THE BOTANICAL SOCIETY AND EXCHANGE CLUB OF THE BRITISH ISLES.

VOL. XIII. PART I.

REPORT FOR 1945

(WITH BALANCE SHEET FOR 1945).

BY

THE HONORARY EDITOR,
A. J. WILMOTT,
Natural History Museum, Cromwell Road, London, S.W.7.
(in the absence of E. C. Wallace on Active Service.)

PRICE 10s.

PUBLISHED BY
T. BURGLE & CO. LTD. MARKET PLACE, ARBROATH.

May 1947.

NOTICE TO MEMBERS

APPLICATIONS FOR MEMBERSHIP

Applications for Membership should be sent to the Hon. General Secretary, Mr J. F. G. Grapple, Yardley Lodge, 9 Crick Road, Oxford.

SUBSCRIPTIONS

Subscriptions should be paid to the Treasurer, Mr J. E. Lousley, at 7 Pensions Road, Streatham Common, S. W.16. Members who have not yet paid their subscription for 1947 are asked to do so without delay.

MATERIAL FOR THE 1947 REPORT

Papers, Plant Notes, Plant Records, etc., should be sent to either of the Honorary Editors before January 31st 1948.

SPECIMENS FOR IDENTIFICATION

Ordinary specimens for identification may be sent to the Hon. General Secretary. Before sending critical material to the Society's Referees (see 1937 Report, 169-173) members should first ascertain from the Referee concerned whether he is in a position to determine specimens, as the list is now inaccurate. A new and revised list is being prepared which, it is hoped, will be published shortly.

PAST REPORTS REQUIRED

The Society is anxious to obtain copies of B.E.C. Reports for the years 1878, 1886, 1903, 1909, and 1910; Vol. III. parts 2 and 3, Vol. IV. parts 1 and 3, Vol. V. parts 1 and 3. Will anyone in possession of these parts who wishes to dispose of them please communicate with the Hon. General Secretary?

THE BOTANICAL SOCIETY AND EXCHANGE CLUB OF THE BRITISH ISLES

(VOL. XIII. PART I)

Victoria regia

Floreat Flora

REPORT FOR 1945

BY

THE HONORARY EDITOR,

A. J. WILMOTT,

Natural History Museum, Cromwell Road, - London, S.W.7;

(in the absence of E. C. Wallace on Active Service)

PRICE 10s

The Editor does not hold himself responsible for Statements in Signed Contributions

---

Printed by T. Buncle & Co. Ltd., Market Place, Arbroath.

May 1947

CONTENTS

THE BOTANICAL SOCIETY & EXCHANGE CLUB OF THE BRITISH ISLES

OFFICERS FOR 1946-47

ELECTED AT THE ANNUAL GENERAL MEETING, MARCH 27TH, 1946

Chairman—The Rt. Hon. H. T. Baker, P.C.
Vice-Chairman—Dr J. Ramsbottom, O.B.E.
Hon. Secretary—Mr John F. G. Chapple.
Hon. Treasurer—Mr J. E. Lousley.
Hon. Joint Editors—Messrs E. C. Wallace and A. J. Wilmott.

COMMITTEE

Elected March 1937
Mr A. H. G. Alston.

Elected March 1938
Lady Davy.
Mrs Foggitt.
Dr W. A. Sledge.

Elected March 1939
Mr J. E. Dandy.
Mr A. E. Wade.

Elected March 1945
Mr G. M. Ash.
Mr J. P. M. Brenan.
Miss M. S. Campbell.
Dr J. G. Dony.
Mr J. S. L. Gilmour.

Elected March 1946
Dr N. Polunin.
Dr P. W. Richards.
Dr R. Melville.
Mr J. D. Grose.

Members Co-opted March 1946—Mr E. Milne-Redhead, Mr H. W. Pugsley, Mr N. Y. Sandwith.

SUB-COMMITTEES

Editorial Sub-Committee
Mr J. E. Lousley.
Mr J. S. L. Gilmour.
Mr N. Y. Sandwith.
The Hon. Joint Editors.

Excursions and Field-work Sub-Committee.
Mr A. H. G. Alston.
Mr J. P. M. Brenan.
Miss M. S. Campbell (Sec.).
Mr J. E. Lousley.

Rules Sub-Committee
The Editorial Sub-Committee with the addition of the Chairman.

Development Sub-Committee
Miss M. S. Campbell (Sec.).
Mr J. S. L. Gilmour.
Mr J. E. Lousley.
Mr E. Milne-Redhead.
Mr H. W. Pugsley.
Mr A. J. Wilmott.

EDITORIAL NOTES

This Report has been delayed partly by the illness of Mr Wilmott in the spring while Mr Wallace was still abroad, and later because of various suggestions made in replies to the Questionnaire, some of which would involve fundamental changes in its form. It therefore seemed undesirable to start a new volume in one manner and continue next year in another, if changes were accepted. On the other hand it was equally undesirable to prevent free discussion of the proposals by the printing of the first part of the new volume in the old style. The materials sent in were therefore prepared for the printer but kept back until the Committee had been able to give the proposals some consideration. Their decision was that the new volume (xiii) should contain the usual Annual Reports in the old style, with some minor modifications in detail, and that while this was appearing the various proposals should be carefully considered by the Development Sub-Committee on behalf of the Committee, and that such suggestions as were found desirable should take effect in volume xiv.

In order to catch up with this unexpected delay, the preparation of the Report for 1946 has been begun by Mr Wallace while Mr Wilmott has completed the present Report with which he had dealt while Mr Wallace was abroad.

A. J. WILMOTT.
E. C. WALLACE.

THE BOTANICAL SOCIETY AND EXCHANGE CLUB OF THE BRITISH ISLES

Vol. XII. 1938-44

Distributors and Editors of Reports :

1938	1939, July	...	P. M. HALL, Esq. (Editor)	Part i.
1938	1942, March	...	J. F. G. CHAPPLE, Esq. (Distributor) P. M. HALL, Esq. (Late Editor) E. C. WALLACE, Esq. A. J. WILMOTT, Esq. (Joint Editors)	Part ii.
1939-40	1942,	...	E. C. WALLACE, Esq. A. J. WILMOTT, Esq. (Joint Editors)	Part iii.
1939	1942, Dec.	...	N. DOUGLAS SIMPSON, Esq. (Distributor)	Part iv.
1941-42	1944, April	...	E. C. WALLACE, Esq. A. J. WILMOTT, Esq. (Joint Editors)	Part v.
1943-44	1945, April	...	A. J. WILMOTT, Esq. (Editor)	Part vi.

Price of 6 Parts, 47s ; to Members, 35s.

ADDITIONS AND CORRECTIONS TO VOLUME XII

additional to those on p. 909

(issued with title-page to vol. XII, and to be cited as vol. XII, p. i-iv: 1947).

NOTE.—The "*" is not added to species recorded for the vice-county in the " Welsh Plant List " of Hyde and Wade (1934); these have been entered by P. M. Hall into the Society's annotated copy of *C.F.*—ED.

---

p. 39, line 20. Add "*" before " 17."
p. 45, line 14. For " Chambers Odell, J. G. DONY " read " Odell, V. H. CHAMBERS, comm. J. G. DONY."
p. 247, line 28. Delete "*", (see *B.E.C. 1913 Rep.*, 395).
p. 253, line 15. For " 2(2)b " read " 2(3)b."
p. 254, line 27. For " 12(i) " read " 12(4)."
p. 255, line 2. Before " Wilmott " add "[*B.P.L.* /6b]."
——— line 4. Before " Wilmott " add "[*B.P.L.* /7b]."
——— line 7. Before first " Wilmott " add "[*B.P.L.* /8(1)]" and before second " Wilmott " add "[*B.P.L.* /8(2)]."
p. 256, line 3. After " Pugsl." add " [*B.P.L.* 550/10e]."
p. 257, lines 16 and 17. For "in more than one place . . . Mackechnie)" read " in the station where it was first detected (through the kindness of Mr R. Mackechnie), and also in another place in a different vice-county."
p. 259, line 1. For " 3d " read " 3f." [It should precede " ×*S. Chouardi* " on p. 258.] [In *B.P.L.*, p. 105, under 10, add "×*viminalis* = *Chouardi* Chass. & Görz."]
p. 264, line 6 from bottom. For " 1c " read " 1d."
p. 265, line 22. Delete " *," (see *B.E.C. 1937 Rep.*, 463).
p. 266, line 5. Delete " *," (see *B.E.C. 1936 Rep.*, 237).
——— line 9 from bottom. Delete " *," (not listed in *C.F.*).
p. 268, line 2 from bottom. Delete " * " before 110, (see *B.E.C. 1929 Rep.*, 105).
p. 269, lines 19 and 22. For " coll." read " Coll,".
p. 274, lines 20 and 21. Delete (see *B.E.C. 1937 Rep.*, 472).
p. 276, line 2 from bottom. Before " Mount Pleasant " add " 16, W. Kent;".
p. 280, line 16. Delete "*"
p. 288, line 15. Add "*" before "†".
p. 297, line 24. Delete "*" before "8".
——— line 5 from bottom. Add "*" before "31".
p. 298, line 5. Add "*" before "27".
——— line 8. After "Harrison" add " *et al.*" and after "4" add "as *P. angustifolius*".
p. 304, lines 4 and 6. Add "*" before "6" and "34".
p. 306, line 3. Delete "*", (is in *Welsh Ferns*, p. 111 (1940)).
p. 312, line 23. For "2(2)" read "2(3)".
p. 313, line 11. For "*quadrangulum*" read "*dubium*".
pp. 319-330. Many of these additions and corrections were in P. M. Hall's annotated copy, and should have been omitted.

p. 321, line 31. Delete: the original spelling is *Evonymus*.
p. 322, lines 14 and 15. Delete: it was not extinct.
p. 329, line 30. For "380" read "381".
p. 331, line 3. Before "Edward" add "Extracted by".
p. 342, line 13. Add "*" before 112/12.
p. 344, line 23. Add "*" before "186/1".
p. 348, line 26. Add "*312/2." before "Var. *cambrica*".
p. 453, line 24. For "1940" read "1941".
p. 468, line 15 from bottom. For "9" read "9k".
p. 472, line 3 from bottom. After "*maciana*" add "[*B.P.L.* 18c]".
p. 473, line 1. After "*imbricata*" add "[*B.P.L.* 5h]".
p. 474, line 28. For "Freyer" read "Fryer".
p. 485, line 16. For " N.J." read " N.Y.".
p. 487, line 1. For " 190/1. . . . PUBESCENS Lam." read " 190/5. ALCHEMILLA PASTORALIS Buser." I agree with this determination by S. M. WALTERS: the plants are very small—A. J. WILMOTT.
p. 488, lines 8 and 9 from bottom. Delete "*" and Hereford record, (see *B.E.C. 1939-40 Rep.*, 277).
p. 489, line 14 from bottom. Add "*" before "30".
p. 490, line 6 from bottom. Add "*" before "7".
p. 491, line 10 from bottom. For "WLMOTT" read "WILMOTT".
p. 492, line 21. Delete "*", (see *B.E.C. 1939-40 Rep.*, 283); and line 22, delete "Barmouth Junction, 1940, and".
p. 494, line 24. Delete "*", (see *B.E.C. 1939-40 Rep.*, 284.)
——— lines 25 and 26. Delete first Merioneth record.
p. 498, line 17 from Bottom. Delete "[*]".
——— lines 15 and 16 from bottom. Delete E. Glos. record, (see *B.E.C. 1939-40 Rep.*, 287).
——— lines 3, 4, and 5 from bottom. Delete "[*]" and "*", (not listed in *C.F.*).
p. 499, line 4. Delete "[*]".
——— lines 6 and 7. Delete N. Hampshire record, (see *B.E.C. 1939-40 Rep.*, 368).
p. 502, line 12 from bottom. Delete "*".
p. 503, lines 2 and 3 from bottom. "*", (not listed in *C.F.*).
p. 504, line 10. Delete "*".
p. 505, line 12 from bottom. Add "*" before "†".
——— line 7 from bottom. Add "*" before "†".
p. 506, line 25. Add "*" before "63".
p. 507, line 8. Add "*" before "23".
——— line 12 from bottom. Add "*" before "24".
p. 509, lines 19 and 20. Delete record, (see *B.E.C. 1939-40 Rep.*, 302).
p. 511, lines 1 and 2. Delete Wilts. record, (see *B.E.C. 1939-40 Rep.*, 304).
p. 526, line 22. For "103B" read "103M".
p. 534, line 18. Add "[see *B.E.C. 1939-40 Rep.*, 271]".
——— bottom line. Add "[see *B.E.C. 1919 Rep.*, 650.—ED.].
p. 535, line 8. Add "[see *B.E.C. 1918 Rep.*, 376]".

p. 535, line 13 from bottom. Add "[*B.E.C., 1915 Rep.*, 266]".
p. 538, lines 17 and 18. Delete, (see p. 541).
——— line 14 from bottom. Add "[and see *B.E.C. 1922 Rep.*, 742]".
p. 544, line 21. Add "*" before "*S. rubra*".
p. 549, line 19 from bottom. Delete " 67," (see *B.E.C. 1937 Rep.*, 501).
——— line 13 from bottom. For "1 bis" read "2(2)" (see *B.E.C. 1939-40 Rep.*, 257).
p. 575, line 1. For "R. TRIANGULIVALVIS" read "**R. triangulivalvis**".
p. 579, line 6. For "R. TENAX" read "**R. tenax**".
p. 594, line 12. For "4 inches" read "5 inches."
p. 662, line 18. After "p." add "788".
p. 663, line 27. Transfer the ")" after "Bip." to line 28 after "547".
p. 665, lines 10 and 11 from bottom. Delete (see *B.E.C. 1941-42 Rep.*, 552).
p. 671, lines 8 and 9 from bottom. Delete.
——— line 6 from bottom. For "Howarth" read "Lej. & Court.", (see p. 775).
p. 673, lines 18-27. Transfer to follow line 7.
p. 678, line 22. Add "*" before "16".
pp. 698-778. A "†" should be added to species not listed in heavy type in *B.P.L.*, where this has not been done.
p. 699, line 12. For "6, N. Som." read "5, S. Som."
p. 703, line 4 from bottom. Delete "*", (see *B.E.C. 1939-40 Rep.*, 244).
p. 704, line 22. Add "*" before "33".
p. 704, line 26. For "6, N. Som." read "5, S. Som." Already recorded from this locality in Marshall, *Suppl. Fl. Som.* (1914).
p. 707, line 3 from bottom. Delete "*", (see *B.E.C. 1941-42 Rep.*, 534).
p. 709, line 13. Delete "*", (see *B.E.C. 1939-40 Rep.*, 244).
p. 712, line 14. Add "*" before "142/2" and "H.12." [New to Ireland].
p. 718, lines 12 and 11 from bottom. Delete "*" (see *B.E.C. 1939-40 Rep.*, 322).
p. 721, line 1. Delete "*", (see *B.E.C. 1941-42 Rep.*, 535).
p. 723, line 9 from Bottom. Add "*" before "220/7" and "101".
p. 724, line 7. For "Tingnath" read "Tringeith."
——— line 22. For "Harborne" read "Husborne."
p. 729, lines 22, 24, 25. Delete "*" and reference to *C.F.*
p. 731, line 3. Delete "*" before "103", see *B.E.C. 1939-40 Rep.*, 249.
p. 736, line 10. Add "*" before "H.12" and "H.13".
p. 737, line 15. Add "*" before "H.13".
p. 739, line 11. Delete "*" before "†" and "47", (see *B.E.C. 1939-40 Rep.*, 286).
p. 740, line 8. Delete "*" (see *B.E.C. 1934 Rep.*, 833).
p. 745, line 18. Add "*" before "H.13".
——— line 10 from bottom. Add "*" before "†".
——— line 6 from bottom. Add "*" before "†".
p. 748, line 2. Delete "," after "Boxley".
p. 749, line 6. Add "and C. WEST" after "ROSE".
p. 752, lines 16 and 17. Add "*" before "618/11" and "H.12".
——— line 9 from bottom. Add "*" before "†" and "12".

p. 755, line 4. Add "*" before "†" and "47".
——— line 4 from bottom. Delete "*" (both).
p. 756, line 9. For "coll" read "Coll".
p. 757, line 3. Delete "*", (see *B.E.C. 1937 Rep.*, 506).
——— lines 9 and 11. Delete "*": recorded in *Top. Bot. Supp.* 2.—add to *C.F.*
——— line 8 from bottom. Names should be in ordinary, not heavy, type, and (lines 8 and 9), for "T. & T. A. Steph." read "Wilmott".
p. 759, line 14. Add "*" before "619/3" and "3".
p. 760, line 24. Delete "*" before "63".
p. 763, line 19. Add "*" before "737/25".
p. 764, line 5 from bottom. Delete "*" before "110".
p. 769, line 9 from bottom. For "one" read "once."
p. 770, lines 10 and 14. For "Doll." read "Döll.".
——— line 11 from bottom. Add "*" before "770/6".
p. 771, line 4. Add "*" before "780/2(2)" and "104".
——— lines 6 and 7. Add "*" before "780/2(2)a" and "17".
p. 772, line 5 from bottom. Add "*" before "820/1" and "104".
p. 773, line 9. Add "*" before "†".
p. 774, line 13 from bottom. For "Wolfreton" read "Wolferton".
p. 778, line 8. Add "*" before "104".
p. 807, line 27. For "Turner" read "Townsend."
p. 808, line 12 from bottom. For "rubur" read "ruber".
p. 810, lines 12-14 from bottom. Delete "*": for "/1" read "/3": for " KALI L." read PESTIFERA Nels.: delete "Probably var. TENUIFOLIA Tausch." and "Add in brackets to *C.F.*"
p. 811, bottom line. For "Turner" read "Townsend."
pp. 823-830, several places. For "Achandantuir" read "Achadantuir."
p. 825, line 18. Delete "*"; there are several previous records, one by Druce himself (*B.E.C. 1923 Rep.*, 20).
p. 827, line 19. Add "*" before "497/1b".
——— line 22. Delete "*" (recorded by Druce (1908: *Ann. Scot. N.H.*, 106), but omitted from *C.F.*).
p. 841, line 7. For "*laciniata*" read "**laciniata**".
p. 843, line 1. For "*Lousleyi*" read "**Lousleyi**".
p. 844, line 1. For "*schizopetala*" read "**schizopetala**".
——— line 8 from bottom. For "*apetala*" read "**apetala**".
p. 852, line 11 from bottom. For "*Palmstruchii*" read "**Palmstruchii**", and after "Lindm." add "[*B.P.L.* 196/2(3)]".
p. 887, line 15. For "Sers." read "Sess.".
p. 891, line 9 from bottom. For "NORTH" read "MID."
p. 892, line 7. After "*et al.*" add "(1944)".
——— line 20. For "Sers." read "Sess.".
p. 894, line 2. Delete ",".
p. 903, line 2 from bottom. Delete "Birch.".
p. 908, line 10 from bottom. For "A. J." read "E. J.".

