfar, 90, 1914, R. & M. CORSTORPHINE.

2064. GALEOPSIS LADANUM L. Near S. Helens, Old Cambus, Berwick, 81, *Proc.* iii., 257.

2069. LAMIUM MACULATUM L. Sutton Courtney, Berks., 22, May 1915, Miss N. LINDSAY and G. C. DRUCE.

2098. PLANTAGO MEDIA L., var. LANCEOLATIFORMIS Druce. Watlington, Oxon., 23; Hambledon, S. Hants., 11, G. C. DRUCE.

2103. HERNIARIA GLABRA L. Dowlaw Dean, Berwick, *Proc.* i., 248, 1841. See also *Ann. Nat. Hist.*, 155, 1842, W. MARSHALL. ? Casual or error.

2110. AMARANTHUS RETROFLEXUS L. Alien. Pyrford, Surrey, 17, Lady DAVY.

2120. CHENOPodium HYBRIDUM L. Pickworth, Rutland, 55 b, Miss WITCHER.

2121. C. URBICUM L. Near Privett, S. Hants., 11, Mrs SANDWICH, in *lit.*

2124. C. ALBUM L., var. PRAEACUTUM (Murr). Oxford, 23, G. C. DRUCE.

2125. C. LEPTOPHYLLUM (Moq.) Coulter. Alien. Sibford, Oxon., 23, J. LAMB, vide sp.; Ware, Herts., 20, G. C. DRUCE.

2127. C. GLAUCUM L. Near Petersfield, S. Hants., 11, Mrs SANDWICH, in *lit.*

2130. C. AMBROSIOIDES L. Alien. Tverton, N. Somerset, 6, T. H. GREEN, vide sp.

2135. *ROUBIEVA MULTIFIDA* Moq. Alien. Bristol, 6, T. H. GREEN, vide sp.

2145. *ATRIPLEX TATARICA* L. Alien. Bristol, 6, T. H. GREEN; Ware, Herts., 20, G. C. DRUCE.

2191. *POLYGONUM CUSPIDATUM* S. & Z. Alien. Millbrook, S. Hants., 11, J. F. RAYNER; Botley, Oxon., 23; Tayside, Kenmore, Mid-Perth, 88, G. C. DRUCE.

2195. *RUMEX MAXIMUS* Schreber. Leaf specimen showing the blade cordate, not attenuated into petiole. Great Bedwyn, N. Wilts., 7, C. P. HURST; at Old Alresford and Easton, N. Hants., 12, G. C. DRUCE.

2195. *R. HYDROLAPATHUM* Huds. Cumberland, 70, *Trans. Cumb. and Westm. Assoc.*, 212, 1883-4; Eshington Park, Shawdon Hall, Cheviot, 68, *Proc.* xii., 177, xix., 1904. ? native.

2210. *R. ACETOSELLA* L., var. *MULTIFIDUS* DC. Alien. Docks, Rotherhithe, W. H. GRIFFIN, vide sp.

2210 (2). *R. SCUTATUS* L. Alien. Roadside, Bowness, Westmoreland, 69, 1898, Prof. BULLOCK, vide sp.

2212. *ASARUM EUROPAEUM* L. Near Frilsham, Berks., 22, discovered by Mr R. H. HOOKER. It grows in some quantity in woodland; there is a tradition of a keeper's cottage being in the vicinity.

2215. *DAPHNE MEZEREUM* L. Alien? Wood near Ivybridge, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914.

2223. *EUPHORBIA PLATYPHYLLOS* L. Colonist. Causton, 27, *Fl. Norf.*; garden weed, Oxford, 23, G. C. DRUCE.

2229. *E. ESULA* L. Alien? Bickleigh, S. Devon, 3, H. SMITH, *l.c.*; Mornhull, near Blandford, Dorset, 9, 1915, Lady DOUIE, vide sp.; on an island in the Tweed, Dryburgh, Roxburgh, 80, 1914, Miss I. M. HAYWARD, vide sp.

2230. *E. CYPARISSIAS* L. On a chalky hill outside Dover, Kent, 16, Miss TODD, 1915, vide sp.; Warren Bottom, widely spread over a distance of quite half a mile, in rough fields far from houses, forming

numerous large patches, near Great Oakley, N. Hants., 12, D. H. SCOTT, vide sp.

2231. *E. PARALIAS* L. Brancaster, 28, *Fl. Norf.*, a solitary record.

2242. *MERCURIALIS PERENNIS* L., var. *OVATA* Mitt. Ravenstone, Leicester, 55, Mrs HATCHETT, ex A. R. HORWOOD.

2246. *ULMUS WHEATLEYI* Hort. Longleat, S. Wilts., 8, G. C. DRUCE.

2246. *U. STRICTA* Lindley. Leicester, 55, A. R. HORWOOD. This, Prof. Henry (*Co. Louth Archaeological Journal*, 1914) says, is native and produces ripe fruit in Brittany. The English Elm, he says, is of Lusitanian origin, having entered England by the Severn Valley, crossing the Cotswolds into the Thames Valley, and southwards to the Isle of Wight. It seeds freely at Aranjuez in Spain, but not in the colder atmosphere of Madrid. It is always reproduced, he says, by suckers in England.

2251. *URTICA PILULIFERA* L. Thetford, 28, *Fl. Norf.*

2253. *PARIETARIA RAMIFLORA* Moench, var. *SIMPLEX* (Bach), comb. nov. Conway Church, Carnarvon, 49, Prof. BULLOCK.

2256. *BETULA TOMENTOSA* Reith (*PUBESCENS*). Copt Oak, Leicester, 55, A. R. HORWOOD.

2263. *QUERCUS CERRIS* L. Planted, Bladon Wood, Oxon., 23, G. C. DRUCE.

2264. *Q. ILEX* L. Seedling plants in shingle, Hayling Island, S. Hants., 11, Miss H. BUTLER and G. C. DRUCE.

2268. × *SALIX ALOPECUROIDES* Tausch. Shawell, Leicester, 55, A. R. HORWOOD.

2269. × *S. VIRIDIS* Fries. Near Wilstone, Bucks., 24, G. C. DRUCE.

2274. *S. SMITHIANA* (Willd.) Bedwyn Brailes, Wilts., 8, C. P. HURST.

2275. \times S. REICHARDTI A. Kern. Near Chadlington, Oxon., 23, G. C. DRUCE.
2276. S. AMBIGUA (Ehrh.) Doell. Worplesdon, Surrey, 17, Lady DAVY.
2279. S. NIGRICANS \times PHYLICIFOLIA. Seascale, L. Lancs., 69 b, D. LUMB and G. C. DRUCE; Glen Dole, Forfar, 90, G. C. DRUCE.
2289. POPULUS CANESCENS Sm. Swaffham, 28, *Fl. Norf.*
2294. P. LAURIFOLIA Ledeb. Alien. Near Sheen, Surrey, 17; Cornbury Park, Oxon., 23, G. C. DRUCE.
2294. P. TACAMAHACCA Mill. Alien. Millbrook, S. Hants., 11, J. F. RAYNER; Sheriff Hales Wood, Salop, 40, Prof. BULLOCK; Seascale, L. Lancs., 69 b, D. LUMB; Ettrick, Selkirk, 79, G. C. DRUCE.
- 2298 (2). VALLISNERIA SPIRALIS L. Alien. Still in great plenty in Reddish Canal, Miss M. TALBOT, vide sp.
2301. MALAXIS PALUDOSA Sw. Roydon, 28, *Fl. Norf.* Not rare in Glen Clova, Forfar, 90; already recorded for Forfar, 90, R. & M. CORSTORPHINE.
2310. GOODYERA REPENS Br. Ramshaw Wood, Cheviot, 68, *Proc. v.*, 279; Ewart Park, Cheviot, 68, *Proc. xvi.*, 255.
2313. CEPHALANTHERA DAMASONIUM Druce. Biddesden, Chute, N. Wilts., 7, Hon. Mrs G. BARING, see *Fl. Wilts.*
2323. ORCHIS USTULATA L. Bovisand, S. Devon, 3; Wembury, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914.
2325. O. LATIFOLIA L. 27, Roydon, 28; *Fl. Norf.*
2326. O. PRAETERMISSA Druce. Luffenham, Rutland, 55 b, A. R. HORWOOD, vide sp.; Gordon Moss, Berwick, 81, *Proc. ix.*, 293.
2331. O. HIRCINA Cr. In a chalk pit near Chichester, W. Sussex, 13, Rev. Preb. BURDON, in *lit.*; on the estate of the Duke of Richmond and Gordon, near Goodwood, W. Sussex, 13, F. BROCK,

see *Gard. Chron.* 77, 108, 122, 1915. It had previously been recorded from Boxley in 1909.

2338. *HABENARIA GYMNADENIA* × *VIRIDIS*. Winchester, S. Hants., 11, first noticed in 1911 and still persisting, R. QUIRK, vide sp.; a most beautiful plant.

2339. *H. ALBIDA* Br. Near Morwick Mill, Cambo, Cheviot, 68, *Proc.* xiii., 287; Gala Park, Selkirk, 79, *Proc.* x., 278; Langton Lees, Berwick, 81, *Proc.* v., 300.

2340. *H. VIRIDIS* Br. Exton, Rutland, 55 b, Earl of GAINSBOROUGH; near Newcastleton, Roxburgh, 80, *Proc.* xvi., 278, 1898.

2353. *HERMODACTYLUS TUBEROSUS* Mill. Stogumber, S. Somerset, 5, E. S. MARSHALL in *Journ. Bot.*, 130, 1915.

2357. *CROCUS ALBIFLORUS* Kit. (*VERNUS* All.). Milverton, S. Somerset, 5, E. S. MARSHALL, *l.c.*

2362. *GLADIOLUS ILLYRICUS* Koch. Naturalised in sandy field, La Grève d'Azette, Jersey, 1915, T. W. ATTENBOROUGH, in *lit.*

2363 (2). *TRITONIA CROCOSMIFOLIA* Nicholson. Alien. Millbrook, S. Hants., 11, J. F. RAYNER; Galashiels, Selkirk, Miss I. M. HAYWARD.

2382. *RUSCUS ACULEATUS* L. Sandriŕgham, 28, *Fl. Norf.* (? planted); apparently quite wild on a hill by the north of Grandtully, Mid-Perth, 88, R. & M. CORSTORPHINE.

2385. *POLYGONATUM MULTIFLORUM* All. In a wood near Tring, 24, new to North Bucks., G. C. DRUCE.

2390. *ASPHODELUS FISTULOSUS* L. Alien. Bristol, 6, T. H. GREEN; Watton, Norfolk, 28, F. ROBINSON, vide sp.

2396. *ALLIUM VINEALE* L. Lochton, Roxburgh, 80, *Proc.* x., 254.

2401. *A. TRIQUETRUM* L. Alien. Bickleigh, S. Devon, 3, H. Smith, *l.c.*, 21, 1913.

2403. *A. OLERACEUM* L. Tweedside, Kelso, Roxburgh, 80, *Proc.* vii., 255.

2414. *ORNITHOGALUM NUTANS* L. Near Hughenden, Bucks., 24, H. Clarke, *vide sp.*; in a cultivated field, Milton Lilbourn, Pewsey, Wilts., 7, Miss I. M. HAYWARD, in *lit.*

2418. *FRITILLARIA MELEAGRIS* L. Ovington, Norfolk, 28, F. ROBINSON, in *Rep. B.E.C.*, 163, 1914; also in a wood, 20 feet above water level, near Fairford, Prof. BOULGER, in *Agric. Students' Gazette*, December 1914.

2420. *GAGEA LUTEA* Ker-Gawl. Cheadle, Staffs., 39, Mrs HEYWOOD, in *Rep. N. Staffs. Field Club*, 94, 1912-13.

2429. × *JUNCUS DIFFUSUS* (Hoppe). Crantock Plain, Cornwall, 1, C. C. VIGURS, *vide sp.*; Shacklewell, Rutland, 55 b, A. R. HORWOOD; Tweedside, Selkirk, 79, Miss I. M. HAYWARD, *vide sp.*

2431. *J. BALTICUS* Willd. Lytham, Lancs., 60, E. S. MARSHALL, in *Journ. Bot.*, 91, 1915.