ACCOUNTS FOR THE YEAR 1945

GENERAL FUND

To Balance from 1944 ...	£474	3	8	By Printing (other than Report) and Stationery ...	£2	14	10
,, Interest on Post Office Savings Bank Deposit for 1944	5	19	6	,, Fire Insurance on Books, etc., at Yardley Lodge ...	0	10	0
,, Subscriptions received during the year	143	10	9	,, Honorarium to caretaker at Yardley Lodge (1944 and 1945)	3	3	0
,, Sale of Reports and Reprints	20	7	6	,, Postages and Petty Expenses :—			
				Treasurer ... £5 5 2			
				do. (re Excursions) ... 0 10 0			
				Acting Secretary ... 5 0 0			
				Caretaker at Yardley Lodge 1 10 0			
					12	5	2
				,, Gratuities at Meetings ...	1	0	0
				,, Advertisement in Wild Flower Magazine	0	10	0
				,, Rubber Stamp and Pad for Exchange Section ...	0	10	1
				,, Balance	623	8	4
	£644	1	5		£644	1	5

PUBLICATIONS FUND

To Balance from 1944 ...	£198	19	4	By Balance	£240	10	5
,, Donations	5	10	0				
,, Sales of Comital Flora and British Plant List	36	1	1				
	£240	10	5		£240	10	5

LIFE MEMBERS' FUND

To Balance from 1944 ...	£177	8	11	By Balance	£191	8	11
,, Subscriptions compounded during the year	14	0	0				
	£191	8	11		£191	8	11

MISS TROWER'S FUND

To Balance from 1944 ...	£16	7	11	By Balance	£16	7	11
	£16	7	11		£16	7	11

BENEVOLENT FUND

To Balance from 1944 ...	£41	3	6	By Balance	£41	3	6
	£41	3	6		£41	3	6

BALANCE SHEET as at 31st December 1945

General Fund	£623	8	4	500 National Savings Certificates at cost	£400	0	0
Publications Fund	240	10	5	Cash at Bank	267	18	11
Life Members' Fund	191	8	11	Deposit at Post Office Savings Bank	445	0	2
Miss Trower's Fund	16	7	11				
Benevolent Fund	41	3	6				
	£1112	19	1		£1112	19	1

(Signed) J. E. LOUSLEY,
Hon. Treasurer.

Examined and found correct,
January 26, 1946.

(Signed) H. W. PUGSLEY,
Hon. Auditor.

SUMMARY OF PROCEEDINGS OF MEETINGS

A meeting of the Committee was held on 26th October 1945 in the rooms of the Linnean Society of London, the Chairman and fifteen other members being present. It was agreed that the arrangements made by Mr Grose for re-starting the Exchange Section during the winter should be carried out. Mrs Foggitt reported that she had found it impossible to arrange for an autumn Conversazione on pre-war lines, and it was decided that if possible a Tea Party should be arranged to follow the next Annual General Meeting, in the Linnean Society's Rooms. A Sub-Committee was appointed to consider other ways of making the Society more efficient and more popular, and to consider the future development of the Society's activities, to which Miss M. S. Campbell and Messrs Gilmour, Lousley, Milne-Redhead, Pugsley and Wilmott were appointed. Following the acceptance of a report from Mr Lousley and Miss Vachell on the policy and prospects of holding excursions in 1946, a Sub-Committee consisting of the Misses Campbell and Vachell, Messrs Alston, Brenan, and Lousley, was appointed to deal with the matter. Mr Sandwith was added to the Editorial Sub-Committee.

A meeting of the Committee was held in the same rooms on 2nd February 1946, the Chairman and fourteen other members being present. The Excursions Sub-Committee presented a programme of excursions arranged for 1946, which was accepted. The " Development " Sub-Committee submitted a Questionnaire which it had drawn up in order to obtain the views of all members, and it was decided to send this to members with the next Report. It was reported that satisfactory arrangements for the holding of a Tea Party after the Annual General Meeting had been made.

The Annual General Meeting was held on the same premises on 27th March 1946. The minutes of the last Annual General Meeting were read and confirmed, including the decision then taken concerning the constitution of the Committee, viz., " That the period from March 1939 to March 1946 be deemed to be a single year for the purpose of election to the Committee." The Reports of the Hon. Acting Secretary, Treasurer, and Editor were adopted. The alterations of Rules proposed by the Committee were adopted (with two minor amendments) as follows: —

Rule 2.i. For " and Vascular Cryptogams " read ", Vascular Cryptogams and Charophyta."

Rule 3. Add " e. In the event of an insufficient number of nominations being received by February 1st to fill the four vacancies, the Committee have power to make the necessary nominations."

Rule 4. Add: " Candidates shall be proposed and seconded by members of the Society and should indicate the nature of their botanical interests."

Rule 13. Add: " The arrangements for Abstracts, Reviews, and disposal of Publications received shall be made by the Editor, with the advice of the Publications Sub-Committee, report being made annually to the Committee."

Rule 16.a. Add: " The Committee shall meet without notice immediately after the Annual General Meeting to deal only with any matters arising therefrom which require their urgent attention."

Rule 16.d. Add: " The Chairman, Secretary, and Treasurer of the Society are *ex officio* members of all Sub-Committees, but their attendance is optional unless they hold office on the Sub-Committee."

Rule 16. Add: " e. Members of Committee or Sub-Committee who fail to attend three consecutive meetings shall cease to be members thereof unless adequate reason for non-attendance is given."

Rule 17.a. For " in March " read " in March or April."

Rule 19. Add: " at latest " before " with the notice of the Annual General Meeting."

The Chairman explained the Questionnaire which was being sent to all members with the forthcoming Report for 1943-44. The following were elected as officers of the Society: *Chairman*—The Rt. Hon. H. T. Baker; *Vice-Chairman*—Dr J. Ramsbottom; *Hon. General Secretary*—Mr J. F. G. Chapple; *Hon. Secretary to the Committee*—Mr A. J. Wilmott; *Hon. Treasurer*—Mr J. E. Lousley; *Hon. Joint Editors*—Messrs A. J. Wilmott and E. C. Wallace. Dr N. Polunin, Dr P. W. Richards, Dr R. Melville, and J. D. Grose were elected to the Committee in place of Messrs Milne-Redhead, Sandwith, Simpson, and Lt.-Col. Wolley-Dod, who retired by virtue of seniority on the Committee. A vote of thanks was passed to Mr Wilmott for his work as Hon. Acting Secretary and another to the Linnean Society of London for the continued loan of their rooms for the Society's meetings.

At a meeting of the Committee held immediately after the Annual General Meeting, Messrs E. Milne-Redhead and N. Y. Sandwith were co-opted to the Committee, and Mr H. W. Pugsley was elected to the Excursions Sub-Committee in place of Miss E. Vachell, who had ceased to be a member of the Committee as the term for which she was elected had expired.

HONORARY ACTING SECRETARY'S REPORT FOR 1945

During the past year progress has been made towards a return to normal working of the Society. Although it was not found possible to arrange a Conversazione last autumn it is hoped that the introduction of a Tea Party after the Annual General Meeting will be welcomed. Excursions have been organised for this year and the Programme of arrangements accompanies this notice. The Exchange Section has made a start this winter and it is hoped that it will encourage the study of difficult groups. It had been hoped that the Reports would have been brought up to date by last Christmas, and in spite of unavoidable delays the 1943-44 Report should soon be distributed.

To assist Post-War Reconstruction the Committee appointed a Sub-Committee "to consider other ways of making the Society more efficient and more popular, and to consider the future development of the Society's activities." Results of their work have been embodied in a Questionnaire which will be circulated as soon as possible, and it is hoped that all members will give such assistance as they can in making the Society flourishing and useful again.

A. J. WILMOTT.

February 2nd, 1946.

HONORARY TREASURER'S REPORT OF FINANCE AND MEMBERSHIP, 1945

The subscriptions received during the year amounted to £143 10s 9d and this figure would certainly have been somewhat higher if it had been possible for the Report for 1943/4 which is in the hands of the printers to be issued. As no Report has been published during 1945, disbursements have been small and it must be remembered that we shall need to provide for a substantial printer's bill in 1946 when it is hoped that a report for 1945 will be issued in addition to that for 1943/4. The total amount of subscriptions paid in advance at the end of 1945 stands at £22 7s 6d.

During the year we have gained 26 new members and lost 4 so that the total is increased to 380. The new members are the Rev. M. B. Innes, Rev. Professor C. E. Raven, Commander R. D. Graham, Dr Ronald E. G. Gray, Prof. A. R. Clapham, Messrs Peter R. Bell, F. J. Bingley, E. N. Carrothers, W. D. Coales, P. J. Conder, A. J. Farmer, M. Foster, P. S. Green, John W. Harvey, John McK. Moon, C. D. Pigott, W. J. L. Sladen, E. G. Williams, D. P. Young, Mrs C. M. Cory, Mrs D. V. Harrison-Church, Mrs F. Partridge, and Mesdames L. W. Frost and D. M. Frowde. In addition two booksellers who have given standing orders are included in the total as subscribers.

We were very sorry to hear of the death of two Honorary Members during the year—Dr B. H. Danser and Dr R. Probst, and also of two Ordinary members—Miss M. Hall and Dr G. V. C. Last.

Towards the end of the year energetic steps were taken with a view to resumption of some of our normal activities which we had been compelled to drop during the war and it is gratifying to record that the Society has adequate funds in hand to meet the initial expenses of these functions which will doubtless lead to a further increase in our membership.

J. E. Lousley.

December 31st, 1945.

HONORARY EDITOR'S REPORT FOR 1945

The production of the 1943-44 Report has been delayed by staff difficulties at the printers, but the Report is in print and its appearance should not be long delayed. With it volume XII will be completed, and the coincidence of Post-War development with the beginning of a new volume of Reports is a circumstance favourable to the incorporation of any improvements which may be suggested. No suggestions have yet been received in response to the appeal made in the last Report, but it is hoped that members who have suggestions to offer will do so early enough for the Editorial Sub-Committee to consider them in time for inclusion of valuable ideas in the 1945 Report, for which material is now accumulating. Every effort will be made to overcome delays in the appearance of the Annual Report, although it must be recognised that conditions are not yet normal and unexpected delays still occur.

A. J. Wilmott.

February 2nd, 1946.

OBITUARIES

BENEDICT HUBERT DANSER (1891-1943). By the death of Professor B. H. Danser the Society has been deprived of yet another of its Honorary Members who were known to readers of our Reports as correspondents of Dr Druce. Born at Schiedam in May 1891, he became interested in botany at a very early age. The fine series of papers on *Rumex* by which he is best known to British field botanists commenced in 1917 when he was only 26 and the last to deal with the European species was published only nine years later. During this period he was responsible for a number of important discoveries including the description of *Rumex obovatus* (*N.K.A.*, *1920*, 241, 1921) and the separation of *Rumex trigranulivalvis* which has since been raised to specific rank by Rechinger. His field and herbarium work was supported by the experimental production of hybrids under cultivation of which he gave an account in an original style (*Genetica*, **6**, 145-220, 1924). A list of his papers on *Rumex* will be found in *B.E.C. 1938 Rep.*, 155-156, 1939. It is unfortunate for students of this group that Danser's work on the genus practically ceased before he had gained the riper judgment that comes with experience and when he wrote me in 1938 that " the best Lapathologist is not the undersigned but Dr K. H. Rechinger in Vienna " he was generously acknowledging how his early work was being rounded off by another botanist. Danser's determination of Druce's Scottish material as *Rumex arifolius* All. led to the false addition of a species to the *British Plant List* (*B.E.C. 1923 Rep.*, 58, 1924).

In 1925 he went to the Dutch Indies, becoming assistant in the Buitenzorg herbarium, and there he continued the work on *Polygonum* which he had commenced a few years before leaving Holland. His interest, however, turned more and more to *Nepenthes* and to the *Loranthaceae* on which he published numerous papers. He returned to Holland to take up a post at Groningen where he became part-time Professor until he received the full appointment as Professor in September 1943—only shortly before his death. An excellent obituary notice with a photograph and extensive bibliography has been published by Jansen and Wachter (*N.K.A.*, *53*, 129-136, 1943).

J. E. LOUSLEY.

GEORGE VALENTINE CHAPMAN LAST (1875-1945). Many people will miss the cheerful personality of Dr Last, who died suddenly at the conclusion of a Liverpool Botanical Society expedition to Hilbre Island on 9th June 1945. He became a member of the B.E.C. in 1938 when he was able to return to the study of botany, a pursuit which his professional duties had caused him to lay aside since the nineties. He had a very fine herbarium, his specimens always being noteworthy for

the care he took in preparing them. In recent years he had been largely instrumental in forming a representative herbarium for the Liverpool Botanical Society, of which Society he had been a vice-president for some years prior to his death. He was particularly interested in Primulaceae and Gentianaceae on which he read papers to the Liverpool Botanical Society which are reprinted in the *North Western Naturalist*. Keenly interested in ferns, he cultivated many British and exotic species in his greenhouse with great success.

Many are the botanical excursions which I, and many more, have enjoyed in his company and his passing will be regretted by all.

J. A. WHELLAN.

BROTHER MARIE-VICTORIN (1885-1944) has been one of the Society's Honorary Members since 1927. He was born Conrad Kirouac, of Breton descent, at Kingsey Falls, Quebec. At the age of 15 he entered his novitiate with the Brothers of the Christian Schools in Montreal, and later taught in one of their schools until he was called to the Université de Montreal, where he taught geometry, physics, and natural sciences at the Collège de Longueil on the opposite side of the St Lawrence from Montreal. At that time he expressed his literary abilities and poetic nature in writing folk tales in periodicals which were later collected in book form. His first botanical publication was in 1908, in which he drew attention among other things to the invasion of America by *Butomus umbellatus* which about Montreal spread in a manner similar to the invasion of Britain by *Elodea canadensis*, and for several years afterwards he published botanical notes in the *Naturaliste Canadien*. In 1920 the Université de Montreal founded its Faculty of Sciences, and he inaugurated the teaching of Botany, being appointed Professor of Botany two years later. In his hands the Institute Botanique developed and flourished, and he has told its history in no. 40 of the *Contributions de l'Inst. Bot. Univ. Montreal*. Interested in genetics, and with experience of the African and European floras as well as of that of his own country, he was able to enrich his *Flore Laurentien* (a fine work of 927 pages: 1935) with a wealth of information, and in it he was the first to give the chromosome numbers of all species for which they were known. His interest in allied institutions—Biological and Geological—extended to the Junior Clubs, the Montreal Botanical Garden, the Association Française pour l'Avancement des Sciences. All of these he helped to found. His qualities were fully expressed in the numerous excursions which he made with colleagues and friends, and on one of these he died, on the roadside near his birthplace. He was a great man whose radiant influence will be greatly missed, for he had the power of rousing and stimulating that enthusiasm which produces good work, which will live on in those who knew him. (With acknowledgment to Pierre Dansereau, in *American Midland Naturalist*, *33*, March 1945).

A. J. WILMOTT.

PROFESSOR JOSEPH HUBERT PRIESTLEY (1883-1944) died at Leeds on October 31st, 1944, at the age of 61. He was born at Tewkesbury and was a student at University College, Bristol, before his appointment at the early age of twenty-eight as Professor of Botany at Leeds University. During the 1914-1918 war he served with distinction as a staff officer in the Intelligence Service and on his return to academic life he built up a large and very active department which attracted many research students from home and overseas. Apart from his abilities and achievements as a research worker whose interests lay mainly in problems of developmental anatomy and studies in cell and tissue differentiation he was outstanding as an administrator and teacher. He was president of Section K (Botany) at the British Association meeting at York in 1932, served for many years on the Forestry Commission, and was closely associated with and for some time chairman of the Northern Universities Joint Matriculation Board. As a lecturer he had a remarkable capacity of imparting to his students his own interest and enthusiasm for his subject.

Although Priestley's botanical work did not touch upon systematics he was always sympathetic and helpful in his attitude towards the amateur naturalist and collector. This interest in systematic work was reflected in his long membership of the B.E.C. and the active support which he gave as an executive officer to the Yorkshire Naturalists' Union, of which he was President in 1925. On the occasions when his many University and other activities allowed sufficient leisure for participation in excursions he would devote his energies with characteristic vigour and enjoyment to field work. As a man Priestley had a powerful and invigorating personality. He was greatly respected by all his colleagues and students and his death will be felt widely in University and educational circles.

W. A. SLEDGE.

R. PROBST (1854-1940) was added to the Society's list of Honorary Members in the *Report* for 1928, in which Dr Druce thanks him for assistance in naming aliens. By profession a doctor, he was Switzerland's second oldest botanist, and was especially interested in the alien flora, as his "Adventiv-flora Europas" indicates. His "Flora des Kantons Solothurn und Umgebung" was in the press in December 1945. His natural history *relicta* are in the botanical library of the Municipal Museum of Solothurn.

A. J. WILMOTT.

ANDREW TEMPLEMAN (1887-1945) was born on 22nd April 1887 at Aberdour in Fifeshire. For some years he worked in a merchant's office and while there attended the Heriot Watt College, Edinburgh, as an evening student, gaining the Wemyss Prize for obtaining second place in the Honours course in geology. He also attended classes at the Heriot Watt and Agricultural Colleges, Edinburgh, in botany and zoology.

NOMENCLATURE AND CORRECTIONS TO BRITISH PLANT LIST

A. J. WILMOTT.

The procedure explained in the last Report has been continued. The editing has this year necessitated few entries in this section.

To avoid further corrections of the "tautonyms" (e.g. *Glaucium Glaucium*) adopted by Dr Druce contrary to the *International Rules of Botanical Nomenclature* (ed. 3, 1935: Art. 68 (3)), those not already corrected are now dealt with. For the following the valid name is that first cited (in parenthesis) in *B.P.L.*, i.e., *Glaucium flavum* Cr. for 23/1, and similarly for 56/2, with b. *lilacina* (Druce) comb. nov.; 77/1, with b. *sinuatifolia* DC.; 143/1; 228/1; 230/1; 263/1; 270/1; 273/1; 275/1 with b. *bracteata* (Druce) comb. nov.; 294/1; 400/1; 403/1; 457/1 with b. *pyramidale*; 490/2; 532/1, the authorities for varieties being those in parenthesis, and e. *peloria* to be deleted (by Art. 65) as a peloric monstrosity; 666/1; 725/1; 763/1; 815/2; 842/1; 843/2; 859/1. 856/1= *D. Linneana* C. Chr. The remainder are dealt with below or will be found corrected in the *1936 Report* (439/1, p. 225), *1937 Report* (478/1, p. 453), *1939-40 Report* (p. 313→; 87/2; 124/1; 173/1; 197/1; 334/2; 647/1, 668/2; 783/2; 802/2; 859/1), *1941-42 Report* (p. 518→; 289/1; 457/1; 532/1; 691/3), and *1943-44 Report* (p. 662→; 252/1; 380/1; 482/1; 616/1; 733/1).

Duplicated nomenclature in B.P.L. There are several instances in *B.P.L.* where Dr Druce gave two series of names for the same plants because he did not accept the rulings of the International Botanical Congress concerning *nomina conservanda*. The following are accepted (and the others should be deleted in *B.P.L.*):—10, *Eranthis*; 19, *Nuphar*; 20, *Nymphaea*; 30, *Dicentra*; 31, *Corydalis* (and the numbers 2 and 3 should be interchanged to agree with the list under *Capnoides*, for they do not belong to the names (epithets) used but to the plants for which they stand!); 35, *Nasturtium* (species 1, the rest are *Rorippa*, see *1932 Rep.*, 158); 48, *Malcolmia*; 73, *Euclidium*; 157, *Hymenocarpus*; 158, *Securigera*; 246, *Trinia*; 252, *Falcaria*; 281, *Bifora*; 399, *Silybum*; 404, *Amberboa* (not "*Amberboi*"); 433, *Wahlenbergia*; 449, *Dabeocia* (the spelling *Daboecia* is regarded as an unintentional orthographic error as the saint commemorated was St Dabeoc—cf. Art. 70); [delete 482 *Dupl.*]; 496, *Amsinckia*; 505, *Mertensia*; 511, *Calystegia*; 612, *Suaeda*; 700, *Simethis*; 719, *Luzula*; 764, *Leersia*; 767, *Hierochloë*; 768, *Crypsis*; 790, *Corynephorus*; 797, *Cynodon*.