2432. *J. FILIFORMIS* L. Loch Leven Side, Kinross, 85, T. F. FOGGIT, *vide sp.*; a most interesting record, its second Scottish station; [Countess Crag, Redewater, Cheviot, 68, *Proc.* xvi., 261, 1898. ???]

2433. *J. SUBNODULOSUS* Schrank. Shacklewell, Rutland, 55 b, A. R. HORWOOD.

2439. *J. COMPRESSUS* Jacq. Brancaster, Roydon, 28, *Fl. Norf.* I suppose the restricted plant.

2441. *J. TENUIS* Willd. Pathway by the Avon under Leigh Woods, N. Somerset, 6, 1914-15, Mrs SANDWICH, in *lit.*

2442. *J. RANARIUS* Perr. & Song. Seascale, L. Lancs., 69 b, G. C. DRUCE and D. LUMB; Loch Leven, Kinross, 85; Sands of Barry, Forfar, 90, G. C. DRUCE.

2450. *JUNCOIDES (LUZULA) NEMOROSA* Morong (*L. ALBIDA* DC). Alien. Longleat, Wilts., 8, Lady K. THYNNE and G. C. DRUCE, 1915.

2462. SPARGANIUM ERECTUM L. (NEGLECTUM Beeby). 27, *Fl. Norf.*; W. Norfolk, 28; Twinstead, N. Essex, 19; Esthwaite, L. Lancs., 69 b, G. C. DRUCE.
2463. S. RAMOSUM Huds. 27, 28, *Fl. Norf.*
2465. S. NATANS L. (AFFINE). Horning, 27, Stow Bedon, 28, *Fl. Norf.*
2469. ACORUS CALAMUS L. Lynn, Norfolk, 28, Gough's Camden.
2475. WOLFFIA ARRHIZA Wimm. Ashcutt Heath, Brent Knoll, Shapwick, N. Somerset, 6, Mrs SANDWICH, in *lit.*
2478. ELISMA NATANS Buch. Adventitious. Canal, Ashby Oakthorpe, Shackerstone, Leicester, 55, A. R. HORWOOD; Mow Cop, Staffs., 39, W. L. B. RIDGE, in *Rep. N. Staffs. Field Club*, 156, 1914-15. A recent immigrant.
2482. TRIGLOCHIN MARITIMUM L., var. EXANGULARE Reichb. Penpoll Creek, Gannel, Cornwall, 1, C. C. VIGURS, vide sp.
- [2484. SCHEUCHZERIA PALUSTRIS L. Northumberland Coast, ?; Berwick, 81, *Proc.* xii., 395, 1888.]
2485. POTAMOGETON NATANS L. Banff, 94, DICKSON, *Guide*, ex A. BENNETT, in *Journ. Bot.*, 237, 1915. Is this restricted *natans*?
2486. P. POLYGONIFOLIUS Pourr. Notts., 56, CARR, ex *Potamogetons of the British Isles*.
2488. P. COLORATUS Hornem. W. Lancs., 60, WILSON, *l.c.*
2489. P. ALPINUS Balb. L. Lancs., 69 b, W. H. PEARSALL, *l.c.*; Murder Moss, Roxburgh, 80, *Proc.* xix., 263, 1905.
2493. P. HETEROPHYLLUS Schreb. Murder Moss, Roxburgh, 80, *Proc.* xix., 263; Westernness, 97, G. WEST. I saw it near Mallaig in 1907.
2495. × P. NITENS (Web.) Hebrides, 110, DUNCAN, *l.c.*
2497. P. ANGUSTIFOLIUS B. & P. (ZIZII). E. and W. Inverness, 96 and 97, G. WEST, *l.c.*

2498. *P. LUCENS* L. E. and W. Inverness, 96 and 97, G. WEST ; Caithness, 109, D. LILLIE ; Hebrides, 110, WATSON, *l.c.*
2501. *P. PRAELONGUS* Wulf. Warwick, 38, C. WATERFALL ; Radnor, 43, Miss E. ARMITAGE ; N. Aberdeen, 93, J. ROY, *l.c.*
2502. *P. PERFOLIATUS* L. Merioneth, 48, JONES, *l.c.*
2503. *P. CRISPUS* L. Easterness, 96, G. WEST, *l.c.*
2503. × *P. COOPERI* Fryer. Notts., 56, CARR, *l.c.*
2506. *P. OBTUSIFOLIUS* M. & K. Westerness, 97, G. WEST, *l.c.*
2508. *P. PUSILLUS* L. Cardigan, 46, SALTER, *l.c.*
2510. *P. TRICHOIDES* C. & S. Mid-Perth, 88 (White Moss), MATTHEWS, *l.c.*
2511. *P. INTERRUPTUS* Kit. Bedford, 30, SANDERS, *l.c.* Noticed by me in 1877 in that county.
2513. *P. MARINUS* L. Ayr, 75, TRAIL ; Stirling, 86, KIDSTON, *l.c.*
2517. *ZANNICHELLIA PALUSTRIS* L. Pickworth, Rutland, 55 b, A. R. HORWOOD.
2521. *ZOSTERA NANA* L. Blakeney, Norfolk, 28, OLIVER, in *Journ. Ecol.* i., 13.
2531. *ELEOCHARIS ACICULARIS* Br. Swaffham, 28, *Fl. Norf.*
2538. *SCIRPUS CAESPITOSUS* L., var. *GERMANICUS* (Palla). White Moor, Surrey, 17, G. C. DRUCE.
2543. *S. FILIFORMIS* Savi. Holme, 28, *Fl. Norf.*
2547. *ERIOPHORUM PANICULATUM* Druce. Stibbington, Hunts., 31, Rev. M. J. BERKELEY (as *E. pubescens*), *Brit. Fl.* v., 1836.
2569. *CAREX STRIGOSA* Huds. Abundant at Longleat, Wilts, 8. See *Fl. Wilts.*
2570. *C. HELODES* Link. Foxbury, Wilts., C. P. HURST, vide sp. ; Shippeth Dean, Haddington, 82, *Proc. xx.*, 271, 1898.

2573. *C. DISTANS* L. Wilstone, Bucks., 24, G. C. DRUCE; Gun-green, Berwick, 81, *Proc.* vii., 255.
var. *ALPINA* Drejer. Glen Phee, Forfar, 90, G. C. DRUCE.
2575. *C. FULVA* Host. Great Bedwyn, Wilts., 7, C. P. HURST.
2576. *C. FLAVA* L. 28, *Fl. Norf.*
var. *OEDOCARPA* And. Great Bedwyn, Wilts., 7, C. P. HURST.
2576. *C. LEPIDOCARPA* Tausch. Sutton Broad, Norfolk, 27, *New. Phyt.* ii., 322.
2577. *C. OEDERI* Retz. Roydon, 28, *Fl. Norf.*
2588. *C. FLACCA* Schreb., var. *STICTOCARPA* (Sm.) Druce. Glen Phee, Forfar, 90, G. C. DRUCE.
2589. *C. PALLESCENS* L. Shacklewell, Rutland, 55 b, A. R. HORWOOD. The sub-var. *undulata* (Kunze) common in Glen Phee, Forfar, 90, R. & M. CORSTORPHINE and G. C. DRUCE.
2600. *C. ELATA* All. Abundant in the water meadows at Easton, N. Hants., 12, G. C. DRUCE and Miss FRESHFIELD; Esthwaite, L. Lancs., 69 b, W. H. PEARSALL and G. C. DRUCE.
2611. × *C. AXILLARIS* Good. Coquet, Cheviot, 68, *Proc.* viii., 214.
2618. *C. PARADOXA* Willd. Hockham, W. Norfolk, 27, F. ROBINSON, in *Rep. B.E.C.*, 171, 1914. Very abundant there.
2626. *C. RUPESTRIS* Bell. Ben Bhrackie, E. Perth, 89, barren, but unmistakably this species, which is new to this vice-county, G. C. DRUCE.
2632. *PANICUM CRUS-GALLI* L. Alien. Pomphlett, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914.
2639. *SETARIA VIRIDIS* Beauv., var. *MAJUS* Koch. Alien. Hertford, 20, Miss TROWER and G. C. DRUCE.
2640. *S. GLAUCA* Beauv. Alien. Tunbridge Wells, Kent, 16, C. P. HURST, vide sp.

2646. *TRAGUS RACEMOSUS* Scop. Alien. Galashiels, Selkirk, 79, Miss I. M. HAYWARD, vide sp.

2650. *PHALARIS ANGUSTA* Nees. Alien. Bristol, 6, T. H. GREEN, vide sp.

2667. *ALOPECURUS AEQUALIS* Sobol. Near Heckfield, N. Hants., 12. Thought to be extinct in S. Hants., and not previously recorded for the North, G. C. DRUCE, 1915.

2694. *CALAMAGROSTIS CANESCENS* Druce. Wembury, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914; near Dalton, L. Lancs., 69 b, D. LUMB.

2697. *DEYEUXIA NEGLECTA* Kunth. Marsh near Watton, Norfolk, 28, F. ROBINSON, in *Rep. B.E.C.*, 172, 1914.

var. *HOOKERI* (Syme) Druce. Plentiful in a marsh with *Calamagrostis canescens* and *Carex paradoxa*. Mr Robinson showed me this most interesting plant in W. Norfolk, where he was the first to notice it. Mr A. Bennett has named it *Hookeri*, although it differs somewhat in facies from the plant I gathered near Toome Bridge on Lough Neagh. It had not previously been recorded for Britain.

2712. *DESCHAMPSIA FLEXUOSA* Beauv., var. *VOIRLICHENSIS* Melvill. Ben Lawers, Mid-Perth, 88. This differs from *montana* by having two to three florets in the spikelets. I should therefore prefer to call it *forma voirlichensis* (Melv.) G. C. Druce.

2720. *AVENA SATIVA* L. Alien. Millbrook, S. Hants., 11, J. F. RAYNER.

2723. *A. PUBESCENS* L. Blofield, 27, *Fl. Norf.*; Uppingham, Rutland, 55 b, A. R. HORWOOD.

2731 (2). *ELEUSINE AEGYPTIACA* Desf. (*DACTYLOCTENIUM*). Alien. Bristol, 6, T. H. GREEN.

2732. *SIEGLINGIA DECUMBENS* Beauv., var. *LONGIGLUMA*. Surrey, 17, Lady DAVY and G. C. DRUCE.

2737. *CYNOSURUS ECHINATUS* L. Alien. St. George's Hill, Surrey, 17, Lady DAVY, vide sp.

2742. *KOELERIA ALBESCENS* DC. Deal, E. Kent, 15, W. C. BARTON, in *Rep. B.E.C.*, 173, 1914, but requires confirmation.

2750. *MELICA UNIFLORA* Retz. Woodhall, Haddington, 82, *Proc. ix.*, 219.

2762. *POA NEMORALIS* L. Hunstanton, 28, *Fl. Norf.*; Glaston, Rutland, 55 b, A. R. HORWOOD.

2779. *FESTUCA RIGIDA* Kunth. Linhead, Berwick, 81, *Proc. iii.*, 258.

2784. *F. HETEROPHYLLA* Lam. Probably alien. Biddesden, Wilts., 7, Hon. Mrs G. BARING and G. C. DRUCE.

2801. *BROMUS ERECTUS* Huds. Sidestrand, 27, *Fl. Norf.*; Keton, Rutland, 55 b, A. R. HORWOOD.

2827. × *AGROPYRON HACKELII* Druce. Lunan, Forfar, 90. Here *repens*, one of the parents, had a long inflorescence. This character was shown in the hybrid. R. & M. CORSTORPHINE and G. C. DRUCE.

2828. *A. PUNGENS* R. & S. Brancaster, 28, *Fl. Norf.* I have also specimens from Hunstanton in my herbarium. Thames bank, Kew, Surrey, 17, C. E. BRITTON.

2845. *LEPTURUS FILIFORMIS* Trin. Alien. Galashiels, Selkirk, 79, Miss I. M. HAYWARD, *vide sp.*

2850. *HORDEUM MARINUM* Huds. Pomphlett, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club.*

2858. *ELYMUS EUROPÆUS* L. Pease Dene, Berwick, 81, *Proc. xi.*, 206.