Initial Capitals, especially of epithets ending in *-oides*. Dr Druce used an initial capital for epithets ending in *-oides* even when the original spelling used the lower case for the initial letter. This practice is not in accordance with the *International Rules of Botanical Nomenclature*. The *Rules* are now faulty owing to decisions taken at the last

International Congress (Amsterdam, 1935) where it was decided that the use of the initial capital letter for epithets was governed by a Recommendation, which decision was in itself contrary to the Rules which lay down (Art. 2) that Recommendations lack the retroactive sanction of Rules. As it was decided at that Congress that the use of the initial capital is a matter of typography and not of spelling there seems to be at present no clear Rule governing the matter, but until the position is clarified the Recommendations concerned will be applied as if they had been adopted as Rules. This rejection of certain initial capital letters also includes their misuse in such instances as 419/73 *Hieracium* "*Pseudonosmoides*." The retroactive application of these Recommendations will also affect instances when the original spelling was with an initial capital, e.g. "*Radiola Linoides*" (see *1939-1940 Rep.*, p. 313), and those from works such as Miller's *Gardeners' Dictionary*, ed. 8 (1768), in which an initial capital was used consistently for the specific epithets.

The Editorial Sub-Committee has decided that in making corrections to *B.P.L.*, subspecies shall be indicated by A, B, C,→ (as initiated by P. M. Hall), varieties being placed under them as Aa, Ab ... Ba, Bb ... Ca, Cb ... →.

36 BARBAREA.

3 **vulgaris** R. Br.—"*B. Barbareae* (L.) M'Mill." of *B.P.L.* is an error. Linnaeus wrote *Erysimum Barbarea* and MacMillan (1892: *Metaspermae of Minnesota*, 259) wrote *Barbarea barbarea*, which is an illegitimate tautonym.

37 ARABIS.

1 **hirsuta** (L.) Scop.—*Turritis hirsuta* L. 1753: *Sp. Pl.*, 666.

88 VIOLA.

3 **Reichenbachiana** Jord. ex Bor.
b. **punctata** (Rouy & Fouc.) comb. nov.
c. **leucantha** (Čelak.) comb. nov.

95 SAPONARIA.

2(2) *oxyodonta* (Boiss.) Boiss.—see paper by Mr Brenan.

103 SAGINA.

7(2) **filicaulis** Jord.—This seems best treated as a species: *vice* 7b.

133 IMPATIENS.

2 *capensis* Meerburgh—1775: *Afb. zeldz. Gewass.*, t. 10; 1789: *Plant. Rarior.* [text: B.2 verso], t. 10; Schulze 1937: *Notizbl. B.G. Berlin, 13*, 662; B. L. Burtt 1938: *Kew Bull.*, 161-163. *I. biflora* Walt. 1788: *Fl. Carolin.* 219. Meerburgh's belief that his plant came from S. Africa was apparently erroneous, as the plant is not known there.

176 VICIA.

2 *tenuifolia.*

B *stenophylla* (Boiss.) Velen.—see *Plant Notes.* This looks like a species distinct from *V. tenuifolia,* but until the group is thoroughly revised, is retained as a subspecies in accordance with the authorities cited.—*vice* 2b.

249 *AMMI.*

2 *Visnaga* (L.) Lam.—*Daucus Visnaga* L. 1753: *Sp. Pl.*, 242.

250 CARUM.

2 **verticillatum** (L.) Koch—*Sison verticillatum* L. 1753: *Sp. Pl.*, 253.

306 DIPSACUS.

1 **fullonum** L.—1753: Sp. Pl. 97 (excl. *β sativus*). *D. sylvestris* Huds. 1762: *Fl. Angl.* 49; Mill. 1768: *Gard. Dict.* ed. 8, no. 1. The definition given by Linnaeus in 1753 is a new one: the type is in the Linnean Herbarium, and is not the "Fuller's Teasel," but *D. sylvestris.* The use of the Linnean name for *D. sativus* (L.) Honck. cannot be maintained.

3 *sativus* (L.) Honck.—1782: "*Verz. aller Gew. Teutschl.*, 374"; C. Gmel., 1805: *Fl. Bad. 1,* 314. *D. fullonum* Huds. 1762: *Fl. Angl.*, 49.

320 ERIGERON.

11 *glaucus* Ker-Gawl.—1815: in *Bot. Reg.*, t. 10. See *Plant Notes.*

334 PULICARIA.

1 **dysenterica**

d. **Hubbardii** Turrill—see *Plant Notes.*

395 CARDUUS.

3 *pycnocephalus* L.

b. *arabicus* (Jacq.) Boiss.—see paper by Mr Brenan.

405 CENTAUREA.

35 *pallescens* Del.

b. *hyalolepis* (Boiss.) Boiss.—1875: *Fl. Or.*, *3*, 691, *C. hyalolepis* Boiss., 1845: *Diagn. Pl. or., Ser. 1, 6,* 133.—J. P. M. Brenan.

407(2) *PEREZIA* Lag. Amen. Nat., i, 31, 1811.

1 *multiflora* (H. & B.) Less.—see *Plant Notes.*

532 LINARIA.

21(2) *origanifolia* (L.) DC.—1805: *Fl. France, 3*, 591. *Antirrhinum origanifolium* L. 1753: *Sp. Pl.* 615. *Chaenorrhinum origanifolium* (L.) Willk. & Lange, 1870: *Prodr. Fl. Hisp., 2*, 579.—See *Plant Notes*.

545 EUPHRASIA—see *Plant Notes*.

5(2) **Heslop-Harrisoni** Pugsl.
12(5) **eurycarpa** Pugsl.
15(2) **rhumica** Pugsl.
b. **fionchrensis** Pugsl.

558 MENTHA.

14 **Pulegium**
b. **erecta** (Mill.) Martyn—*Pulegium Erectum* Mill. 1768: *Dict.*, ed 8, no. 2.

571 *LALLEMANTIA*.

2 *iberica* (M.B.) Fisch. & Mey.—*D. ibericum* M.B., 1808: *Fl. Taur.-Cauc., 2*, 64.—J. P. M. Brenan.

613 SALSOLA.

3 *pestifera* A. Nels.—N. Y. Sandwith has drawn attention to the need for this orthographic correction.

614 *PHYTOLACCA*.

2 *acinosa* Roxb.—see *Plant Notes*.

618 RUMEX.

16(2) **tenuifolius** (Wallr.) Löve—see *Plant Notes—vice* 16f.

632 ULMUS.

2 **carpinifolia** Gleditsch.
e. **glandulosa** (Lindl.) Melville.

651 POPULUS.

*6 *balsamifera* L.—1753: *Sp. Pl.*, 16, excl. syn. Catesby and Gmelin. *P. Tacamahacca* Mill. 1768: *Gard. Dict.*, ed. 8, no. 6; Sargent; Rehder; Mansfeld; etc. See Rouleau, E.; 1946: *Rhodora, 48*, 103-110.—The diagnostic reference to *Hort. Cliff.* given by Linnaeus is in fact a new definition not identical with the definition in *Hort. Cliff.*: the type must therefore be sought in *Herb. Linn.*, and according to Rouleau "it is of a short shoot consisting of six leaves with rounded bases, two of which have the base a little subcordate and asymmetrical. This type matches very easily numerous collections of *Populus balsamifera* made in Canada and the United States."

661 CORALLORHIZA Châtelain—*vice* CORALLORRHIZA Haller. Châtelain (1760: *Specimen inaugurale de Corallorhiza*) took his spelling from *Ophrys Corallorhiza* L. (1753: *Sp. Pl.*, 945), and the "better Greek spelling"—see Fernald (1946: *Rhodora, 48*, 193-196)—of Haller (1768: *Hist. Stirp. Helv.*, *2*, 159) cannot be regarded as an orthographic correction as the original author of the name (Ruppius) and Haller himself in 1742 used the form adopted by Linnaeus and Châtelain.

669 ORCHIS.

10 **ericetorum** (Linton) E. S. Marshall.
b. **candidissima** (Weber) comb. nov.?

672 OPHRYS.

3 **apifera** Huds.
e. **Trollii** (Hegetschw. & Heer) Rchb.—1851: *Icon. Fl. Germ.*, xiii, 97, t. ccccIvii. *Vice* 672/4. *O. Trollii* Hegetschw. & Heer. It is now generally considered that this is only an uncommon though very peculiar variation of the Bee Orchis, apart from which it seems never to be found. Its characters are not completely constant, either in the length of the labellum or its unusual colouration.

718 JUNCUS.

16 *tenuis* Willd.—*J. macer* S. F. Gray. Fernald, M. L. (1945: *Rhodora, 47*, 117-123, pl. 879) shows that Willdenow's description, and the account of the type material given by Rostkovius (1801: *De Junco*), belongs to the species so long known as *J. tenuis*. The material in *Herb. Willd.* taken as type by Mackenzie (1929: *Bull. Torr. Bot. Club, 56*, 25; and cf. Fernald, 1930: *Journ. Bot.*, *68*, 366), which is *J. dichotomus* Ell., disagrees with the original description and cannot have been type material of *J. tenuis* Willd.

719 LUZULA.

7 **arcuata** (Wahl.) Wahl., 1824: *Fl. Suec.* [pt. i], 218. *Juncus arcuatus* Wahl., 1812: *Fl. Lapp.* [lxi] 87, t. iv, excl. *β*.

753 CAREX.

4 **vesicaria** L.
×(9) **hirta** L. = ×C. Grossii Fiek (1896)—see paper by Mr Nelmes.
12(2) **brunnea** R. Br.—see *Plant Notes*.
61(3) **muricata** L. sec. Nelmes (C. cuprina (Sandor) Nentv.)—see paper by Mr Nelmes.
70(2) **capitata** L.—1759: *Syst. Nat.*, ed. 10, *2*, 1261.

777 PHLEUM.

9 *subulatum* (Savi) Asch. & Graebn.—1899: *Syn. M.-eur.*, *2*, 154 (non Spreng. ["in herb. cap. *Zeyh.*"] ex Steud., 1841: *Nomencl.*, ed. 2, *2* (p. 12, as synonym of *Lasiochloa hispida*), p. 321 ["Spr. herb."], *nomen nudum*, and therefore not a valid earlier homonym). *Phalaris subulata* Savi, 1798. *Phal. Bellardi* Willd., 1801. *Phal. tenuis* Host, 1802. *Phal. cylindrica* DC., 1805. *Phal. sativa* Pers., 1805. *Phleum tenue* (Host) Schrad., 1806. *Phleum Bellardi* (Willd.) Willd., 1809: *Enum. berol.*, *1*, 85.

794 AVENA.

5(2). *Ludoviciana* Durieu—*vice* 5b.; see paper by Mr Brenan.

b. *glabrescens* Durieu ex Godron in G. & G.—see paper by Mr Brenan.

795 ARRHENATHERUM.

2 **precatorium** (Thuill.) P. Beauv—1812: *Agrost.*, 152. *Avena tuberosum* Gilib. (1791: *Exercit. 2*, 538), *nomen illegitimum superfluum*; *A. precatoria* Thuill. (1799: *Fl. Paris*, 58).

809 KOELERIA.

3 **britannica** (Domin) Druce—1908: *List of Brit. Plants*, 81.

b. **aristata** (Domin) Druce—1908: *l.c.*

c. **brachyphylla** (Domin) Druce—1908: *l.c.*

825(2) PUCCINELLIA.

2×6 ×**pseudoprocumbens** (Corb.) comb. nov.?—*Atropis Borreri* var. *pseudoprocumbens Corbière* (1893: *Fl. Normandie*, 653).

829 LOLIUM.

2 *temulentum*

b. *leptochaeton* A. Braun—1834: in *Flora*, 252. *L. arvense* With., 1796: *Bot. Arr. Brit. Pl.*, ed. 3, *2*, 168. *L. temulentum* var. *arvense* (With.) Bab., 1843: *Man. Brit. Bot.*, 377.

THE WEATHER OF 1945 AND ITS EFFECTS

(Adapted by permission from the Phenological Report of the Meteorological Society, with additional information supplied by Miss Lewis of the Meteorological Office and others. Mr Nelmes has undertaken to provide this section in future, and members who have interesting notes on the effects of the weather in 1946 are requested to send information to him.)

January was cold and frosty throughout, intensely so in the fourth week. February to mid May was unusually mild, with a sunny March and markedly sunny April, but there was a severe cold snap at the end of April and beginning of May, followed by a very violent thunderstorm in the south of England on the night of May 7/8th. During the rest of May to the end of August the temperature was markedly fluctuating, especially the daily maximum, but slightly above average. August was deficient in sunshine. September was very mild with no frost whatever (very unusual): severe gales occurred 21st to 24th; it was also very dull, especially in the southern half of England. March was very dry, and April also dry, but May and June had rainfall considerably above average; August was markedly dry in the north-west. In Scotland the principal differences were that March was duller and August warm, dry, and sunny as also in north-west England and the north of Ireland.

Plant response. Flowering was at first late because of the January cold, but it changed over to three weeks early during early March and in April. The cold snap then caused wide-spread though patchy damage. Continuance of warmth and earliness lasted till mid May, returning to average by the end of June. The spring was favourable to crops, roots and grass being good and grain above the average by July 1st; by August 1st wheat was just below average but barley, oats and roots had improved, and harvest was expected to be about three weeks earlier than usual.

PLANT NOTES

[In the case of direct contributions the name of the author of the note is printed in small capitals. When the note is an abstract, the author's name is followed by the reference, either in full or by date referring to the Bibliography. The abstractor is indicated as under " Abstracts from Literature."

Note to Contributors. Will those sending in Plant Notes please keep to the form adopted in the recent Reports. If the note comes from a publication, and several notes are extracted from a single paper, first set down the " reference " in the same form as is adopted in the published " References " in the Reports, i.e., author's surname, comma, initials, semicolon, date of publication, colon, title of work, (and if from a serial publication) semicolon, followed by the name (abbreviated) of the serial, the volume, and pages (first and last). The Plant Note itself starts with the *B.P.L.* number and name of the genus or species concerned. If the note concerns one vice-county only, start the note with this information as is done with Plant Records. It would be a great convenience if all notes were prepared by different contributors on slips of the same size, that preferred being 8 inches by 5 inches, the long edge to be treated as the top of the page.—ED.]

6/6. RANUNCULUS LINGUA L. In a paper on " The Norfolk Sea Floods " in 1936 (*Tr. Norf. Norw. Nat. Soc.*), it is mentioned that a number of interesting Fenland species, including *Ranunculus Lingua* L., were apparently exterminated in the Horsey-Hickling area. Thus, on July 28th, 1945, I was pleased to see a few plants of the Great Spearwort in flower by Breydon Marshes, Horsey, near *Sonchus palustris*, *Dryopteris cristata* and *Peucedanum palustre*, all of which appeared to have survived the flood very well. A local resident, Mr Creece, told me that the *R. Lingua* had not been seen by him since the flood until this year, although he was often over the ground. It seems likely, then, that all the living plants of *R. Lingua* in 1936 were killed by the salt water, but that seed survived (or was reintroduced on the feet or feathers of the numerous birds which frequent this spot) to germinate when the salt had sufficiently leached out of the soil for its growth.—F. ROSE.

31/4. CORYDALIS LUTEA (L.) DC. is recorded as an adventive new to the Swedish Flora by Gertz, O. (1944: *Bot. Not.*, 120-121).

88/8. VIOLA ODORATA L. Walters, S. M. (1945: Notes on White-flowered *Viola odorata* L. in the Bristol District; *Proc. Bristol Nat. Soc.*,

27, 41-45) discusses the occurrence of the two white varieties var. *dumetorum* (Jord.) Rouy and Foucaud and var. *imberbis* Leighton (cf. last *Report*, 834→). Records tend to show that var. *imberbis* is abundant on the limestone hills and inland lias soils, whilst var. *dumetorum* is present in the lowland coastal area, and only a single record for it has been made on upland limestone. Taking the country as a whole the former seems to be common on upland basic soils of the south and the latter is more widely distributed on less basic soils.—[Wa.]

98/3. LYCHNIS ALBA Mill. "Studies on cytology and sex determination in polyploid forms of Melandrium album," by Westergaard, M. (1940: *Dansk. bot. Arkiv*, 10, no. 5, 1-131) is, as the title indicates, primarily an account of experimental data concerning sex determination in this species and a discussion of the findings in relation to the general problem of sex determination in both plants and animals. "The study of polyploid forms of dioecious species have [sic] contributed, by extremely important facts, to the solution of problems in the field." Polyploidy has played a great part in the evolution of many plant genera, but only a negligible one in the animal kingdom. 14 tetraploid plants (7 male and 7 female) were raised by exposing fertilised flowers to a temperature (heat) shock at the moment of the first division of the zygote. These males and females were crossed, and also crossed with diploid plants, forming triploids with "surprisingly" good pollen. The sex chromosomes are recognisable ("X" and "Y"), female diploids being 22+XX and diploid males 22+XY. The auto-tetraploids (44+XXXX and 44+XXYY) were typical female and male plants. Male tetraploids genetically XXXY had three short and one long sex chromosome, and male triploids genetically XXY had two short and one long, thus settling the argument as to whether the long or short sex chromosome was Y. The morphological features of the diploid, triploid and tetraploid plants are described in Chapter III, with two good plates showing the flowers, stamens, stigmas and seeds; there are also figures of the epidermis (and stomata) and the pollen grains. Differences are mainly quantitative and difficult to describe, the tetraploids being more vigorous and robust with bigger individual organs. The leaves are stiffer, thicker, with more conspicuous rougher hairiness and darker green colour. Their development and longevity were like that of the diploids. Measurements of 1000 pollen grains (100 from each of 10 stamens from 2 flowers) gave average sizes for diploids, triploids and tetraploids respectively as 46.3μ, 53.8μ and 57.2(& 3)μ.—[Wi.] Schopfer, W.-H. (1941: Etude du photo-periodisme chez *Melandrium album* (Miller) Garcke; *Actes de la Soc. Helv. des Sci. Nat.*, 1941, 151-152). *L. alba* is generally biennial, but by modifying the light conditions of culture, plants were made to flower abundantly in the first year. Plants subjected to long day conditions (day: 17h, night: 7h.) flowered profusely in the first year, whilst of those subjected to short day conditions (day: 9h, night: 15h.) only two flowers appeared.—[Wa.]

98/3×4. LYCHNIS ALBA Mill. × L. DIOICA L. For an interesting account of this hybrid with notes on the parents, see Baker, H. G. (1945: *Naturalist*, 129-131).

98/4. LYCHNIS DIOICA L. From cytological studies D. Löve (1944: Cytogenetic studies on dioecious *Melandrium*; *Bot. Not.*, 126-213) concludes that the Red and White Campions are " different forms of the same species."

111/2. ELATINE HEXANDRA (Lap.) DC. Hjelmquist, H. (1944: *Bot. Not.*, 357-362) discusses the distribution of this species in relation to its occurrence in Småland (Sweden).

142. ACER. E. W. Jones (1945: *J. Ecol.*, *32*, 215-252) describes this genus for the *Biological Flora of the British Isles*; full accounts of *A. Pseudoplatanus* L. and *A. campestre* L. being given. The account of the history of the former in the British Isles is interesting, and it appears that the Sycamore was little planted except as an ornamental tree until near the end of the eighteenth century. The varieties of the Maple seem to be genotypical, but " there is no correlation between hairiness of fruit and any other character of fruit or leaf, except that the petioles and stems of glabrous-fruited plants are often (but not constantly) less hairy."

149/1. ULEX EUROPAEUS L. The development and building up of the shoot system, in particular that of the accessory buds required for continued growth owing to the development of branches into thorns, is described by Scott, Lorna I. (1944: *Naturalist*, 109-110).