2860. *JUNIPERUS COMMUNIS* L. Horning, 27, *Fl. Norf.* Not native.

2872. *EQUISETUM HYEMALE* L. Ditchingham, etc., 27, *Fl. Norf.*

2882. *ASPLENIUM VIRIDE* Huds. Liddesdale, Roxburgh, 80, *Proc. xv.*, 234, 1895.

2886. *A. RUTA-MURARIA* L. Existed till quite recently on the wall of the Friends' Meeting-House, close to Wandle Bridge, Wandsworth, 17, J. E. CLARKE, in *Gard. Chron.*, 21, 1915.

2892. *POLYSTICHUM ANGULARE* Roth. Cawledge Wood, Alnwick, Cheviot, 68; Dunglass Dean, Haddington, 82, *Proc. i.*, 61, 1834.

[2894. *P. LONCHITIS* Roth. Moongee, Whitadder, Berwick, 81, *Proc. x.*, 610?]

2895. *ONOCLEA SENSIBILIS* L. Alien. Near Plemont, Jersey, naturalised, T. W. ATTENBOROUGH, vide sp.

2897. × *DRYOPTERIS ULIGINOSA* (Kuntze). Hickling, 27, *Fl. Norf.*

2898. *D. SPINULOSA* Kuntze. Longleat, Wilts., 7, G. C. DRUCE; near Bedwyn, Wilts., 8, C. P. HURST, vide sp.

2906. *CYSTOPTERIS FRAGILIS* Bernh. Alien. Harleston, etc., 27, *Fl. Norf.*

2911. *CETERACH OFFICINARUM* DC. Renton House, Berwick, 81, *Proc. ix.*, 445.

2917. *HYMENOPHYLLUM PELTATUM* Desv. Newcastleton, Roxburgh, 82, *Proc. xvi.*, 273.

2923. *AZOLLA FILICULOIDES* Lam. Alien. R. Lea, Ware, Herts., 20, Miss TROWER; S. Essex, 18, J. E. LITTLE; Chichester, W. Sussex, 13, Rev. Preb. BURDON.

2931. *LYCOPodium SELAGO* L. Mendips, Somerset, 6, 1915, NOEL SANDWICH.

2951. *CHARA HISPIDA* L. Haweswater, W. Lancs., 60, W. H. PEARSALL.

2952. *C. POLYACANTHA* Braun. With above, W. H. PEARSALL.

NOTES ON THE FLORA OF NORTH LANCs. (69 b)

BY W. H. PEARSALL.

Ranunculus arvensis L., sporadically at Dalton 1915. I had no previous record of it for this area.

The peculiar Batrachian distributed in 1913 [Ref. No. 380] could not be found this year in consequence of the drying up of the ditch.

Fumaria officinalis, var. *minor* Haussk. (teste W. H. Pugsley). "The fruits are rather too broad and truncate, and the flowers have the two outer petals too little dilated about the apex" for *Wirtgeni*.

Tilia platyphyllos Scop., comparatively rare, Sowerby Wood, and also near the eastern shore of Lake Windermere, between Beech Hill and Newby Bridge.

Medicago lupulina L., var. *scabra* Gray, frequent on the limestone at Birkrigg.

Rosa spinosissima L., sand dunes at Askam and Sandscale, and also on the limestone of Hampsfell, Grange.

Drosera anglica Huds., has been recorded for N. Lancs., but I have not seen it during twenty years' field-work, and am of opinion that *D. longifolia* L. has been mistaken for it through hurried or incompetent examination.

I have similarly failed to find *Callitriche palustris* L. (*C. verna* L.) at any of its recorded stations. In Low Water—on Coniston Old Man—the only species I can discover are *C. intermedia* Hoffm. and *C. stagnalis* Scop. In Urswick Tarn I have only met with *C. intermedia* Hoffm.

Circaea alpina L., stony shores at the head of Coniston Lake.

Galium tricornes Stokes, is well established on railway ballast near the Cavendish Dock, Barrow, and this year appeared also at Dalton with *Asperula arvensis* L.—new to the vice-county.

Solidago Virgaurea L.—a form near var. *angustifolia* Gaud., occurs on the shores of Lake Windermere and on one of its islands, Grassholme. Mr Druce agrees—"Nearer this than type, but differs in having more prominent teeth and a broader leaf."

Senecio sylvaticus L., var. *auriculatus* Sm., frequent on railway banks near Woodland and Haverthwaite.

Crepis paludosa Moench, locally common in glens above Hawkshead, and also in Mary Glen, Coniston.

Tragopogon pratensis L., var. *minus* (Mill). The type, which is recorded, I have not yet seen.

The hybrid *Vaccinium Myrtillus* L. × *Vitis-idea* L., was gathered by Mr R. S. Adamson and my son on Coniston Old Man at 2000 feet in 1914.

A fire on the Rusland Moss in the same year nearly destroyed the rare *V. Vitis-idea* L., but I now find the species flourishing in small isolated patches on the most elevated parts of the Moss.

Centunculus minimus L., is rare with us, but may be found on the sandy margins of several of our lakes. Mr Druce and the writer gathered it at Esthwaite Water last August.

Atropa Belladonna L.—Our local habitats have been extensively “raided” in consequence of its enhanced value due to war conditions.

Veronica Anagallis L., var. *anagalliformis* Bor., is the common form in Low Furness along the Gleaston Beck and on Roosecote Moss. It differs from book descriptions in having only the pedicels, the backs of the sepals, and the tops of the fruits glandular.

Lathraea Squamaria L., in flower on the roots of sycamore in Rusland Valley and near the Ferry, Windermere, in several fine colonies last April.

Utricularia major Schmidel, in tarns on Hawkshead Moor and Colthouse Heights. I gathered flowering specimens over 2 feet long in 1914, but this year they are much shorter. Similarly with *U. intermedia* Hayne, var. *ochroleuca* Hartm., in Coniston Lake. It is much less locally luxuriant than usual, and I had some difficulty in finding specimens for Mr Hunnybun. The plants never flower in this habitat, as the water is far too deep. *U. minor* L., frequent in peat-bog drains, but is rarely found many seasons in the same place, as the drains or cuttings so soon become choked with vegetation. The recorded *U. vulgaris* L., I have not yet seen.

Both *Prunella vulgaris* L., Sea Wood, Bardsea, and *Ajuga reptans* L., at Sandscale, are found with pure white flowers.

Plantago media L., is one of many species frequent on the limestone of W. Lancs., as at Silverdale, but absent from the same geological formation a few miles distant in N. Lancs. The same difference is seen in adjacent parts of N. Lancs. itself. The estuary of the R. Leven is crossed by a viaduct having an identical limestone formation at each end. On the E. we get *Helianthemum canum* Baumg., *Galium asperum* Schreb., *Spiraea Filipendula* L., *Spiranthes*

spiralis Koch, *Sestertia caerulea* Ard., and *Orchis pyramidalis* L., but on the same limestone at the western end of this viaduct these species do not occur.

Scleranthus annuus L., is rare with us, but good colonies of it may be seen on stony cart-tracks at Low Hay Bridge and Far Sawrey.

The following Orchids were gathered at Ravensbarrow, near Cark, during 1915 and confirmed by Mr G. C. Druce:—*O. Fuchsii*, *O. O'Kellyi*, and *O. maculata* L., var. *trilobata* Bréb. (see Rouy, xiii., 153). *O. praetermissa* is locally frequent at Ewedale, near Ulverston.

Allium Schœnoprasum L., still flourishes at two stations on Cartmell Fell.

Sparganium ramosum Huds., var. *neglectum* (Beeby), is abundant along the Black Beck supplying Esthwaite Water.

I have given considerable attention to the Pondweeds during recent years, and the following is a list of our N. Lancs. species to date (1915):—

Potamogeton natans L., ubiquitous. *P. polygonifolius* Pourr., common; var. *cordifolius* (Asch. et Graeb.), Woodland Fell; var. *pseudo-fluitans* Syme, Higher Laith Tarn. *P. alpinus* Balb., Esthwaite Water and Blelham Tarn; var. *angustifolius* (Asch. et Graeb.), Rusland. *P. gramineus* L., Windermere Lake; var. *longipedunculata* (Mérat), Esthwaite Water (rare in Europe, common in the Great Lakes of America, especially in Lake Erie). *P. nitens* Weber, R. Leven, below Low Wood Bridge. *P. angustifolius* Presl (= *P. Zizii* Koch), Coniston Lake. *P. lucens* L., Windermere Lake, Coniston Lake. *P. praelongus* Wulf., Windermere Lake, in water up to 24 feet deep; Coniston Lake. *P. perfoliatus* L., Lakes Windermere and Coniston, Esthwaite Water, Blelham Tarn. *P. crispus* L., common; var. *serratus* Huds., Esthwaite Water. *P. obtusifolius* M. & K., Esthwaite Water. *P. pusillus* L., common; var. *tenuissimus* M. & K., Esthwaite Water; var. *Sturrockii* Ar. Benn., Esthwaite Water (this looks like *P. pusillus* × *obtusifolius*, and produces no fruit with us, but Mr. Arth. Bennett informs me that it “produces good fruit in Perthshire and Anglesey.” I found the plant this year in Coniston Lake also); var. *Berchtoldi* (Fieber), High Dam. *P. pectinatus* L., till recently, only near the sea, in Cavendish Dock and Ormsgill Reservoir, Barrow; now also rapidly spreading in Urswick Tarn, a few miles inland. *P. densus* L., Windermere Lake.

Ruppia maritima L., var. *rostellata* (Koch), S. Walney and Rampside.

Zannichellia palustris L., railway ponds near Cavendish Dock, Barrow. *Zannichellia maritima* Nolte, pond near Old Park Wood.

Zostera marina L., var. *angustifolia* Horn., S. Walney.

Najas flexilis R. & S., Esthwaite Water.

Hydrilla verticillata Presl, var. *pomeranica* (Reichb.).

The two last-named species are still growing vigorously in Esthwaite Water, and were seen by Mr G. C. Druce during August 1915. Notwithstanding the reported finding of traces of a flower on one of the plants distributed last year, my son and I, who have critically examined every plant so far collected, are of opinion that the plants do not produce flowers here but propagate solely by means of the winter-buds they so freely produce. This preference for vegetative reproduction is seen also, though to a lesser extent, in the other linear-leaved aquatics of this water—*P. Sturrockii*, *P. obtusifolius*, *P. pusillus*, and *Callitriche autumnnalis*. The *Najas flexilis*—alone of this remarkable association—produces abundant fruits, and is therefore dominant over large areas. During 1915 I carefully examined all the fish-ponds and tarns on the adjacent Colthouse Heights, also Bleham Tarn and that part of Lake Windermere near the mouth of the Cunsey Beck (which drains Esthwaite Water), but no further trace of either *Najas* or *Hydrilla* was discovered.

Scheuchzeria palustris L., is locally abundant round Hawes Water, Silverdale (v.-c. 60), just over our boundary, but extremely rare in similar situations with us. Even more remarkable is the case of *Cladium Mariscus* Br., which grows luxuriantly on the shores of the same tarn, but is entirely absent in the adjoining N. Lancs. area.