†176/2B. VICIA TENUIFOLIA Roth subsp. STENOPHYLLA (Boiss.) Velen. 1891, *Fl. Bulg.*, 1, 163; *V. tenuifolia* subsp. *dalmatica* (Kerner) Asch. & Graebn. 1908, *Synops. 6(2)*, 936. *V. tenuifolia* Roth var. *stenophylla* Boiss. 1872, *Fl. Orient.*, *2*, 586. *V. dalmatica* Kerner 1886, *Schedae ad Fl. exsicc. Austro-Hung.*, *4(2)*, (no. 1209); Beck in Rchb. *Icones*, *22*, 197, t. 232.

33, E. Glos.; roadside leading to Coates from Cirencester-Tetbury road, early June, 1943, Miss D. Cator, det. A. J. Wilmott. A most beautiful vetch with long racemes of sparse flowers, the standard pale lavender, lower part of corolla dark purple. The colouration in the Rchb. Icon. figure cited does not agree, and the colour is there said to be intense reddish-lilac, the back of the standard blood-red; the colouration in these later volumes is, however, often inaccurate and roughly done, and otherwise the Gloucestershire plant agrees with the descriptions, and matches specimens from Dalmatia. It is, however, possible that there are several distinct plants with linear leaves allied to *V. tenuifolia*, and when the group is thoroughly revised, this determination may need revision. [Recorded from 11, S. Hants, in 1928 Rep., p. 613, as *V. t.* var. *stenophylla* Boiss.].

It was growing close to *Cotoneaster Pyracantha* (L.) Spach [*B.P.L.*, ed. 2, 196/10], but neither was seen in anyone's garden in the neighbourhood, and the source of either remains doubtful. A. J. WILMOTT.

183/6. PRUNUS INSITITIA L. Weimarck, A. H. (1943: *Bot. Not.*, 389-398) gives details of the sizes of pollen grains and stomatal guard-cells in this species and *P. spinosa* L. Numerous localities in Sweden and Denmark are given for the hybrid between the two species, which is widespread. The difference between the two species are tabulated as

P. insititia (2n=48).	*P. spinosa* (2n=32).
Tree or shrub, little spiny when old, branches spreading at an acute (generally less than 60°) angle.	Shrub, generally strongly spinose, branches spreading ± at right angles.
Flower buds (up till and during the reduction division—while they are still hard and firm) ovate, acute, c. 4 mm. long.	Flower buds (at the time mentioned) spherical, without a point, c. 2 mm. diam.
The part of the bud-scale free in winter brown, the rest grey-yellow. Scales solid, parchment-like. Buds usually 2-flowered.	The part of the bud-scale free in winter brown, the rest red. Scales thin, membranous. Bud usually 1-flowered.
Anthers yellow—yellowish-white.	Anthers brown-yellow—red-brown.
Pollen grains (36-) 40.0-48.7 (-53) μ diam.	Pollen grains (29-) 33.5-37.3 (-42) μ diam.
Stoma guard-cells (21-) 23.5-24.4 (-28) μ long.	Stoma guard-cells (18-) 20.6-21.7 (-25) μ long.

189/4. POTENTILLA ARGENTEA L. Cytological studies by A. & G. Müntzing (1941: *Bot. Not.*, 237-278) show that in Scandinavia there occur, in addition to the normal diploid (2n=14), hexaploids (2n=42—frequent), tetraploids (2n=28—uncommon) and a pentaploid (2n=35—rare). The 53 strains examined were all different but remained uniform by apomixis. The hexaploids = *P. impolita* Wahlenb. Some non-Scandinavian diploid biotypes were partially sexual strains, and an almost completely sexual diploid strain was obtained and used to produce various hybrids (some with *P. opaca*). The results of crossing a Swiss partially sexual strain (var. *calabra* Ser.) and apomict diploid and hexaploid strains are set out by Müntzing, A. & G. (1945: *Bot. Not.*, 49-71). Progenies were raised from hybrids thus obtained, showing a wide range of variation, both in morphology and in chromosome number.

190. ALCHEMILLA VULGARIS L. Turesson, G. (1943: *Bot. Not.*, 413-427) describes "Variation in the apomictic microspecies of *Alchemilla vulgaris* L." Eighteen microspecies have been cultivated. Specimens were allowed to grow large enough to be divided into 10 clones, on which the effects of diverse conditions of growth could be studied. Families were also grown from seed. Some microspecies are variable, others more constant. It is evident that these apomict microspecies are not as fixed and constant as is generally supposed.

194. ROSA. " Meiosis in some *Rosa*-hybrids " is a contribution to the " *Rosa canina*-problem " by Gustafsson, A., & Håkansson, A. (1942: *Bot. Not.*, 331-343).

209/4. TILLAEA AQUATICA L. This species has now disappeared from its only known station in the British Isles (64, M.W.York; Adel Dam). Its rapid spread after its discovery in 1921 suggested that it was a recent arrival: its subsequent decline and, now, its disappearance, confirm that view. See Sledge, W. A. (1945: *Naturalist*, 149).

214/1. HIPPURIS VULGARIS L. Priestley, J. H., and Scott, Lorna I. (1945: *Naturalist*, No. 812, 15-17) under the heading *Notes from a Botanical Laboratory*, contrast the shoot apex with the apices of the other dicotyledons.—[Wa.]

266/1. AETHUSA CYNAPIUM L. Cultures of this polymorphic species indicate that the modifications are due to conditions of growth; Wermarck, H. (1945: *Bot. Not.*, 351-380).

308/1.—SCABIOSA COLUMBARIA L. For a map of the distribution of this species in Scandinavia and northern Denmark see *Bot. Not.*, 1945, p. 29.

318/19. ASTER TRIPOLIUM L.—*Growth in non-saline habitat.* A large bushy plant, over 7 ft. high and flowering freely, was found in August 1941 on a mud embankment round a riverside bungalow garden on the banks of the R. Yare, at Surlingham, Norfolk. The embankment had been made two years previously from saline dredgings from the estuary at Breydon Water, and the plant had almost certainly arisen from seed carried from Breydon with the mud. The development of the *Aster* plant far beyond the size usually attained in its normal saline habitats could presumably be correlated with a considerable reduction in the salinity of the mud of the bank by progressive leaching by rainfall and winter floods J. M. LAMBERT.

†320/11. **Erigeron glaucus** Ker-Gawl. in *Bot. Reg.*, t. *10* (1815). 11, S. Hants; established on cliffs at Bournemouth, 1942, Mrs C. I. SANDWITH. Native of cliffs, etc., on the Pacific coast of N. America and known as " Beach Aster." Well known in cultivation. Plant up to 10 in. high, with a spathulate-obovate basal tuft of glaucescent leaves on a fleshy root crown; heads up to 1½ in. diam., with very attractive light lavender-blue rays. Det. N. Y. SANDWITH.

334/1d. PULICARIA DYSENTERICA (L.) Bernh. var. **Hubbardii** Turrill, W. B. (1945: *Naturalist*, 51-52) differs in its green (not tomentose) minutely glandular-puberulent stems and leaves, with (especially the leaves) sessile glands, and leaf margins strongly undulate. Collected on the bank of the R. Cherwell at Islip (v.-c. 23), 1943, by C. E. Hubbard.

354. GALINSOGA. Hodgman, M. G. (1945: A Weed of the Future; *Gard. Chron., 117*, 7) discusses the occurrence of *G. parviflora* Cav. and *G. quadriradiata* var. *hispida* (DC.) Thell. in Britain. He refers to the latter as growing abundantly at Shiplake and at Henley, Oxfordshire. A case of acute rash on the hands of an allotment holder was attributed to it, but no further cases have been reported.—[Wa.]

354/2b. GALINSOGA QUADRIRADIATA Ruiz. & Pav. var. HISPIDA (DC.) Thell. One slight correction is necessary in my paper on this plant in *B.E.C. 1938 Rep.*, 93-4, 1939. The forma *Vargasiana* of var. *hispida* was attributed to " (Thell.) Mosseray," but Mosseray, in *Bull. du Jard. Bot. de l'Etat, Bruxelles, 14*, fasc. 3, 326, 1937, although he proposed that the combination of forma *Vargasiana* under var. *hispida* might be made, did not actually make it. What he wrote is as follows: " S'il y a lieu de maintenir deux variétés, il paraît plus naturel d'accorder plus d'importance à la forme des écailles qu'à leurs dimensions . . . . Cette façon de voir supprimerait l'ambiguïté de la f. *Vargasiana*, qui serait subordonnée à la var. *hispida* . . . ." Thus the combination attributed to Mosseray was in fact a new one, and the correct citation of the forma will be: *Galinsoga quadriradiata* var. *hispida* f. *Vargasiana* (Thell.) Brenan [*errore* " Mosseray "] in *B.E.C. 1938 Rep.*, 94, 1939 (*G. quadriradiata* var. *quadriradiata* f. *Vargasiana* Thell.).—J. P. M. BRENAN.

379/1. TUSSILAGO FARFARA L. Richard Morse (1945: A Coltsfoot Problem; *Nature, 155*, 370-371) discusses the apparently erroneous statement in British botanical works, that the flowers droop before flowering. —[Wa.]

380/1. PETASITES HYBRIDUS (L.) G.M. & S. emend. Fritsch. A new form with few (6-8) female flowers and many (22-34) sterile hermaphrodite ones is described from Sweden (Skåne) by Ilien, G. (1941: *Bot. Not.*, 223-225: *P. ovatus* f. *ambigua*). The distribution of this species in Skåne (Sweden) is described in great detail (with map and many diagrams) by Ilien, G. (1945: *Bot. Not.*, 181-303).

383/1. SENECIO SARRACENICUS L. A. A. Dallman (1945: *N.W. Nat., 19*, 304-5) states that this species appears to produce no fertile fruit in Denbighshire and Cheshire and therefore questions its indigeneity there. He enquires whether fertile seed is produced in Somerset, where E. S. Marshall thought it could be regarded as native. [He states that Linnaeus only used one *r* in the specific epithet; this was so in the second edition of the *Species Plantarum*, but the first edition has two *r*'s.—ED.]

383/7. SENECIO SQUALIDUS L. Deacon, G. E. (1943: *Trans. Norf. Norw. Nat. Soc., 15*, 424-425) gives a brief note on the early history of this species in Norfolk.—[L.]

383/32. SENECIO INTEGRIFOLIUS (L.) Clairv. The distribution of this species in Skåne and north-west Europe is given (with maps) by Andersson, O. (1944: *Bot. Not.*, 444-458).

396/6. CIRSIUM TUBEROSUM (L.) All. Quirk, Canon R. (1944: *Wilts. Arch. and N.H. Mag., 50,* 480) describes the Wiltshire tuberous thistle. A plate illustrates the root system and basal leaf, and the leaves of *C. acaule* and the hybrid *acaule* × *tuberosum*.—[Wa.]

†407(2)/1. **Perezia multiflora** (H. & B.) Less. 1836: *Linnaea, 5,* 19. *Chaetanthera multiflora* Humb. & Bonpl., *Pl. aeq., 2,* 168, t. 135. 11, S. Hants; Southampton Docks, June 1941, Mrs Phelps, det. W. R. Philipson. In " A monograph of the genus Perezia, section Acourtia, with a provisional key to the section *Euperezia*," R. Bacigalupi (1931: *Contrib. Gray Herb., 97*) states (p. 10) that the two sections of the genus are separated, geographically as well as taxonomically. The section *Acourtia* range from southern California to El Salvador and eastwards to central Texas, and are for the most part restricted to middle forest, high slopes and high plateau in Mexico. *P. multiflora* belongs to the section *Euperezia* which is restricted to the middle and higher slopes of the Andes from south Colombia (1300 miles south of the southern limit of section *Acourtia*) through Ecuador, Peru, Bolivia and Chile to Tierra del Fuego and the Falkland Is. Most species of the genus are restricted in range, some extremely local. *P. multiflora* is comparatively widely spread, but how it reached Southampton is difficult to guess.—A. J. WILMOTT.

It is an erect almost simple-stemmed annual 12-18 inches high, ending in a short corymbose panicle of capitula with bright blue flowers. The leaves are lanceolate, somewhat ovate and sometimes subcordate at the base, deeply spinose-dentate. Outer phyllaries lanceolate tapering to a short spiny prolongation of the midrib. The plant is densely and shortly glandular- and subtomentose-pubescent.

Perezia is one of the larger genera of the tribe *Mutisieae,* not previously recorded in the British Isles. The tribe is preponderantly American, occurring mainly on high tropical mountains or more temperate plains of South America. Some inhabit central and southern Africa, and fewer southern and eastern Asia. Mr W. R. Philipson informs me that the *Mutisieae* are related to the *Cynaroideae* but lack the articulated style and rigid receptacle setae of that tribe. Their most distinctive feature is in the corolla, which is usually two-lobed, a character almost unknown in the remainder of the family.

416/5. CREPIS CAPILLARIS (L.) Wallr., var. Flowers creamy-white, the outer tipped with pink. 6, N. Som.; E. Clevedon, Miss Todd (C. I. Sandwith, 1945: 16).

423. TARAXACUM. Variations in pollen-tube development are described by Katz, E. J. (1943: *Bot. Gaz., 104,* 650): one tube tends to surpass the others in length.

427/1. SONCHUS PALUSTRIS L. Ellis, E. A. (1944: *Tr. Norf. Norw. Nat. Soc., 16,* 77-78) gives details of the present status of this plant in the river valleys of East Norfolk and Lothingland.—[L.]

445. CALLUNA. "A Monograph on the Scotch Heather" by Beyerinck, W. (1940: *Verh. K. Nederl. Akad. Wedensch.*, afd. naturk. Tweede Sectie, *38,* no. 4, pp. 180, pls. 29).

460/2. PRIMULA VULGARIS Huds. Good (1944: *Nat.*, 41-46) gives an account with maps of the distribution of the Primrose in Dorset. Correlation between plant and soil is close, but is modified by rainfall. "On the heavier, wetter soils, of which the clays are chief, the plant tends to occur abundantly irrespective of rainfall, but where the rainfall is high other soils also become exploited . . . . where the soils are well drained and the rainfall average or low, as on the sands and most of the chalk, the plant is relatively absent, and occurs only in some woods where local conditions are particularly favourable for it."—[Wa.]

474/2. BUDDLEIA DAVIDI Franchet. Shove, R. F. (1945: *School Nature Study, 40,* 40-42) gives a short account, with a plate, of this species under the name *Buddleia variabilis* and deals with its occurrence on bombed sites, on walls and between paving stones, with its history, cultivation, shoot characters, floral structure and the germination of the seeds.—[Wa.]

513/1. CONVOLVULUS ARVENSIS L. Frazier, J. C. (1943: *Bot. Gaz., 104,* 417-425) discusses the nature and rate of development of the root system of this species. In one growing season many vertical roots had extended 14-16 feet deep, and one was traced to a depth of 23 feet.

532/21(2). **Linaria origanifolia** (L.) DC. A glandular-pubescent biennial or perennial branched from the base with decumbent ascending stems 8-15 (25) cm. long; lower leaves close set, opposite, oval, attenuate below, rather fleshy; flowers in a lax leafy raceme, peduncles descending often longer than their subtending leaves, calyx glandular pilose, corolla purplish-blue (8-15 mm. long) with open throat, spur conical obtuse, capsule shorter than the calyx, seeds ovoid with almost smooth sides. [A. J. WILMOTT.] 16, W. Kent; still frequent on several old walls at W. Malling, 1943.—Reputed introduced by the monks of Malling Abbey; it was first collected by Shrivell (sp. in Herb. Pharmaceutical Society) and recorded by Hanbury and Marshall (1899: *Fl. Kent,* 258).—F. ROSE, identification confirmed by A. J. WILMOTT,

541/1. DIGITALIS PURPUREA L. The development of the ovule is described by Berkeley, C. J. A. (1945: *J.L.S.*, *53*, 71-82). The species is probably a polyploid (2n = 56; x in *Digitalis* = 7).

543/17(2). VERONICA PRAECOX All. This has been found in the Baltic island of Öland—(1944: *Bot. Not.*, 459).

545. EUPHRASIA. Pugsley, H. W. (1945: *Naturalist*, No. 815, 11) contributes some further notes on Eyebrights collected on Rhum.—[S.]

545/5(2). **Euphrasia Heslop-Harrisoni** Pugsley (1945: *Naturalist*, 43-44) " seems best placed among the *Nemorosae* and can hardly be mistaken for any other British members of the group." Its salient features are flexuous habit, basal branching, shallowly toothed more or less obtuse not aristate leaves, short calyx teeth, very small corolla, and long narrow capsules with rounded apex. Collected in Rhum, 1943, by J. W. H. Harrison.

545/12(5). **Euphrasia eurycarpa** Pugsley (1945: *Naturalist*, 42-43) is closely allied to *E. frigida* Pugsl., but differs in its low, flexuous, unbranched habit, broad coarsely hirsute foliage, very small villous corollas and extremely broad emarginate capsules. Collected in Rhum, 1943, by J. W. H. Harrison.

545/15(2). **Euphrasia rhumica** Pugsley (1945: *Naturalist*, 41-42). This is near *E. micrantha* Rchb. and *E. scotica* Wettst., but has a very slender flexuous habit, narrow, obtuse, bristly leaves with narrow but obtuse teeth, very small corolla with lips usually subequal, and small but not narrow capsules. Collected in Rhum, 1943, by J. W. H. Harrison.

545/15(2)b. EUPHRASIA RHUMICA Pugsley var. **fionchrensis** Pugsley (1945: *Naturalist*, 42) differs by its usually unbranched stem, relatively much shorter internodes, larger corollas and larger fruits, etc. Collected in Rhum (Fionchra), 1943, by J. W. H. Harrison.

550/10. OROBANCHE MINOR Sm. Malins Smith, A. (1945: *Naturalist*, No. 815, 13-15) has had this species under observation for nine years at Shipley, Yorks, and contributes notes on its spread vegetatively and by seed.—[S.]

558. MENTHA. Cytological investigations by Swanson, C. P., & Nelson, R. (1942: *Bot. Gaz.*, *104*, 273-280) show abnormalities concerning the spindle in cell-division which are dependent on the action of a gene transmitted by *M. spicata* to all its offspring, which induces an instability which is subject to environmental differences.

558/10. MENTHA GENTILIS L. A most interesting and complex quantity of this mint found in 1943 is to be seen in many places between Onich and the Ballachulish Ferry, v.-c. 97. I made twelve different

gatherings, and much of the material showed strong affinities to ×*M. verticillata* in having the pedicels and tubes of the calyces hairy, exserted stamens, and large corollae, but in general appearance resembling *M. gentilis*. Contrarily some of the specimens would without a doubt have been taken for a normal ×*M. verticillata* if it had not been for their having *glabrous* pedicels and glabrous-glandular calyx tubes. The whole series presented a puzzle for identification, and I packed them off to Mr Still suggesting a hybrid of *M. gentilis* and ×*M. verticillata*. Mr Still's reply—the last I was to receive from him—agreed that such a hybrid was " possible but unlikely," and he considered all the material to be " aberrant *gentilis*," basing his opinion on the hairs of the calyx teeth being " definitely of *gentilis* type " and the bays between the teeth being " quite unlike *verticillata*." Mr Still had a wide and comprehensive knowledge of *M. gentilis*, and I have accepted his opinion unreservedly, though I should be interested to hear if other such puzzling plants of the *gentilis* group have been noticed elsewhere. R. GRAHAM.

566. SALVIA. Some abnormal plants of *S. Verbenaca* and *S. pratensis* are described by Coult, D. A. (1945: *J.L.S.*, *53*, 109-122), which show deviation from the decussate arrangement of leaf insertion, bifid leaves and bracts, and peloric flowers (with eight nutlets). Possible theoretical explanations are discussed.

573/1. PRUNELLA VULGARIS L. Böcher, T. W. (1940: Introductory studies on variation and life-forms in *Prunella vulgaris* L.; *Dansk. Bot. Arkiv.*, *10*, no. 3, 1-15) describes results of cultivating strains from Canada and various parts of Europe. The Canadian plant, from Toronto, was the N. American var. *lanceolata* Fern., but the European material shows considerable constant differences in development and even in life-form, that from Coimbra (Portugal) being an erect annual (therophyte). One from Denmark was a biennial, the remainder being perennials (hemicryptophytes), some of which flower during the first summer but others only during the second and showing differences in their capacity for vegetative development. It appears that this variable species includes a considerable number of ecotypes. No evidence of polyploidy was found : n = 16 in *P. vulgaris*, *P. laciniata* and *P. grandiflora*.

573/1. PRUNELLA VULGARIS L., forma. An astonishing specimen of this species was found in 1943 growing in shady, damp ground at Glenborrodale Castle, Ardnamurchan, v.-c. 97, in company with normal *Prunella* and *Ajuga reptans* L. At first sight it appeared to be a hybrid of the two. This, however, is most unlikely and in absence of more exact knowledge the plant is best considered as a freak form of *Prunella*. Nearly 18 in. tall, the plant was almost glabrous except for densely hairy pedicels. The inflorescence consisted of 16 verticils, of which the upper 11 were closely set to form a terminal spike 2½ in. long, and the lower 5 at distances on the stem up to 5½ in. apart. The bract-leaves were en.

tire, unstalked, those in the terminal spike gradually diminishing in length and acute; while the lower ones were up to 3 in. long, 1½ in. wide, strongly reflexed, and obtuse. A barren shoot from the same rootstock bore acute leaves with long stalks. The most outstanding characters were the terminal spike, and the unstalked and reflexed bract-leaves, which in shape strongly resembled those of *Ajuga*. Calyces and corollae were typical of *Prunella*. R. GRAHAM.

577/4. ×STACHYS AMBIGUA Sm. E. S. Edees (1945: *N.W. Nat.*, *19*, 275) states that two forms intermediate between *S. palustris* and *S. sylvatica* occur in Staffordshire. One, with pale flowers, narrow crenate-serrate leaves and general habit of *S. palustris*, grows by river-sides and in damp shady places where *S. palustris* is often found. The other, which resembles *S. sylvatica* much more than *S. palustris*, is a taller more robust plant with larger more richly coloured flowers and more sharply-pointed leaves; it grows on and near waste ground far from *S. palustris* and "if really of hybrid origin it is not evident that *S. palustris* is one of the parents." [Fuller descriptions are required for comparison with plants from other parts of the country.—ED.]

587/2. AJUGA PYRAMIDALIS L. has been found in Iceland (Löve; 1941: *Bot. Not.*, 235-6).

588/10. PLANTAGO MAJOR L. An abnormal plant with branched inflorescence is described by Levring, T. (1941: *Bot. Not.*, 130-131).

600/8k. CHENOPODIUM ALBUM L. var. VIRIDE (L.). Aellen (1941: Zur Nomenklatur und Kenntnis von *Chenopodium ficifolium* Smith resp. *serotinum* L. und *Chenopodium viride* L.; *Actes de la Soc. Helv. des Sci. Nat.*, 1941, 158-159) considers *C. viride* L. to be a good species, widely distributed throughout the northern European and the northern Asiatic lowlands and differing from *C. album* L. in the more obscure reticulate sculpturing of the seed testa.—[Wa.]

600/12. CHENOPODIUM FICIFOLIUM Sm. Aellen (1941) confirms the use of this name. He considers *C. serotinum* L. to be a form of *C. album* L. and the name *C. serotinum* L. em. Huds. inadmissible.—[Wa.]

614/2. **Phytolacca acinosa** Roxb., [*Hort. bengal.* 35 (1814), *nomen nudum*;] *Fl. Ind. 2*, 458 (1832); H. Walt. in Engler, *Pflanzeur. 4 (83)*, 41 (1909). Native of China and Japan; cultivated and naturalised in India. "Distinguished from other species recorded from Britain by the carpels being completely free at the flowering stage, not more or less connate." Frequently cultivated in Britain, e.g. Ham House, Surrey, 1938, coll. E. C. Wallace (Herb. Kew.), N. Y. SANDWITH. 9, Dorset; growing wild in a covert, Compton Hawy, Shenborne, 1944, J. B. H. Gooden (1945: *The Field, 185*, 554).—[Wa.]

615. POLYGONUM L. Simmonds, N. W. (1945: Biological Flora of the British Isles; *J. Ecol.*, *33*, 117-143) gives an ecological and biological account of *P. Persicaria* L., *P. lapathifolium* L. and *P. nodosum* Pers. (*"petecticale"*). It is stated that some, at least, of the great variability of the first and last is due to plasticity.—[Wa.]

618. RUMEX. An account of " The Docks and Sorrels of the London Area " is given by Lousley, J. E. (1945: *London Nat. for 1944*, 3-8).

618/16(2). **Rumex tenuifolius** (Wallr.) Löve. *R. Acetosella* var. *tenuifolius* Wallr. is described by Löve, A. (1941: *Bot. Not.*, 99-101) as a new species " *R. tenuifolius* (Wallr.) Löve." [Wi.—It should be pointed out that this form of citation indicates " comb. nov." (with a Wallroth type), and not a " spec. nova " (*R. tenuifolius* Löve, with a new type): the form of the description is that of a new species.] In the next part of *Bot. Not.* (pp. 155-) Löve distinguishes four species of subgenus *Acetosella*, viz. *R. angiocarpus* Murb. (n = 7), *R. tenuifolius* (Wallr.) Löve (n = 14), *R. Acetosella* L. (n = 21) and *R. graminifolius* Lamb (n = 28). The distribution maps given (p. 165) indicate *R. angiocarpus* throughout Ireland and south of a line from Carnarvon to Surrey, and *R. Acetosella* and *R. tenuifolius* throughout but limited to the rest of Britain: [can scarcely be correct!—ED.].

626/1. VISCUM ALBUM L. The occurrence of this species in Skåne, Sweden, is described by Gertz, O. (1944: *Bot. Not.*, 270-280).

628/10. EUPHORBIA ESULA L. A review of the adventitious weeds in North America allied to this species is given by Croizat, L. (1945: *Amer. Midl. Nat.*, *33*, 231-243): the majority of the plants are thought to be *E. intercedens* Podpera. The legitimacy of the name *E. virgata* W. & K., 1805, at least *pro tempore*, is affirmed against the previous publication of *E. virgata* Desf., 1804. Detailed notes are given of *E. Esula* L., *E. intercedens* Podp., *E. uralensis* Fisch. ex Link, *E. agraria* M.B., *E. lucida* W. & K., *E. Cyparissias* L., *E. hebecarpa* Boiss. and *E. salicifolia* Hort.—[Wa.]

633/2. ULMUS CARPINIFOLIA Gleditsch. Melville, R. (1945: *J.L.S.*, *53*, 83-90) discusses " Typification and Variation in the Smooth-Leaved Elm, *Ulmus carpinifolia* Gleditsch." The name was traced by Rehder to Gleditsch, 1773: *Pflanzenverzeichniss*, 354 (and cf. *Ulmus carpini folio* Gleditsch, 1775: *Syst. Einleit. Forstwiss.*, *1*, 240). No type material could be found, but reasons are given for taking Jena to be the type area. A specimen in the Schleiden Herbarium collected wild in a small wood (which cannot now be located) at Gross-Lobichau, cited in Bogenhard's *Flora of Jena* (1850: 333 as *U. campestris* L.), is chosen as neotype of *U. carpinifolia*, and an amplified description, based on it and Essex material, is given. The following varietal names constitute *combb. nov.*, and descriptions of these varieties are given:—

e. **glandulosa** (Lindley) Melville—*U. glabra* var. *glandulosa* Lindley (1829: Syn. Brit. Fl., 226).

[f. *Horsholmii* (Hort.) Melville—*U. campestris* var. *Horsholmii* Hort.]

[g. *suberosa* (Moench) Rehder—1938: *J. Arnold Arbor.*, 19, 266].

645/1. CORYLUS AVELLANA L. The growth of the Hazel is normally sympodial, each season's new stem growth coming from the top lateral bud of the previous year's growth. R. Gurney (1945: *N.W. Nat.*, *20*, 27-29) describes and illustrates growth from abnormal apical buds occurring on stool shoots, and possibly connected with the extra vigour shown by such shoots. " Sometimes all the shoots on one stool have the same structure; but usually only a proportion of them, and many stools have none with apical buds." The locality where the observations were made is not stated.

649/1. FAGUS SILVATICA L. A single tree from Skåne (Sweden) with peculiar oblong-lanceolate leaves is described by Gertz, O. (1942: *Bot. Not.*, 75-83: f. *osbyensis* Gertz).

652/2. EMPETRUM HERMAPHRODITICUM (Lange) Hagerup. In the discussion of his paper on *Melandrium album* (q.v.) Westergaard (p. 121) expresses the opinion that this is not a direct autopolyploid of *E. nigrum* L.

667/1×3. CEPHALANTHERA. A hybrid between *C. longifolia* (L.) Fritsch and *C. rubra* (L.) Rich. is described from Gotland by Petterson, B. (1941: *Bot. Not.*, 114-122).

669. ORCHIS L. Stephenson, T. (1945: British Marsh and Spotted Orchids; *Trans. Torquay N.H. Soc.*, *9*, 61-65) in a short account of the British dactylorchids, gives the chief characters by which they may be identified.—[Wa.]

676/3. IRIS SPURIA L. Bradley, C. R. Sylvester (1943: *Proc. Dorset. N.H. and Arch. Soc.*, *64*, 118-120) contributes " some notes on the occurrence of *Iris spuria* in Dorset " where it appears to have been growing for over half a century. He considers that the occurrence of this Iris both in Lincolnshire and Dorset is not the result of a garden escape or other accidental introduction; but that it is a rare but true native of Britain. See *B.E.C. 1941-42 Rep.*, 505 (1944).—[Wa.]

93. AMARYLLIDACEAE. Scott, Lorna I. (1944: " Bulbs of the Amaryllidaceae "; *Naturalist*, 49-52) discusses the bulbs of *Narcissus*, *Golanthus* and *Leucojum* and considers that they are sympodial as in Liliaceae and not monopodial as is generally believed.—[Wa.]

691. POLYGONATUM. Ownbey, Ruth Peck (1944: The Liliaceous genus *Polygonatum* in North America; *Ann. Miss. Bot. Gard., 31*, 373-413) gives the history of the genus and an account of the morphology, cytology and taxonomy of the North American species.—[Wa.]

691/2. POLYGONATUM MULTIFLORUM (L.) All. Clapham, A. R. (1945: *New. Phytol., 44*, 105-109) finds that the factor determining the direction of growth of the new segment of rhizome appears to be the intensity of light reaching some part of the rhizome and not, as Raunkiaer thought, the length of the darkened part of the erect shoot.

694/1. CONVALLARIA MAJALIS L. The development of the embryo-sac is described by Stenar, H. (1941: *Bot. Not.*, 123-128).

718/3. JUNCUS CONGLOMERATUS L. E. S. Edees (1945: *N.W. Nat., 19*, 275-277) states that in Staffordshire *J. effusus* is the abundant species, with which *J. conglomeratus* occurs " as small islands in a sea " of the former. Compact forms of *J. effusus* are often abundant on the moors, and six points of difference are discussed:—

Colour: inflorescence usually a richer brown (in *J. effusus* typically olive-green, but intermediate colours occur and this character alone is " not a safe guide ");

Anthers: said to be linear, longer (in *J. effusus* oval and short), but " the distinction, though present, is not marked enough to be obvious ";

Capsule: Babington's description—" the mucro in the hollowed top of the capsules resembles a little hill bearing the style "—is said to be exactly right: in *J. effusus* " there is never a hill ";

Panicle: variable in both species, but tighter (about half-an-inch in diameter) in *J. conglomeratus*;

Sheath: inflated (never so in *J. effusus*); the stem above the inflation is weakened and soon bends over, withering more early than in *J. effusus*; the lip of the inflated sheath is usually (not always) rimmed with red and there is often a ring of red round the stem at the base of the panicle;

Stem: more deeply grooved and slightly rough, so that " when revolved between thumb and forefinger " it feels " like a finely-toothed cog-wheel " (living stems of *J. effusus* are quite smooth to the touch): when dried, however, this difference, " so marked in the living plants, is greatly narrowed and sometimes almost obliterated."

The characters of the capsule, sheath, and stem are considered the most important for easy recognition.

[I found this year that the abundant plant in Uig, Lewis, was the compact form of *J. effusus* and not *J. conglomeratus* (cf. M. S. Campbell; 1945: *Fl. Uig, 17*, pl. iii & iv): *J. conglomeratus* was frequent and typical *J. effusus* rare.—A. J. WILMOTT.]

719/1. LUZULA SILVATICA (Huds.) Gaud. The occurrence of this species in Sweden is detailed by Hylander, N. (1941: *Bot. Not.*, 107-113): in two of the three known localities only a single (long-lived!) tuft is known and in all three *L. luzuloides* (*L. nemorosa*) occurred also.

741/2. NAIAS FLEXILIS (Willd.) Rostk. & Schmidt. The recent and (wider) fossil distributions of this species in Sweden are detailed (with a map) by Sandegren, R. (1941: *Bot. Not.*, 59-64.)

746/9. SCIRPUS NANUS Sprengel. Gilly, Charles Louis (1944: Notes on Geographical Distribution, I—*Eleocharis parvula* (R. & S.) Link; *Amer. Midland Nat.*, *31*, 499-500) summarises the distribution of this species in North America. A primary distributional area following the North Atlantic arc pattern is recognised, the exact western limits in North America are not yet known. Other occurrences in North America are attributed to migratory birds or to the dumping of ballast. —[Wa.].

753. CAREX L. Harrison, J. W. H. (1945: *Trans. B.S. Edinb.*, *34*, 270-277) discusses " Noteworthy sedges from the Inner and Outer Hebrides, with an account of two species new to the British Isles " [*C. capitata* L. and *C. glacialis* Mackenzie], and of *C. brunnea* R. Br. var. *minor* Booth introduced in Rhum.

753/12(2). CAREX BRUNNEA R. Br. This is recorded (the var. *minor* Booth) by J. W. H. Harrison (1945: *T.B.S. Edin.*, *34*, 276) as introduced (with bamboos?) in Rhum, " flourishing in the Kinloch grounds." It is placed by Kükenthal (1909: *Pflanzenreich*, *4* (*20*) (Heft 38), 599, in subsect. *Graciles* of sect. *Hymenochlaenae* which includes the British species *C. strigosa* Huds. (subsect. *Gracillimae*) and *C. capillaris* L. (subsect. *Capillares*). Most species of the subsection are native of China, Japan, India and Pacific Islands. The subsection is distinguished by its remote peduncled (usually lax-flowered, at least at the base) spikes, two stigmas, and plane-convex utricles with (mostly) long bidentate beaks.

C. brunnea is a caespitose plant with woody rhizome. Stems 30-90 cm., slender, triquetrous, rough at the top, with dark brown sheaths at the base. Leaves longer or shorter than the culm, rigid, 2-3 mm. wide, flat, rough on both sides. Spikelets rather numerous, androgynous, 2-3 cm. long, rather dense flowered, *2-5 from each sheath* on long capillary peduncles. Lower bracts leafy and long sheathing, upper short and setaceous. Female glumes oblong ovate subacuminate shorter than the utricles, reddish-brown multistriate with green keel. Utricles membranous oval 3-4 mm. long, hispid or ultimately glabrescent, both sides many veined, base cuneate, abruptly contracted above into longish or long rough edged bidentate beak. Nut oval, filling the utricle. Widespread from Bourbon and Mauritius through India to China, Korea, Japan, the Philippines and Australia. The var. *minor* from Bourbon has the spikes dense and the beak of the utricle short.

753/59(2). CAREX VULPINA L. An account of this species and of its discovery in Yorkshire, is given by Taylor, J. M., & Rowlands, S. F. (1945: *Naturalist*, 131-132).

753/70(2). CAREX CAPITATA L. Recorded by J. W. H. Harrison (1945: *T.S.B. Edin.*, *34*, 270-1) from 110, O. Hebr.; S. Uist, " a tuft on a bare stretch of soil lying at the head of two parallel slopes not far from the sea in the Truirebheinn area, north of Loch Boisdale." It belongs to Fries's *Monostachyae*, which have culms bearing a single terminal spikelet, which in this species is small and ovate (nearly spherical). Plant caespitose with short rhizome and many strict slender leafless culms 10-35 cm. long with purplish basal sheaths. Leaves strict rigid, convolute filiform, shorter than the culms. Spikelets with very short but conspicuous terminal male part. Female glumes broadly ovate obtuse chestnut with broad hyaline margin. Utricles longer than the glumes ultimately patent ovate plane-convex 3 mm. long, pale green, shining and glabrous, striolate not veined, abruptly contracted into blackish-blood-red smooth beak. Stigmas 2.

Arctic and Alpine: Iceland, Scandinavia, Tirol, Transylvania; Siberia; America from Greenland, Canada, Rocky Mts. to Central America, S. Andes, and Tierra del Fuego.

766/1. ANTHOXANTHUM ODORATUM L. Sharman, B. C. (1945: A Note on Sweet Vernal Grass, *Anthoxanthum odoratum* L.; *Naturalist*, No. 813, 49-50) records the continued growth of the unpollinated styles of plants grown in a greenhouse. The styles reached a length of 8-12 mm. All the plants were of one clone and were self sterile. It is suggested that *Anthoxanthum* has more affinities with the sub-family Panicoideae than with the Pooideae in which it is placed by unanimous opinion. " It has spikelets with a single terminal flower, is the only British grass with only two stamens, is protogynous (a rather rare feature which it shares with *Alopecurus* and *Phleum*), has spikelets reduced from below upwards as in the Panicoideae, its styles continue growth if not pollinated as in *Zea*, and its chromosome number (multiples of 5 or 10) is not at all typical of the Pooideae, but characteristic of the other sub-family, the Panicoideae."—[Wa.]

777. PHLEUM. Cytological studies of haploid *P. pratense* L. (2n = 14), triploid *P. nodosum* (2n = 21) and hybrids between ordinary *P. pratense* " Timothy " (2n = 42), triploid *P. nodosum*, and *P. alpinum* (2n = 28: tetraploid), are described by Nordenskiöld, H. (1941: *Bot. Not.*, 12-32). It seems likely that *P. pratense* is an autopolyploid of *P. nodosum*.

819/1. DACTYLIS GLOMERATA L. Several permanent cytological differences between different clones of this species are noted by Myers, W. M. (1943: *Bot. Gaz.*, *104*, 541-552).

824/10. POA COMPRESSA L. A new hybrid between this species and *P. palustris* L., which arose spontaneously in a culture of a number of *Poa* species, is described by Kiellander, C. L. (1944: *Bot. Not.*, 363-371).

825/1. GLYCERIA MAXIMA (Hartm.) Holmberg—*Effect of drought on flowering.* A deltaic area of some 8 acres at the debouchment of the R. Glyme into the lake at Blenheim Park, Woodstock, Oxfordshire, bears an almost pure *Glycerietum maximae* extending from the open water to the original bank of the lake. Material observed here in July 1944, following an exceptionally hot dry period, showed an interesting series in inflorescence development along the gradual slope from the higher proximal marsh region to the distal low-lying reedswamp (the substrate level at the outer edge of the reedswamp being some 50 cms. below that at the landward edge of the *Glycerietum*). At the time of observation, the water table had sunk below the surface over the whole colonised area; at the distal edge it was approximately at rhizome level (about 10 cms. below ground level). Whereas the plants towards the water's edge were well developed and flowering freely with normal fully-expanded inflorescences, the haulms in the proximal marsh region were about half their usual height, and showed no external signs of an inflorescence; upon dissection, small withered, undeveloped inflorescences, often less than 2 cm. long, were found concealed among the leaves at the tips of the haulms. The degree of development of the inflorescences increased progressively along the slope to the open water; transitional stages showed inflorescences which had emerged, but in which the upper branches of the panicle were similarly withered and undeveloped, while the lower (and older) branches, which had presumably passed the critical stage in their development before water shortage became acute, were normally developed and expanded. In both the immediate preceding and succeeding years (when the summer water level was much higher over the whole area) normal inflorescences were developed throughout the whole *Glycerietum*.—J. M. LAMBERT.