Mr D. Lumb and myself have devoted much time to the study of the distribution of the genus *Carex* in North Lancashire, and submit the following list to date (1915). No stations are given for the more common species:—*C. Pseudo-cyperus* L., rare, seen in Roudsea Wood only; *C. acutiformis* Ehrh., *C. vesicaria* L., *C. inflata* Huds.; *C. lasiocarpa* Ehrh., rare, Esthwaite Water; *C. hirta* L. and var. *spinosa* Mort., *C. sylvatica* Huds., *C. helodes* Link, *C. binervis* Sm., *C. distans* L., *C. fulva* Host., *C. flava* L., *C. extensa* Good., *C. caryophyllea* Lat., *C. pilulifera* L., *C. flacca* Schreber, *C. pallescens* L., *C. panicea* L., *C. elata* All.; *C. turfosa* Fries, Lakeside, Windermere Lake; *C. Goodenowii* Gay and var. *juncea* Fr., and var. *stenocarpa* Kük.,

C. leporina L., *C. echinata* Murr., *C. remota* L., *C. canescens* L., *C. vulpina* L.; *C. muricata* L., rare, Rusland, marshy ground near Humphrey Head and moor above Esthwaite Hall; *C. paniculata* L.; *C. diandra* Schrank, infrequent, Urswick Tarn; *C. disticha* Huds., not common, Urswick Tarn and Roudsea Wood; *C. arenaria* L., *C. pulicaris* L., *C. dioica* L. The previous records for *Carex* are very unsatisfactory—often merely the vague localities given in the Westmoreland Note-Book—and we have been unable so far to confirm those for *C. gracilis* Curt., *C. aquatilis* Wahl., or *C. limosa* L.

Among the Ferns, *Osmunda regalis* L., *Ceterach officinarum* DC., *Phegopteris Polypodioides* Fée, and *P. Dryopteris* Fée are becoming more scarce through inexcusable vandalism, but so far the very rare *Asplenium septentrionale* Hoffm. has escaped extinction. I saw half-a-dozen vigorous plants in August last. I have no record for *Dryopteris montana* Kuntze, but it is plentiful on the Hawkshead and Coniston moors.

The Characæ are represented by *Nitella opaca* Ag., *N. flexilis* Ag., *Chara vulgaris* L. (and var. *longibracteata* Kütz), and *C. fragilis* Desv.—all widely distributed and abundant.

NOTES ON THE AQUATIC VEGETATION OF HAWES WATER, SILVERDALE.

BY W. H. PEARSALL.

Hawes Water is situated in the extreme north of the major portion of Lancashire, near the boundary of Westmoreland. It is included in vice-county 60 of *Watson's Topographical Botany*, and the carboniferous limestone district of which it forms part has long been classic ground to workers in natural science.

Through the courtesy and co-operation of Mr. F. W. Smalley of Challan Hall, I recently made a preliminary examination of the aquatic vegetation in the tarn and can report the following species:—*Potamogeton lucens* L. *Potamogeton obtusifolius* M. & K. *Potamogeton Friesii* Rupr. *Hippuris vulgaris* L.; var. *fluviatilis* Web. *Nymphaea lutea* L. *Castalia alba* Wood. *Sparganium minimum* Fr. *Chara vulgaris* L., var. *papillata* Wallr. *Chara fragilis* Desv., sub-sp. *delicatula* Braun. *Chara polyacantha* Braun. *Chara hispida* L., sub-

sp. *rudis* Braun. The Characeæ are in considerable quantity and much encrusted. Mr. J. A. Wheldon informs me that both *C. polyacantha* and *C. hispida* are new to W. Lancs. (v.-c. 60), and that the former is a new record for Lancashire.

LIST OF CASUAL AND ALIEN PLANTS FROM HYTHE QUAY, COLCHESTER, 1911-1914.

By G. C. BROWN.

C.S.R.—On cotton seed refuse. W.G.—On waste ground. Dr.—On dredgings from R. Colne, deposited on Sewage Farm, Hythe Quay.

157. *Alyssum incanum* L.; W.G. 184. *Sisymbrium altissimum* L.; W.G. 209. *Brassica Tournefortii* Gouan; C.S.R. 228. *Eruca sativa* Mill.; C.S.R. 258. *Vogelia paniculata* Hornem.; C.S.R. 268. *Rapistrum rugosum* All.; C.S.R. 269. *R. rugosum* All., var. *Linnaeanum* B. & R.; C.S.R. 273. *Erucaria myagroides* Halac., Ref. No. 716, *Rep. B.E.C.*, 120, 1914; C.S.R. 277. *Raphanus sativus* L., *Rep. B.E.C.*, 451, 1913; W.G. 331. *Saponaria Vaccaria* L. 342. *Silene gallica* L., Ref. No. 120, *Rep. B.E.C.*, 458, 1913; W.G. 456. *Malva parviflora* L.; C.S.R. 564. *Medicago sativa* L.; C.S.R. 571. *M. tribuloides* Desr.; C.S.R. 576. *M. turbinata* Mill.; C.S.R. 579. *M. lappacea* Desr.; C.S.R. 592. *M. sulcata* Desf.; C.S.R. 597. *Melilotus indica* All, Dr. and W. G. 610. *Trifolium stellatum* L.; C.S.R. 622. *T. resupinatum* L.; W.G. 667. *Coronilla scorpioides* (*Ornithopus*); C.S.R. 701. *Vicia peregrina* L.; C.S.R. 721. *Lathyrus Cicera* L.; C.S.R. 726. *L. Aphaca* L. 1090. *Bupleurum rotundifolium* L.; C.S.R. 1101. *Ammi majus* L.; C.S.R. and W.G. 1130. *Foeniculum vulgare* Mill.; C.S.R. and W.G. 1157. *Coriandrum sativum* L. 1166. *Caucalis daucoides* L.; C.S.R. 1201. *Galium tricorne* Stokes; C.S.R. 1210. *Asperula arvensis* L.; C.S.R. 1344. *Anthemis muricata* Guss., for the first time in Britain; C.S.R. 1344. *A. ruthenica* M. Bieb; W.G. 1362. *Matricaria suaveolens* Buch.; C.S.R. 1357. *Chrysanthemum coronarium* L., Ref. No. 628, *Rep. B.E.C.*, 146, 1914; C.S.R. 1399. *Senecio viscosus* L. 1411. *Calendula arvensis* L.; C.S.R. 1425. *Carduus pycnocephalus* L.; C.S.R. 1467. *Centaurea pallescens* Del., forma *hyalo-*

lepis Gugler, Ref. No. 627, *Rep. B.E.C.*, 148, 1914. 1485. *Rhagadiolus edulis* Gaertn.; C.S.R. 1742. *Anagallis foemina* Mill.; C.S.R. 1824. *Lithospermum arvense* L. 2095. *Plantago Lagopus* L., Ref. No. 717, *Rep. B.E.C.*, 157, 1914; C.S.R. 2122. *Chenopodium murale* L.; C.S.R. and W.G. 2251. *Urtica pilulifera* L. (type); C.S.R. 2640. *Setaria glauca* Beauv.; W.G. 2651. *Phalaris canariensis* L.; W.G. and Dr. 2653. *P. minor* Retz.; W.G. 2654. *P. paradoxa* L.; W.G., Dr. and C.S.R. 2718 (2). *Avena sterilis* L.; C.S.R. 2794. *Bromus rigens* L. (*maximus*); C.S.R. 2803. *B. unioloides* H.B.K., *Rep. B.E.C.*, 175, 1914; W.G. 2816. *B. squarrosus* L.; C.S.R.