827/9. BROMUS INERMIS Leyss. Strains selected as more resistant to artificial droughts were found by Cook, C. W. (1943: *Ecology, 24,* 169-182) to have a longer total length of root than less resistant strains: they also in general made more vigorous herbage during the growing season.

847/1. PTERIDIUM AQUILINUM (L.) Kuhn. Watt, A. S. (1945: *New Phytol., 44,* 156-178) continues his "Contributions to the ecology of Bracken" in part III, "Frond types and the make-up of the population."

856/2. DRYOPTERIS CRISTATA (L.) A. Gray. 76, Renfrew; parish of Neilston, J. R. LEE and R. MACKECHNIE. In 1943 I suggested to Mr R. Mackechnie that the occurrence of this fern in the Clyde area should if possible be confirmed. *Topographical Botany*, ed. II, 1883, gives 74,

Renfrew, Galt. sp. which should, of course, read *76* Renfrew. A. Bennett in *Trans. Norfolk and Norwich Nat. Soc.*, VII, 695-700, 1904, gives a summary of the then known records of *D. cristata* in Britain, and repeats error of *Top. Bot.*, giving:—74, Renfrew. " On the edge of a loch beyond Crofthead near Neilston, twelve miles S.W. of Glasgow. First discovered by Dr W. Arnott and Mr Clarke, Curator of the Glasgow Bot. Garden." W. Galt, in Watson's *Comp. Cyb. Brit.*, 615, 1870! Mr Somerville was unable to find it here, " Loch Libo," in September 1903.

In Druce's *Comital Flora*, 387, 1932, we find 74 given and also 74 and 76 bracketted as doubtful!, while J. R. Lee in *Flora of the Clyde Area*, 353, 1933, gives " Beyond Crofthead," *Cl. Fl.*, referring thus to the last edition of Hennedy's *Clydesdale Flora* and implying that the record is in need of confirmation. In view of the typographical errors perpetuated since *Top. Bot.*, II, 1883, it was with great satisfaction that Messrs Lee and Mackechnie refound the plant sparingly on the third special search they made, July 25th, 1945. This record establishes *D. cristata* as a present day member of the Scottish flora and necessitates a correction to *C.F.*, removing brackets from 76 and deleting all reference to 74 whence there are no records. E. C. WALLACE.

870/6. LYCOPODIUM INUNDATUM L. In North America this is " one of a series of species which extend, as a somewhat perplexing group, all the way from Newfoundland to the Tropics," and an account of its varieties and forms is given: Fernald, M. L. (1946: *Rhodora, 48*, 134-136).

PLANT RECORDS

Thanks are due to those who sent in records for the way in which nearly all followed the instructions given in the last Report. This assistance was much appreciated and it is hoped that contributors will continue. The sending of voucher specimens improved, and it is hoped that members who wish expert determinations will collect an extra specimen where possible which the expert may retain (he may at any-time wish to re-examine it!), and also collect an extra specimen of important records for deposition in a national or public herbarium. Some records sent in have been omitted because they are of critical plants and no voucher was sent after request had been made for one. The need for voucher specimens in such cases was stressed by the previous editor, and records sent in must in these circumstances remain unpublished although they are filed for future reference.

The indications [* etc.] asked for in the last Report seem to have been found complicated, and after full discussion the Editorial Sub-committee has decided that the following signs shall be used in connection with *Plant Records*:—

§ before the *B.P.L.* number: to indicate that the paragraph contains information necessitating a correction in the annotated copy of *Comital Flora*.

† before the *B.P.L.* number: to indicate that the plant is not a native species in the British Isles.

† before the record: to indicate a native species which is not native in the locality recorded.

* before the record: to indicate new vice-county records, not published previous to the year of the Report.

‡ before the record: to indicate records additional to the annotated copy of *Comital Flora*, published previous to the year of the Report.

[ ] enclosing a record: to indicate doubt as to the validity of the record, either of identification or locality.

As in *C.F.*, brackets will not be used for widespread aliens now distributed like denizens. The inconsistent use of brackets [ ] in *C.F.* is frequently pointed out, but it is difficult to find a satisfactory method for relating usage in these Reports to usage in *C.F.* In his *Introduction* to *C.F.* (p. ix) Dr Druce indicated that they were to be used for doubtful records (see his example, *Carex punctata*) and where there is "doubt of its nativity or of its identification." But brackets were entirely omitted for widespread alien species. It therefore seems best to use [ ] when there is doubt of the record, due to misidentification, confusion of nomenclature, or any other cause, using the † to indicat-

that the species is not native in that locality, even if native elsewhere in the British Isles.

Records are for the year 1945 when no year is indicated. "[n.d.]" will be added when no date was given.

The checking of certain records with *C.F.* and already published Floras and lists showed that some of these had not been collated. To avoid overweighting of *Plant Records* with such corrections to *C.F.*, the results of collation in three cases are set out in the next three paragraphs.

V.cc. 15 & 16, E. & W. Kent. Collating Hanbury & Marshall's *Flora of Kent* (1899) with *C.F.* (annotated copy) shows the following additions and corrections to be necessary. This *Flora* was not gone through by Ar. Bennett in compiling his *Supplement to Top. Bot.*, ed. 2 (1905)! Nor did H. C. Watson extract all records from Cooper's *Flora Metropolitana*, etc. 6/20. *Ranunculus fluitans* Lam. is recorded for 15 & 16 but the species was excluded "pending further investigation," as the records may refer to *R. pseudofluitans* Baker & Fogg.—*Top. Bot.*, ed. 2, gives 15, 16?; [22/1. *Meconopsis cambrica* (L.) Vig., escaped in 16]; [32/1. *Fumaria capreolata* L., 15 ("colonist or casual")]; 32/9. *F. Bastardi* Bor., add 16; 39/12. *F. Vaillantii* Lois.—for 12-14, 17, read 12, 14-17; 36/4. *Barbarea arcuata* Rchb. is given for 15; 49/5. *Sisymbrium Irio* L., 16; 61/2. *Lepidium latifolium* L., 16; 61/3. *L. Draba* L., 16; 65/1. *Iberis amara* L., 16; 67/1. *Hutchinsia petraea* (L.) R. Br. is extinct in 16; [68/1. *Isatis tinctoria* L., 15, 16]; [77/1. *Cakile maritima* Scop., 16 (on dredged gravel)]; [96/9. *Silene Otites* L., casual, long extinct]; 96/11. *S. italica* Pers., 15 as well as 16; [127/1. *Geranium sanguineum* L., 15 (" garden stray, if correctly reported) "]; 147/2. *Genista pilosa* L., for 15 read 16; 176/36. *Vicia gracilis* Lois., 15; [178/1. *Lathyrus latifolius* L., 15, 16]; 178/7. *L. hirsutus* L., given for 16 but not 15; [183/1. *Prunus Padus* L., 15, 16]; 187/2. *Geum rivale* L., 15 (old record only); 190/1. *Alchemilla vulgaris* L. sensu lato, 15 (old record, presumably 190/4); 194/18 *Rosa obtusifolia* Desv., 15; [211/2. *Sedum rupestre* L., 15, 16]; [211/10. *S. dasyphyllum* L., 16]; 211/11. *S. anglicum* Huds., 16; 217/3. *Callitriche palustris* L. (*C. vernalis* Kütz.), ?16; 219/2. *Lythrum Hyssopifolia* L., 15, 16, remove from brackets; 263/1. *Foeniculum vulgare* Mill., 16; ⟨276/1. *Peucedanum officinale* L., 16 (Ray), extinct⟩; [283/8. *Caucalis latifolia* L., 16 (garden weed only)]; 301/1. *Valeriana officinalis* L. (*V. Mikanii* Syme), 15; 301/3. *V. dioica* L., 16 (in *Top. Bot. Suppl. 1*); ⟨367/1. *Diotis maritima* Cass., long extinct in 15⟩; 368/1. *Anthemis tinctoria* L. is given for 16 but not 15; 399/1. *Silybum Marianum* (L.) Gaertn., 15, 16; 405/1. *Centaurea Jacea* L., 15; 405/8 or 11. "*Centaurea nigra* L.", 15 as well as 16, needs investigation; 409/1. *Cichorium Intybus* L., 16 (is in *Top. Bot.*, ed. 2); [431/2. *Lobelia urens* L., ? 15]; 435/2. *Campanula latifolia* L., 16; 543/9. *Veronica aquatica* Benq. is presumably the "form bearing

white flowers tinged with pink" from 15; 561/1 or 2. "*Thymus Chamaedrys* Fries" is given for 16 as well as 15; [574/1. *Melittis Melissophyllum* L., 16 (status doubtful)]; 577/1. *Stachys germanica* L., an old record for 15 is given; 588/5. *Plantago maritima* L., 16; 600/4. *Chenopodium hybridum* L., 15; 600/7. *C. opulifolium* L., 16; 631/1. *Buxus sempervirens* L., 15 (at *Boxley*); 641/1. *Myrica Gale* L., probably extinct in both 15 and 16; ⟨669/2. *Orchis militaris* L., 16 extinct—Northfleet (Sherard and Manningham), identified by Dr Druce (*The Dillenian Herbaria*, p. 114: 1907) but omitted from *C.F.*⟩; 684/3. *Narcissus biflorus* Curt., 16; ⟨690/1. *Asparagus maritimus* Mill., 16, extinct⟩; 691/3. *Polygonatum officinale* All., 16; [722/1. *Sparganium minimum* Fr., ? 16 (Tunbridge Wells—old record, which might not be in Kent]; 733/1. *Damasonium Alisma* Mill. (*D. stellatum* Pers.), 15; 747/4. *Eriophorum vaginatum* L., 15, ⟨16 extinct⟩; 753/7. *Carex rostrata* Stokes in With., 16; 753/57×59. ×*C. axillaris* Good., 15; 753/68. *C. divisa* Huds., 15; 770/4. *Alopecurus bulbosus* Gouan, 15; 780/2(2). *Agrostis gigantea* Roth (*A. nigra* With.), 16; 782/2. ×*Polypogon littoralis* Sm., "extinct in 16" but seen about ten years ago at All Hallows-on-Sea; [783/2. *Calamagrostis canescens* (Wigg.) Gmel. em. Druce, ? 16 (possibly only *C. Epigeios* (L.) Roth]; 785/1. *Apera Spica-venti* (L.) Beauv., 15 (*Top. Bot. Suppl. 1*), 16; 787/1. *Ammophila arenaria* (L.) Link, 16; [790/1. *Corynephorus canescens* (L.) Beauv., ? 15]; [822/2. *Briza minor* L., 15, 16]; [824/11. *Poa bulbosa* L., 15, ? errors]; 827/18. *Bromus racemosus* L., 15; [841/1. *Pinus sylvestris* L., 15, 16]; [851/1. *Asplenium marinum* L., ? 15 (ancient record)]; [870/7. *Lycopodium Selago* L., ? 15 (doubtful record)]; 873/2. *Tolypella prolifera* Leonh., 16; [876/4. *Chara rudis* Leonh., ? 15]. The following have been omitted as errors:—3/1. *Anemone Pulsatilla* L. (16); 100/7. *Cerastium pumilum* Curt., 16; 111/2. *Elatine hexandra* L., 16; 593/1. *Herniaria glabra* L., 16; 595/1. *Scleranthus perennis* L., 16 as well as 15, both probably errors; 618/2. *Rumex longifolius* DC., (*R. domesticus* Hartm.), 16; 650/12. *Salix nigricans* Sm., 16; 826/5. *Festuca sylvatica* Huds., 15.

V.-c. 55. The following additions and corrections to the annotated copy of *C.F.* have been made from Horwood & Noel, *Flora of Leicestershire and Rutland*, 1933:—2/2. *Thalictrum minus* L.; [6/28. *Ranunculus Baudotii* Godr., ? error (p. 675)]; 9/1. *Helleborus viridis* L. var. *occidentalis* (Reut.) Druce, remove from brackets; 13/3. *Delphinium Gayanum* Wilmott (as *D. Ajacis*); [15/1. *Actaea spicata* L.]; 24/1. *Roemeria hybrida* (L.) DC.; [32/1. *Fumaria capreolata* L., ext.]; 36/5. *Barbarea intermedia* Bor.; 49/5. *Sisymbrium Irio* L.; [54/1. *Brassica oleracea* L.]; 55/1. *Diplotaxis tenuifolia* (L.) DC.; [65/1. *Iberis amara* L.]; [68/1. *Isatis tinctoria* L.]; 92/2. *Dianthus deltoides* L.; [96/10. *Silene nutans* L. (with synonym *S. dubia* Herb.)]; [96/11. *S. italica* Pers.]; 100/7. *Cerastium pumilum* Curt.; 102/8. *Arenaria tenuifolia* L., is a first record in the Flora, although given in *C.F.*; [115/2. *Althaea hirsuta* L.]; 123/3. *Tilia cordata* Mill.; [125/2. *Linum anglicum* Mill., ? error, see p. 725]; 127/8. *Geranium columbinum* L.; 132/2. *Oxalis*

corniculata L.; 132/3. *O. stricta* L.; 133/3. *Impatiens parviflora* L.; [152/1. *Trigonella ornithopodioides* DC. is not given in the Flora although given in *C.F.*]; [153/2. *Medicago sylvestris* Fr. = 153/8]; 155/4. *Trifolium incarnatum* L.; 178/9. *Lathyrus Aphaca* L.; [183/5. *Prunus domestica* L.]; [184/10. *Spiraea salicifolia* L.]; [185. *Rubus*—deferred till later]; 188/1. *Fragaria moschata* Duch.; [189/11. *Potentilla norvegica* L.]; 194/5. *Rosa stylosa* Desv.; 194/9. *R. Blondaeana* Rip; 194/11. *R. Deseglisei* Bor.; 194/16. *R. agrestis* Savi; 195/2. *Pyrus communis* L.; 195/11. *P. rupicola* Syme; 195/15. *P. torminalis* L.; [195/16. *P. germanica* (L.) Hook. f.]; 211/2. *Sedum rupestre* L.; [217/3. *Callitriche palustris* L. is treated as an error on p. 675]; [217/6. *C. autumnalis* L. is also thought to be an error]; 223/2. *Oenothera grandiflora* Ait.; [225/3. *Circaea alpina* L. ?]; [240/1. *Astrantia major* L.]; [250/1. *Carum Carvi* L.]; [250/3. *C. Petroselinum* (L.) B. & H.]; 253/1. *Sium latifolium* L.; [296/5. *Galium pumilum* Murr.—some doubt]; 298/3. *Asperula cynanchica* L.; [318/1. *Aster Tripolium* L., formerly introduced, see note p. 295]; [318/20. *A. Linosyris* (L.) Bernh., recorded as a garden weed]; [333/1. *Inula Helenium* L.]; [333/2. *I. salicina* L., garden casual]; [368/1. *Anthemis tinctoria* L.]; [368/2. *A. nobilis* L. is considered an error, p. 675]; [380/3. *Petasites fragrans* Presl]; [383/1. *Senecio sarracenicus* L.]; 383/7. *S. squalidus* L.; [395/3. *Carduus tenuiflorus* Curt. is considered as a probable error, p. 675]; [405/15. *Centaurea Calcitrapa* L.]; [416/2. *Crepis paludosa* L. was probably an error, see p. 675]; 423/2. *Taraxacum erythrospermum* Andrz., as *T. lacistophyllum* Dahlst.; [427/1. *Sonchus palustris* L., only planted?]; 433/1. *Wahlenbergia hederacea* (L.) Rchb.; [435/7. *Campanula Rapunculus* L., garden weed only]; 453/3. *Pyrola minor* L.; [462/1. *Cyclamen hederifolium* Ait.]; 481/1. *Gentiana Pneumonanthe* L., ? extinct; 486/1. *Polemonium caeruleum* L., "quite native at Dimminsdale"—remove from brackets; 497/2. *Symphytum tuberosum* L.; 527/7. *Verbascum Lychnitis* L.; 534/2. *Antirrhinum Orontium* L.; [535/1. *Scrophularia vernalis* L., given in *C.F.*, is not mentioned]; [550/12. *Orobanche purpurea* Jacq., ?, needs confirmation]; 558/4. *Mentha spicata* L.; 558/11. *M. cardiaca* Baker; 558/12. *M. rubra* Huds.; 561/6. *Thymus lanuginosus* Mill.; [574/1. *Melittis Melissophyllum* L.]; 589/1. *Littorella uniflora* (L.) Asch.; 600/12. *Chenopodium ficifolium* Sm.; [615/1. *Polygonum dumetorum* L., doubtful, needs confirmation]; 618/7. *Rumex sanguineus* L.; 618/12. *R. palustris* Sm.; 622/1. *Aristolochia Clematitis* L.; [628/6. *Euphorbia stricta* L., only a garden weed]; [263/9. *E. virgata* W. & K. ? (as *E. Esula*) requires confirmation]; [628/11. *E. Cyparissias* L.]; [631/1. *Buxus sempervirens* L., planted]; [637/3. *Urtica pilulifera* L., ?, requires confirmation]; 652/1. *Empetrum nigrum* L. is not said to be extinct; [655/1. *Hydrocharis Morsus-Ranae* L., only introduced?]; [667/2. *Cephalanthera Damasonium* (Mill.) Druce and 667/3. *C. longifolia* (Huds.) Fritsch were probably errors, p. 675]; 669/10. *Orchis ericetorum* (Linton) E. S. Marshall (as *O. maculata* L. (*vera*)), but this is recorded in *Top. Bot. Suppl. 2*;

[672/5. *Ophrys muscifera* Huds., requires confirmation]; 673/1. *Herminium Monorchis* (L.) R. Br.; [680/1. *Sisyrinchium angustifolium* Mill., introduced]; [686/2. *Leucojum aestivum* L.]; [689/1. *Ruscus aculeatus* L., bracket—"always planted"]; ⟨715/1. *Tofieldia palustris* Huds.—was native, now extinct⟩; 718/1. *Juncus maritimus* Lam.; 718/15. *J. Gerardi* Lois.; 719/3. *Luzula Forsteri* Sm. is considered native, but "not seen since Babington's time"; 722/5. *Sparganium minimum* Fr.; 730/1. *Baldellia Ranunculoides* (L.) Parl; [746/5. *Scirpus triqueter* L. was probably an error, p. 675]; 746/8. *S. pauciflorus* Lightf., delete "extinct"; 748/2. *Rhynchospora alba* (L.) Vahl, probably extinct; [750/1. *Cladium Mariscus* R. Br., doubtful record, by H. C. Watson, probably an error]; [753/17. *Carex distans* L., delete—records considered to be only *C. binervis* Sm.]; 753/22. *C. serotina* Mérat; [753/61. *C. Pairaei* F. Sz., requires confirmation—as probably an error on p. 675]; 753/75. *C. dioica* L. is not extinct; 756/2. *Setaria viridis* (L.) Beauv.; 795/2. *Arrhenatherum tuberosum* (Gilib.) Druce; 809/2. *Koeleria britannica* (Domin) Druce; 825/3(2). *Glyceria declinata* Bréb; [826/3. *Festuca arundinacea* Schreb., probably error, p. 675]; 826/8. *F. dumetorum* L.; [829/3. *Lolium remotum* Schrank, probably an error, p. 675]; [841/1. *Pinus sylvestris* L., sometimes subspontaneous]; [851/3. *Asplenium viride* Huds., doubtful and probably extinct if correct]; ⟨864/1. *Osmunda regalis* L., recorded but extinct⟩; 867/1. *Pilularia globulifera* L.; 872/3. *Nitella flexilis* Ag.; [876/12. *Chara aspera* Willd., given in *C.F.*, is not in the *Flora*, and no record is known to G. O. Allen: delete]. [The following have been omitted as presumably due to error, and see *Flora*, p. 675:—36/1. *Barbarea stricta* Andrz.; 88/5. *Viola rupestris* Schmidt; 105/3. *Spergularia salina* J. & C. Presl; 127/11. *Geranium rotundifolium* L.; 149/3. *Ulex minor* Roth; 176/9. *Vicia lutea* L.; 176/14. *V. lathyroides* L.; 211/11. *Sedum anglicum* Huds.; 245/5. *Bupleurum tenuissimum* L.; 265/3. *Oenanthe crocata* L.; 276/2. *Peucedanum officinale* L.; 295/1. *Rubia peregrina* L.; 305/5. *Valerianella rimosa* Bast.; 396/3. *Cirsium heterophyllum* (L.) Hill; 425/3. *Lactuca saligna* L.; 458/4. *Armeria maritima* Willd. (as *Statice maritima* Mill.); 581/5. *Lamium moluccellifolium* Fr.; 587/4. *Ajuga Chamaepitys* (L.) Schreb.; 606/2. *Atriplex littoralis* L. (*A. angustifolia maritima dentata* Morison); 615/10. *Polygonum mite* Schrank; 628/10. *Euphorbia Esula* L. (probably *E. virgata* W. & K.); 722/4. *Sparganium angustifolium* Michx.; [746/3×5 ["3 bis"] ×*Scirpus carinatus* Sm.]. A list of species probably now extinct is given on p. 675.

V.-c. 71, Man. Paton, C. I.; 1933: A List of Flowering Plants, Ferns, and Horse-Tails of the Isle of Man; *The North Western Naturalist* (June and September) 547-619—reprinted (1934) in *The Isle of Man Natural History and Antiquarian Society, Proceedings* (*N.S.*), III, no. V, with unchanged pagination. This list contains a large number of species not recorded in *Top. Bot.*, *Supps.*, or *Comital Flora*, and it was not gone through by P. M. Hall for his annotated copy of *C.F.* bequeathed to the Society. The numerous records new to v.-c. 71 were

not extracted for the Society's Reports, and they are therefore given now for those who would keep their copies of *C.F.* up to date. The main list is followed by a list (pp. 608-613: indicated here by " B.") of " 'Escapes and Records requiring Confirmation' " and a few " Addenda to List of Manks Flowering Plants, etc." (p. 614: here indicated by " C."). A supplementary list—Paton, C. I.; 1944: " Isle of Man Botanical Report and Revision of Catalogues of Manks Flowering Plants and Ferns, 1934-1943," appeared in *The North Western Naturalist* for 1944 (Sept.), 164-170 (1945), here indicated by " 1944," followed by a few " Addenda, October 1944," indicated by " 1944 A." It is a little difficult to decide which of these records should be bracketed. Some of the doubtful records " requiring confirmation," relegated by Paton in 1933 to the list here indicated by B., have since been confirmed, e.g., *Coeloglossum viride*. But *Rumex maritimus* was included in the main list solely on the authority of Gasking's list (which contained a number of errors or slips), unsupported by specimens, whereas *Helianthemum guttatum* on the same authority is relegated to list B. *Geranium pyrenaicum* Burm. f. is relegated to list B. although so far recorded vice-counties 45-70 and 72 and no reason for doubt is given. A considerable number of species given in *C.F.* are relegated by Paton to B. as mere introductions or escapes, or probably so, and their status requires further investigation. This list will require further consideration before a second edition of *C.F.* is produced. The additions (and corrections) required in *C.F.* are as follows—introductions and escapes being marked by † in [ ] except aliens left unbracketed in *C.F.*, errors or presumed errors by [ ], and doubtful records by ?:—[†1/1. *Clematis Vitalba* L., B., also 1944]; 6/6. *Ranunculus Lingua* L.; 6/9. *R. arvensis* L.; 6/11. *R. sceleratus* L.; 6/24. *R. heterophyllus* Weber emend. Bab.; 6/28. *R. Baudotii* Godr.; 6/31. *R. Lenormandi* F. Schultz; [†14/1. *Aconitum anglicum* Stapf.: B., as *A. Napellus* L.]; 19/1. *Nuphar lutea* (L.) Sm.; 20/1. *Nymphaea alba* L.; 25/1. *Chelidonium majus* L.; 32/1. *Fumaria capreolata* L.; 32/5. *F. Boraei* Jord.; [32/6. *F. muralis* Sond., B., ?, requires confirmation, Ed.]; 35/4. *Rorippa islandica* (Oeder) Schinz & Thell., C. (as *Nasturtium palustre* DC.); 39/4. *Cardamine flexuosa* With.; [44/1. *Erophila verna* (L.) E. Meyer—the precise segregate requires to be determined, Ed.]; 45/5. *Cochlearia anglica* L. (1944); 45/6. *C. scotica* Druce (as *C. groenlandica* auct. angl.—? the *C. alpina* given in brackets in *C.F.* not mentioned by Paton, Ed.); [53/1. *Subularia aquatica* L., given in *C.F.* is not mentioned by Paton]; 61/3. *Lepidium Draba* L. (1944: "casual"); [61/4. *L. ruderale* L., B., ?]; [87/1. *Helianthemum guttatum* (L.) Mill., B.]; 88/3. *Viola Reichenbachiana* Jord. (as *V. silvestris* Lam.); [†88/8. *Viola odorata* L., given in *C.F.*, is only " introduced," B.—bracket in *C.F.*]; 89/1. *Polygala serpyllifolia* Hose, C. (as *P. serpyllacea* Weihe); 92/2. *Dianthus deltoides* L.; 95/1. *Saponaria officinalis* L.; 96/4. *Silene noctiflora* L.—" one specimen about 1885 "; [96/6. *S. quinquevulnera* L. (? escape)] [98/8. *S. acaulis* L., ?, B.]; 98/3. *Lychnis alba* Mill.; [101/2. *Stellaria nemorum* L. (old un-

confirmed record)]; [102/1. *Arenaria trinervia* L., ?, B.]; 102/10. *A. verna* L.; 103/1. *Sagina nodosa* (L.) Fenzl; 104/1. *Spergula arvensis* L. (as *S. vulgaris* Boenn.); 105/2. *Spergularia marginata* (DC.) Kittel, see also 1944; 108/2. *Claytonia perfoliata* Donn; 115/1. *Althaea officinalis* L.; [117/3. *Malva neglecta* Wallr., ?, B. (as *M. rotundifolia* L.); [127/1. *Geranium sanguineum* L., B.]; 127/2. *G. versicolor* L., B.; [127/3. *G. sylvaticum* L., ?, B.]; [127/4. *G. pratense* L., given in *C.F.*, only an "escape ?," B.]; 127/7. *G. pyrenaicum* Burm. fil., B.; [132/2. *Oxalis corniculata* L., "always planted," B.]; 147/3. *Genista tinctoria* L.; 154/3. *Melilotus arvensis* Wallr. (as *M. officinalis* Lam.); [155/1. *Trifolium medium* (L.) Huds., ?]; 155/15. *Trifolium hybridum* L.; [176/4. *Vicia Orobus* DC., in *C.F.*, suspected]; 183/2. *Prunus Padus* L.; [183/4. *P. Cerasus* L., ? error, see 1944]; 184/10. *Spiraea salicifolia* L., B.; [184/12. *S. Filipendula* L., see 1944, ? not native]; 185/153. *Rubus caesius* L.; 193/2. *Poterium polygamum* W. & K., B.; 194/2. *Rosa arvensis* L.; 194/6. *R. canina* L.; 194/10. *R. dumetorum* Thuill.; 194/12. *R. Afzeliana* Fr. (as *R. glauca* Vill.); 194/15. *R. rubiginosa* L.; 194/19. *R. tomentosa* Sm.; [195/1. *Pyrus Malus* L., given in *C.F.*, "probably not native," B.]; [199/2. *Saxifraga oppositifolia* L., B., "probably a slip for *Chrysosplenium oppositifolium*"—ignore, Ed.]; 199/17. *S. granulata* L.; [†199/24. *S. umbrosa* L., B., "run wild"]; [†199/25. *S. Geum* L., B.]; 211/1. *Sedum purpureum* Link (as *S. Telephium* L.), B., also 1944; 211/2. *S. rupestre* L., B.; 211/3. *S. reflexum* L., B.; 211/7. *S. album* L., B.; 216/2. *Myriophyllum alterniflorum* L.; 216/3. *M. verticillatum* L.; 217/1. *Callitriche stagnalis* Scop.; 217/5. *C. intermedia* Hoffm., 1944; 218/1. *Peplis Portula* L.; 247/1. *Apium graveolens* L. (" ? Native "); 247/5. *A. inundatum* (L.) Rchb. fil.; [248/1. *Cicuta virosa* L.: error suspected]; 250/1. *Carum Petroselinum* (L.) B. & H., " well established "; [250/4. *C. segetum* (L.) B. & H. " I have seen no specimen"]; 253/2. *Sium erectum* Huds.; 255/2. *Pimpinella Saxifraga* L.; [265/4. *Oenanthe pimpinelloides* L., error ?]; 276/5. *Peucedanum Ostruthium* (L.) Koch; [287/2. *Sambucus Ebulus* L., B.—" requires confirmation"]; [288/1. *Viburnum Opulus* L., B.—"requires confirmation "]; [296/6. *Galium uliginosum* L., B.—" requires confirmation"]; 298/1. *Asperula odorata* L.; [301/1. *Valeriana officinalis* L. records refer to 301/2. *V. sambucifolia* Mikan, 1944]; 302/1. *Centranthus ruber* (L.) DC., B.; [304/3. *Valerianella dentata* (L.) Poll., ? error]; 308/1. *Scabiosa Columbaria* L.; 320/2. *Erigeron acer* L.; 333/1. *Inula Helenium* L., B.; 353/1. *Bidens cernua* L.; 368/3. *Anthemis arvensis* L.; 368/4. *A. Cotula* L.; 370/13. *Chrysanthemum Parthenium* L.; 371/3. *Matricaria suaveolens* (Pursh) Buch.; 383/1. *Senecio sarracenicus* L.; [383/6. *S. erucifolius* L., ? error]; [393/1. *Arctium Lappa* L. (*A. majus* Bernh.), ? error for next—bracket]; 393/2. *A. vulgare* (Hill) Evans (as "*A.* [*intermedium*], var. *subtomentosum* Ar. Benn."); [393/3. *A. minus* (Hill) Bernh., ? error for 393/2]; 395/1. *Carduus nutans* L.; 395/2. *C. acanthoides* L. (as *C. crispus* L.); 397/1. *Onopordum Acanthium* L., B.; 399/1. *Silybum Marianum* (L.) Gaertn., B.; 405/11. *Cen-*

taurea nemoralis Jord.; 415/2. *Picris hieracioides* L.; 419/8. *Hieracium brunneocroceum* Pugsl., C. (as *H. aurantiacum* L.); 428/2. *Tragopogon pratensis* L. (as *T. minus* Mill.); 438/3. *Vaccinum Vitis-idaea* L.; [457/1. *Limonium vulgare* Mill., B., "perhaps a slip for *L. binervosum*"]; [460/1. *Primula elatior* (L.) Schreb., B., apparently *P. veris*×*vulgaris*]; [460/4. *P. farinosa* L., B., " needs confirmation "] 463/2. *Lysimachia vulgaris* L., 1944 A; 467/3. *Anagallis foemina* Mill.; [478/3. *Centaurium latifolium* (Sm.) Druce, B. (as *Erythraea latifolia*), " needs confirmation "]; [478/4. *C. pulchellum* (Sw.) Druce, B. (as *E. pulchella*), "needs confirmation "]; [†482/1. *Nymphoides peltatum* (S. G. Gmel.) Britt. & Rend., B., " deliberately introduced "]; 500/1. *Anchusa sempervirens* L., B.; 505/1. *Mertensia maritima* (L.) S. F. Gray; 506/3. *Myosotis secunda* A. Murray (as *M. repens* G. & D. Don); 532/26. *Linaria Cymbalaria* (L.) Mill., B.; 534/2. *Antirrhinum Orontium* L., 1944, " probably introduced "; 535/2. *Scrophularia aquatica* L.; 537/1. *Mimulus guttatus* DC., B. (as *M. Langsdorffii*); 543/18. *Veronica persica* Poir.; 543/21. *V. hederaefolia* L.; 545/3. *Euphrasia brevipila* Burn. & Gremli; 549/3. *Melampyrum pratense* L. (as var. *montanum* Johnst.); 551/1. *Lathraea Squamaria* L., B.; 558/6. *Mentha piperita* L., " ? native "; 560/1. *Origanum vulgare* L., and see 1944; 562/5. *Satureia ascendens* (Jord.) Druce; [562/7. *S. Nepeta* (L.) Scheele, " no specimens "—presumably errors, Ed.]; 563/1. *Clinopodium vulgare* L.; 577/13. *Stachys officinalis* (L.) Trev., " no recent record "; [578/3. *Galeopsis dubia* Leers, B.—requires confirmation]; †581/1. *Lamium album* L., B.; 581/5. *L. molucellifolium* Fr.; 581/10. *L. Galeobdolon* (L.) Cr., B.; 583/1. *Ballota nigra* L.; [†588/9. *Plantago media* L., B., "introduced"]; 589/1. *Littorella uniflora* (L.) Asch.; 600/14. *Chenopodium Vulvaria* L.; 606/2. *Atriplex littoralis* L.; 606/5. *A. hastata* L.; 606/7. *A. glabriuscula* Edmondst.; 611/3. *Salicornia dolichostachya* Moss, 1944; 615/15. *P. aequale* Lindm.; 618/13. *Rumex maritimus* L.; 626/1. *Viscum album* L., B.; 633/6. *Ulmus stricta* Lindl., B.; 642/2. *Betula pubescens* Ehrh., 1944; 644/1. *Carpinus Betulus* L., B.; 651/1. *Populus canescens* Sm., 1944; [651/8. *P. alba* L., "probably planted"]; 664/2. *Spiranthes spiralis* (L.) C. Koch; [669/8. *Orchis praetermissa* Druce, = the next, see 1944]; 669/9. *O. purpurella* T. & T. A. Steph., 1944; 669/11. *O. Fuchsii* Druce, 1944; 669(2)/1. *Anacamptis pyramidalis* (L.) Rich.; 674(3)/1. *Coeloglossum viride* (L.) Hartm., B., and 1944; 684/1. *Narcissus pseudo-Narcissus* L., B.; 684/3. *N. biflorus* Curt., B.; 718/14. *Juncus compressus* Jacq.; 718/15. *J. Gerardi* Lois.; 721/1. *Typha latifolia* L.; 722/1. *Sparganium neglectum* Beeby; 722/2. *S. ramosum* Huds.; 722/4. *S. angustifolium* Michx.; 727/3. *Lemna trisulca* L.; 737/17. *Potamogeton crispus* L.; 739/1. *Zannichellia palustris* L.; 747/4. *Eriophorum vaginatum* L.; 749/1. *Schoenus nigricans* L., B., "needs confirmation"; 753/9. *Carex hirta* L.; 753/10. *C. pendula* Huds.; 753/22. *C. serotina* Mérat (as *C. Oederi* Retz); 753/34. *C. pallescens* L., 1944; 753/57. *C. remota* L.; 753/59. *C. Otrubae* Podp. (as *C. vulpina* L.); 753/60. *C. spicata* Huds. (as *C. contigua* Hoppe); 753/63. *C. pani-*

culata L.; 753/70. *C. incurva* Lightf.; [753/72. *C. pauciflora* Lightf., B., "needs confirmation"]; 753/75. *C. dioica* L.; [758/2. *Spartina stricta* (Ait.) Roth, ? slip for *Nardus stricta* L.; ignore, Ed.]; 783/1. *Calamagrostis epigeios* (L.) Roth, B.; 809/4. *Koeleria albescens* DC. (as *K. glauca* v. *albescens*); 818/2. *Melica uniflora* Retz.; †824/1. *Poa Chaixii* Vill., B., "not really native"; 825/3(2). *Glyceria declinata* Bréb., 1944; 827/17. *Bromus pratensis* Ehrh. (as *B. commutatus* Schrad.); 827/18. *B. racemosus* L.; 829/2. *Lolium temulentum* L.; 829/3. *L. remotum* Schrank; 835/2. *Hordeum murinum* L.; 840/1. *Taxus baccata* L., "possibly native, but usually, if not always, planted"; [†841/1. *Pinus sylvestris* L., B., "bog timber, but now re-introduced"]; 844/6. *Equisetum palustre* L.; 844/9. *E. variegatum* (Schleich.) Weber; 851/4. *Asplenium obovatum* Viv., B. (as *A. lanceolatum* Huds.)—requires confirmation; 856/5. *Dryopteris aemula* (Brackenr.) Kuntze (as *Lastrea aemula* Brackenr.); 856/8. *D. Thelypteris* (L.) A. Gray (as *L. Thelypteris* (Bory); 856/10. *D. Linneana* C. Christ.; [857/2. *Cystopteris regia* Presl, and 853/3. *C. Dickieana* Sim., see B., both planted?, the first "certainly not native"; ignore both, Ed.]; [867/1. *Pilularia globulifera* L., B., "needs confirmation"]; 876/3. *Chara vulgaris* L.

6/10. RANUNCULUS SARDOUS Cr. 17, Surrey; a few plants on clay soil by Horne aerodrome, J. A. WHELLAN, det. J. E. LOUSLEY.

6/13. RANUNCULUS PARVIFLORUS L. 19, N. Essex; on a sunny hedge bank near St Osyth, J. A. WHELLAN. 30, Beds.; Colmworth, J. G. DONY.

§6/21. RANUNCULUS CIRCINATUS Sibth. *35, Mon.; reen near Magor, H. K. AIRY SHAW.

§†14/1. ACONITUM ANGLICUM Stapf., (presumably: no flower, but leaf correct). *96, Easterness; shingle of R. Enrick, Drumnadrochit, Miss M. S. CAMPBELL, det. A. J. WILMOTT.

21/4. PAPAVER LECOQII Lamotte. 34, W. Glos.; docks, Lydney, S. G. CHARLES, comm. W. R. PRICE.

21/6. PAPAVER HYBRIDUM L. 33, E. Glos.; Fiddington, near Tewkesbury, C. W. BANNISTER, comm. W. R. PRICE.

†36/2. BARBAREA VERNA (L.) Asch. 33, E. Glos.; Tewkesbury, C. W. BANNISTER, comm. W. R. PRICE.

§†36/5. BARBAREA INTERMEDIA Bor. 33, E. Glos.; Claydon, Ashchurch, C. W. BANNISTER, comm. W. R. PRICE. *96, Easterness; shingle of R. Enrick, Drumnadrochit, Miss M. S. CAMPBELL.

§37/1. ARABIS HIRSUTA (L.) Scop. *30, Beds.; Chaul End, Cuddington, 1945, H. SALMON and D. B. SLOPE, comm. J. G. DONY.

37/6. ARABIS GLABRA (L.) Bernh. 19, N. Essex; on a dry hedge bank near Weeley, J. A. WHELLAN.

†39/6. CARDAMINE TRIFOLIA L. 4, N. Devon.; naturalised in abundance in Trentishoe churchyard, WM. HOWARD, comm. NAT. MUS. WALES.

43/4. DRABA MURALIS L. 33, E. Glos.; old wall, near Sezincote, Miss D. A. C. LONG, comm. W. R. PRICE.