ALIENS FROM COLCHESTER DISTRICT.

BY G. C. BROWN.

627. *Trifolium hybridum* L., var. *elegans* (Savi), brick pits, Great Bentley. 635. *T. agrarium* L., clover field, West Bergholt. 683. *Vicia varia* Host, cornfield, Virley; brick pits, Great Bentley. 1058. *Epilobium nummularifolium* R. Cunn., var. *pedunculare*, Castle Park, Colchester (introduced with pot plants?). 2636. *Panicum miliaceum* L., Manningtree Station.

ALIENS FROM NOTTS.

At Kingston-on-Soar, *Malva pusilla* With.; *Erodium moschatum* Ait.; *Trigonella caerulea* (L.) Druce; *Trifolium lappaceum* L.; *Poterium polygamum* W. & K.; *Ammi majus* L.; *Sideritis montana* L.; *Plantago indica* L. (*arenaria*); *Amaranthus retroflexus* L.; *Chenopodium Vulvaria* L.; *C. opulifolium* Schrad.; *C. murale* L.; *Hordeum jubatum* L. At Newark, Rev. A. Handel Smith, *Crambe orientalis* L. At Trent Meadows, Notts., *Matricaria decipiens* C. Koch., and 2153 (10), *Oxyria amaranthoides* L.

A. R. HORWOOD, in *lit.*

CORRECTIONS, Etc.

Report 1914, p. 47. In first line, for "*Lesban*," read "*Sesban*."

Report 1914, p. 145. *Pimpinella Saxifraga* L., var., W. C. Barton. Some specimens seem to be *Silcaus pratensis*.

Report 1914, p. 166. For "*Coldisham*," read "*Coldingham*."

Report 1914, p. 168. *Scirpus fluitans* L. The expression, one of our rarest species, refers to the County of Oxford, not to its general occurrence in Britain, where it is widely spread and locally abundant.

For the following I am indebted to the kindness of the United States Department of Agriculture, Bureau of Plant Industry, Washington:—

Report 1913:

- p. 413. ANEILEMA MALABARICUM (L.) Merrill Phillip. Journ. Science Bot. 7, 232, 1912.
- p. 414. ARGANIA SPINOSA (L.) Skeels.
- p. 414 ASPARAGUS ASPARAGOIDES (L.) W. F. Wight Cent. Dict. Suppl. 2339, 1909.
- p. 414. BARRINGTONIA ASIATICA (L.) Kurz Pr. Rep. Pogn. App. A. 65, 1875.
- p. 416. CHIOCOCCA ALBA (L.) Hitchcock Mo. Bot. Gard. Rep. 4, 94, 1893.
- p. 424. SONNERATIA CASEOLARIS (L.) Engler in E. & P. Pflanz. Nacht. i., 26, 1897.
- p. 425. SYZYGIUM CUMINI (L.) Skeels U.S. Dept. Bu. Pl. Ind. Bull. 248, 25, 1912. See *Eugenia Cumini* Druce.

Report 1913, pp. 360 and 475. ARCTIUM NEMOROSUM Lej.

I have carefully read the new note on *Lappa vulgaris* Hill, &c. This divergence of opinion is quite incomprehensible to me. I see only two possible explanations:—

1st. Might the second edition of the *Veg. Syst.* (the only one which is accessible to me) be different from the first? [No.]

2nd. Might there be between English and Swiss botanists a divergence in the distinction and the limitation of the species?

FLORA OF OXFORDSHIRE. The second edition by G. CLARIDGE DRUCE is in preparation, being published by the Clarendon Press, Oxford. Subscription price 15/-.

THE FLORA OF BUCKINGHAMSHIRE by G. CLARIDGE DRUCE is also in preparation by the Clarendon Press. Subscription price 15/-.

PERSONAL NOTES.

MR E. W. HUNNYBUN, 1 Phillippo Avenue, Exmouth, who is making a series of drawings of British plants for the *Cambridge British Flora*, would be much obliged if members would assist him in obtaining some of his *Desiderata*, a list of which, with other information, will be gladly supplied by him. He will defray the cost of transmission and supply tins for the plants.

PROF. J. PERCIVAL, The Pyghtle, Northcourt Avenue, Reading, would be much obliged if members will kindly supply seeds and fruits of British plants. Members willing to assist are asked to communicate with the foregoing member direct.

LADY DAVY, Wintergreen Wood, Pyrford, Surrey, wants fresh specimens of *varieties* of the British orchids.

MRS ADAMS, F.L.S., 14 Vernon Road, Edgbaston, and Miss TROWER, Stansteadbury, Ware, Herts., are painting British plants. Would members who are willing to assist in supplying specimens kindly let them know? The latter specially needs British *Rubi*, named by Rev. W. M. Rogers.

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*.

The Society is greatly indebted to the Director and Staff of the Royal Gardens, Kew, and to the Keeper and Staff of the British Museum Herbarium for much assistance, as well as to our foreign

experts. Mr F. N. Williams, Mr E. D. Marquand, Mr R. H. Corstorphine, and the Rev. F. Bennett have also very kindly rendered assistance.

Members having any spare copies of the *Report* for 1912, or any copies of *Reports* anterior to 1879, are asked to kindly send them to the Secretary, who will defray the cost of transmission.

The Society offers its sincerest condolence to Prof. I. Bayley Balfour and Mrs Balfour on the loss of their only son at the front; his geniality and charm and intellectual attainments marked him out for a brilliant career.

With best wishes,

I am yours very sincerely,

G. CLARIDGE DRUCE.