†47/2. HESPERIS MATRONALIS L. 38, Warw.; Bills Lane, Shirley, probably garden escape, but gradually spreading, 1943-45, L. T. ADAMS. 96, Easterness; shingles of R. Enrick, Drumnadrochit, Miss M. S. CAMPBELL.

†49/5 SISYMBRIUM IRIO L. 21, Middx.; London (just outside city boundary), Trinity Gardens, E.C., 1945, K. E. EVETTS, confirmed by A. J. WILMOTT—[not there in 1946, J. E. LOUSLEY.]

50/1. ERYSIMUM CHEIRANTHOIDES L. †89, E. Perth; in waste ground at Pitlochry, J. A. WHELLAN.

54/1. BRASSICA OLERACEA L. 14, E. Sussex; cliffs by Cuckmere Haven, in plenty (Wolley-Dod (*Fl. Sussex*, p. 40) says:—" probably extinct as a native in Sussex), F. ROSE.

†54/20. BRASSICA GALLICA (Willd.) Druce. 34, W. Glos.; Sharpness Docks, R. B. ABELL.

55/1. DIPLOTAXIS TENUIFOLIA (L.) DC. 45, Pembr.; near Tenby Station, R. B. ABELL. †55, Leics.; waste ground, Evington, Leicester, F. A. SOWTER.

†74/2. BUNIAS ORIENTALIS L. 18, S. Essex; abundant by the main Tilbury road at Barking, and a few plants near Barking Power Station, J. A. WHELLAN. 21, Middx.; abundant on a roadside in the Isle of Dogs, J. A. WHELLAN.

75/1. CRAMBE MARITIMA L. 14, E. Suss.; very fine and abundant at Cuckmere Haven: plentiful at Pevensey Bay: apparently this has greatly increased during the war owing to absence of interference, F. ROSE.

†76/1. RAPISTRUM PERENNE (L.) All. 30, Beds.; roadside, Cople, J. G. DONY, det. A. J. WILMOTT.

†76/3. RAPISTRUM RUGOSUM (L.) All. 17, Surrey; cultivated field on the Downs above West Horsley, N. Y. SANDWITH.

§77/1. CAKILE MARITIMA Scop. *16, W. Kent; All Hallows beach: plenty at Grain beach, F. ROSE.

80/2. RAPHANUS MARITIMUS Sm. 14, E. Suss.; Kemptown, Brighton, 1944, L. A. W. BURDER.

88/3b. VIOLA REICHENBACHIANA Jord. ex Bor. var. PUNCTATA (Rouy & Fouc.) Wilmott. 3, S. Devon; terrace of Lindridge House (near Newton Abbot), B. M. MORGAN, det. A. J. WILMOTT.

§88/7. VIOLA LACTEA Sm. *21, Middx.; "Hounslow Drilling Ground," W. W. Newbould, 1868, in Hb. Trimen as *V. canina*, det. A. J. WILMOTT (1922, as "*V. lactea* (or hybrid)", and confirmed 1946).

89/7. POLYGALA AUSTRIACA Cr. 15, E. Kent; in fair quantity near Lenham downs, F. ROSE.

101/4. STELLARIA NEGLECTA Weihe. 30, Beds.; Flitwick, E. MILNE-REDHEAD.

§102/6. ARENARIA LEPTOCLADOS Guss. 39, Staff.; only in one "artificial habitat," status doubtful, E. S. Edees (1945: *N.W. Nat.*, *19*, 273). *63, S.W. York.; Armthorpe Quarry, near Doncaster, 1944, J. M. Taylor (1945: *Naturalist*, No. 812, 23).

§103/7(2). SAGINA PILICAULIS Jord. *30, Beds.; wall of The White Horse Inn, Eaton Socon, 1936, A. J. WILMOTT.

†112/5. HYPERICUM CALYCINUM L. 44, Carm.; Ely Bridge, R. B. ABELL.

112/12. HYPERICUM DUBIUM Leers. 15, E. Kent; Perenden Heath (Maidstone); 16, W. Kent; stream E. of High Rocks (Tunbridge Wells), on Kent side, very rare in Kent; both F. ROSE. 33, E. Glos.; in plenty in old meadow behind Midhurst, Hucclecote, Gloucester, J. W. HAINES.

112/12×14. HYPERICUM DUBIUM Leers × PERFORATUM L. 17, Surrey; in at least two spots in shade in the wild part of Kew Gardens, apparently a survival of the native flora, 1941 and subsequently (only *H. perforatum* and *H. humifusum* are recorded in *The Wild Fauna and Flora* of the Gardens, published in 1906, and its numerous supplements), N. Y. SANDWITH.

†116/5. LAVATERA THURINGIACA L. 30, Beds.; Cockayne Hatley Wood, but probably an escape from nearby Churchyard, J. G. DONY, det. with N. Y. SANDWITH and E. MILNE-REDHEAD.

†116/8. LAVATERA TRIMESTRIS L. 30, Beds.; cornfield weed, Arlesey, P. TAYLOR, comm. J. G. DONY, det. with N. Y. SANDWITH and E. MILNE-REDHEAD.

†117/5. MALVA ALCEA L. 30, Beds.; rubbish dump, Sundon, H. S. SOUSTER, comm. J. G. DONY, det. with N. Y. SANDWITH and E. MILNE-REDHEAD.

§125/2. LINUM ANGLICUM Mill. *†, 30, Beds.; rubbish dump, Sundon, J. G. DONY.

†127/2. GERANIUM VERSICOLOR L. 42, Brecon.; near Brecon, Miss D. P. WILLIAMS, comm. NAT. MUS. WALES.

†127/5. GERANIUM PHAEUM L. 44, Carm.; near Ely Bridge, R. B. ABELL.

127/8. GERANIUM COLUMBINUM L. 38, Warw.; Bills Lane, Shirley, very local, L. T. ADAMS.

127/10b. GERANIUM MOLLE L. var. AEQUALE Bab. 34, W. Glos.; arable field, Tarlton near Cirencester, abundant, E. MILNE-REDHEAD.

127/12. GERANIUM PUSILLUM L. 36, Heref.; on the limestone of Nash Scar, N.E. of Kington, N. Y. SANDWITH.

†128/5. ERODIUM BOTRYS (Cav.) Bert. 30, Beds.; Biggleswade: Potton, J. G. DONY, det. A. J. WILMOTT.

†133/2. IMPATIENS CAPENSIS Meerb. 6, N. Som.; bank of Avon at Newton St Loe, 1944, Dr C. L. Walton (C. I. Sandwith, 1945, 15).

†133/3. IMPATIENS PARVIFLORA DC. 14, E. Suss.; Brighton, L. A. W. BURDER.

§†133/4. IMPATIENS ROYLEI Walp. *30, Beds.; Tempsford, E. MILNE-REDHEAD and J. G. DONY.

147/2. GENISTA PILOSA L. 48, Mer.; Cader Idris (Mynydd Moel and Mynydd y Gader), confirming old record, E. Price Evans (1945: 176).

153/1. MEDICAGO FALCATA L. †15, E. Kent; Wouldham, on river wall, F. ROSE. 30, Beds.; roadside, Biggleswade, J. G. DONY.

153/2. MEDICAGO SYLVESTRIS Fries. †15, E. Kent; Wouldham, on river wall, F. ROSE (as ×*M. sylvestris* Fries).

†153/4b. MEDICAGO HISPIDA var. DENTICULATA (Willd.) G. & G. 30, Beds.; Westoning, E. MILNE-REDHEAD: Gravel-pit, Eaton Socon: Clophill: Biggleswade: J. G. DONY (as *M. denticulata* Willd.).

§153/6. MEDICAGO MINIMA (L.) Bartal. *30, Beds.; Biggleswade, J. G. DONY: Gravel-pit, Eaton Socon, C. C. Foss and J. G. DONY.

†153/8. MEDICAGO VARIA Martyn. 34, W. Glos.; Sharpness Docks, R. B. ABELL, comm. W. R. PRICE (as ×*M. varia* Martyn)—the relation of this to *M. sylvestris*, both of which are commonly supposed to be *M. falcata* × *sativa*, requires further investigation, and specimens of both, with their putative parents when growing together, would be welcomed, A. J. WILMOTT.

†153/26. MEDICAGO PRAECOX DC. 30, Beds.; Biggleswade, E. MILNE-REDHEAD and J. G. DONY, det. with N. Y. SANDWITH.

155/18. TRIFOLIUM SUFFOCATUM L. 16, W. Kent; Shorne Warren: Green Street Green (near Darenth): Isle of Grain: 1945, F. ROSE.

§†155/19. TRIFOLIUM AGRARIUM L. 4, N. Devon: a few plants in a clover field at Belstone, 1881, W. B. WATERFALL, vide specimen in his herbarium recently presented to Herb. Kew.—not recorded from District II, Sub-district E, in Martin and Fraser's *Flora of Devon*—det. and comm. N. Y. SANDWITH. *30, Beds.; gravel-pit, Eaton Socon, J. G. DONY.

155/22. TRIFOLIUM FILIFORME L. 45, Pembr.; Tenby, R. B. ABELL.

†155/37. TRIFOLIUM RESUPINATUM L. 34, W. Glos.; Sharpness Docks, R. B. ABELL.

§176/9. VICIA LUTEA L. *†7, N. Wilts.; railway track, Christian Malford, N. PESKETT, comm. J. D. GROSE. ‡58, Ches.; Caldy Hill, West Kirby, Miss M. B. Hewlett (N. F. Ellison: *N.W. Nat.*, *20*, 73), "confirming" an old record by Miss Grundy (1862) from the banks of the R. Dee, West Kirby, where it was destroyed by heavy storms in 1863.

§†178/1. LATHYRUS LATIFOLIUS L. ‡17, Surrey; Burdon Lane, Banstead Downs, known by me for over 20 years, E. C. WALLACE (see *1938 Rep.* for previous record, to which add *).

178/2. LATHYRUS SYLVESTRIS L. 33, E. Glos.; lane near Winchcombe, Miss L. ABELL.

178/9. LATHYRUS APHACA L. 14, E. Suss.; a few plants on a hedge bank near Tarring Neville, J. A. WHELLAN.

†183/8. PRUNUS CERASIFERA Ehrh. 30, Beds.; Miletree Farm, Heath and Reach, E. MILNE-REDHEAD and J. G. DONY, det. R. MELVILLE. 17, Surrey; hedges by West Horsley Place, 1943, N. Y. SANDWITH.

†184/7. SPIRAEA OPULIFOLIA L. 17, Surrey; one bush in a wood between Claygate and Steer Lane, 1943, N. Y. SANDWITH [3013] (as *Physocarpus opulifolius* (L.) Maxim.).

†184/10. SPIRAEA SALICIFOLIA L. 44, Carm.; hedges, Cynghordy, J. A. WEBB, comm. NAT. MUS. WALES.

187/2. GEUM RIVALE L. 43, Radnor; damp wood near Siluria, between New Radnor and Dolyhir, C. I. and N. Y. SANDWITH.

†188/4. FRAGARIA CHILOENSIS Duchesne. 44, Carm.; edge of a wood near Carway, J. A. WEBB, comm. NAT. MUS. WALES.

189/6. POTENTILLA VERNA L. 39, Staff.; Manifold Valley (1942: W. H. Hardaker), seen in several places there since, also in the Hamps Valley, (other record in Central Staffs. "almost certainly a misnomer"); the species had escaped notice in the v.-c. for seventy years, E. S. Edees (1945: *N.W. Nat.*, *19*, 273).

†189/13. POTENTILLA RECTA L. 30, Beds.; well established at least since 1938 on roadside near Luton and Dunstable Hospital, H. B. SOUSTER, comm. J. G. DONY.

†189/13b. POTENTILLA RECTA L. var. SULFUREA DC. 30, Beds.; in chalk grassland far removed from houses, Deacon Hill, Shillington, 1944, S. Bowden (wrongly recorded in *Journal of Letchworth Naturalist's Society*, Dec. 1944, as *P. gracilis*): Barton Hills, in similar habitat, J. G. DONY: Barton Cutting, Streatley, in similar habitat, E. MILNE-REDHEAD and J. G. DONY.

189/25. POTENTILLA PALUSTRIS (L.) Scop. 45, Pembr.; King's Moor, Kilgetty, R. B. ABELL.

§190/8. ALCHEMILLA ALPESTRIS Schmidt. *44, Carm.; near Halfway, Llandovery, J. A. WEBB, comm. NAT. MUS. WALES.

191/2. AGRIMONIA ODORATA (Gouan) Mill. 43, Radnor; Worsell Wood, Stanner, C. I. and N. Y. SANDWITH.

†192/1. ACAENA ANSERINIFOLIA (Forst.) Druce. 30, Beds.; gravel-pit, Eaton Socon, C. C. FOSS, comm. J. G. DONY.

194/8k. ROSA CANINA L. var. POUZINI (Tratt.) W.-Dod f. WOLLEY-DODII Sudre. 21, Middx.; Ruislip Lido Common, a small bush about 6 ft. high, 1942, N. Y. SANDWITH [3077], who adds "I am not aware that this very local rose has up to now been recorded outside Surrey."

194/9. ROSA CANINA L. var. BLONDAEANA (Rip.) Rouy. 43, Radnor; hedge, Llandegley, N. Y. SANDWITH [3026].

§196/2. CRATAEGUS OXYACANTHOIDES Thuill. *6, N. Som.; one bush in an old quarry on Odd Down, Bath, 1935→, D. Coombe (C. I. Sandwith, 1945, 16, as *C. oxyacantha* L. em. Jacq.). 17, Surrey; a bush on which most of the flowers bear 3 styles, on a roadside between Horsley and Shere, 1944, N. Y. SANDWITH [3016].

§†197/2. COTONEASTER MICROPHYLLUS Wall. *104, Mid Ebudes; Eigg, in a burn below the Sgurr, 1943, doubtless bird sown, R. GRAHAM.

†197/3. COTONEASTER SIMONSII Baker. 44, Carm.; hedges, Llanddarog, J. A. WEBB, comm. NAT. MUS. WALES.

199/19. SAXIFRAGA RIVULARIS L. 92, S. Aberd.; very scarce in the mossy burn flowing out of the hanging corrie below the summit of Cairn Toul, 1944, R. GRAHAM: it was abundant in Coire an't Saighdeir (Soldiers' Corrie) nearby, 1941, E. C. WALLACE.

203/1. CHRYSOSPLENIUM ALTERNIFOLIUM L. 16, W. Kent; Lunsford, near E. Malling, 1945, F. ROSE.

†211/1(2). SEDUM SPURIUM M.B. 44, Carm.; quarry side near Dewydd, J. A. WEBB, comm. NAT. MUS. WALES.

§217/5. CALLITRICHE INTERMEDIA G. F. Hoffm. *63, S.W. York.; in plenty in a small dam near Whirlow Bridge, near Sheffield, 1944, John Brown, det. J. E. Lousley (1944: *N.W. Nat.*, *19*, 180). ‡66, Durham; old pond at Birtley, J. W. H. Harrison (1945: *Vasc. subst.*, *19*, 66—" although I recorded this species from the Tees Marshes in 1918, it does not appear in the *Comital Flora* ").

§219/2. LYTHRUM HYSSOPIFOLIA L. ‡†87, Clackmannan; Kennetpans, on ballast (J. Couper), F. B. White (1898: *Fl. Perthshire*, p. 152). *†89, E. Perth; a single casual plant by the roadside at Pitlochry, J. A. WHELLAN—(add to *C.F.*, but see White).

220/3×4. ×EPILOBIUM INTERMEDIUM Rchb. 62, N.E. Yorks.; Carlton Miniott near Thirsk, 1905, N. DOUGLAS SIMPSON [05.363], det. G. M. ASH, 1945 (as *E. hirsutum* × *parviflorum*).

220/4×8. ×EPILOBIUM PERSICINUM Rchb. 43, Radnor; roadside near Old Radnor, with the parents, C. I. and N. Y. SANDWITH [3028]. Each flower has 8 petals on the specimens collected.—Confirmed by G. M. ASH (as *E. parviflorum* × *roseum*).

§220/6. EPILOBIUM LAMYI F. Schultz. *8, S. Wilts.; Southgrove Copse, J. D. GROSE, det. G. M. ASH.

§220/7. EPILOBIUM OBSCURUM Schreb. *101, Cant.; kitchen garden weed, Dunmore House, J. S. L. Gilmour (1945: 36).

†220/7(2). EPILOBIUM ADENOCAULON Hausskn. 9, Dorset; Bryanston near Blandford, N. DOUGLAS SIMPSON [45.124], confirmed by G. M. ASH. 22, Berks.; garden weed, Crowthorne, 1933, N. DOUGLAS SIMPSON [33.223], det. G. M. ASH, 1945. 34, W. Glos.; gravel pit, Frampton-on-Severn, W. R. PRICE.

220/7(2)×4. EPILOBIUM ADENOCAULON Hausskn. × PARVIFLORUM Schreb. 9, Dorset; Bryanston near Blandford, N. DOUGLAS SIMPSON [45.125], confirmed by G. M. ASH.

§220/9. EPILOBIUM LANCEOLATUM Seb. & Maur. *7, N. Wilts.; railway bank, Christian Malford, J. D. GROSE, det. G. M. ASH. 15, E. Kent; gravel pits at Newnham (near Faversham; 16, W. Kent; Swanscombe Wood: Thrift Wood, S. of Greenhithe: Darenth Wood: Trottiscliffe ("Trosley"): Upper Halling: Plaxtol: Allington Quarry; all F. ROSE, confirmed by G. M. ASH.

220/10×4. ×EPILOBIUM LIMOSUM Schur. 33, E. Glos.; Coopers Hill, Gloucester, J. W. HAINES, comm. W. R. PRICE (as *E. montanum* × *parviflorum*).

†220/17. EPILOBIUM PEDUNCULARE A. Cunn. 69, N. Lancs.; growing in the interstices of a stone wall of soft grey slate and spreading on to stony ground near by in the lower part of Tilberthwaite Gill, Westmorland, locally plentiful on damp banks and rocks for some distance by the side of the road leading northwards from High Broadrain (N. of Grasmere) towards Thirlmere—it is quite probable that the records of *E. nummularifolium* in Wilson's *Fl. Westmorland* refer in reality to *E. pedunculare*, and they should be looked upon with suspicion unless confirmed, J. P. M. BRENAN.

247/5. APIUM INUNDATUM (L.) Rchb. fil. 69, Westmorland; floating in water on lake shore at N.W. end of Grasmere (new to District 1 of the county), J. P. M. BRENAN.

250/2. CARUM VERTICILLATUM (L.) Koch. 45, Pemb.; King's Moor, Kilgetty, R. B. ABELL.

†250/3. CARUM PETROSELINUM (L.) B. & H. 45, Pemb.; Pembroke Castle walls, Miss L. ABELL.

§264/1. CRITHMUM MARITIMUM L. *16, W. Kent; among the stones of the sea wall, Isle of Grain, well established, F. ROSE.

§265/4. OENANTHE PIMPINELLOIDES L. *16, W. Kent; golf course between Bickley and Pett's Wood, 1943, R. W. Hale (Lousley, 1945 A, 9).

265/5. OENANTHE SILAIFOLIA M.B. 32, Northants; in quantity by the R. Nene, in Kingsthorpe meadows, Northampton—only previously recorded for v.-c. 32 at Aynhoe in the extreme S.W. (Druce, *1920 Rep.*, 126 and 229), F. ROSE.

265/6. OENANTHE LACHENALII C. Gmel. 30, Beds.; The Litany, Totternhoe, J. G. DONY.

†279/1. CORIANDRUM SATIVUM L. 13, W. Suss.; on a bombed site in Midhurst, 1943, F. ROSE. 30, Beds.; rubbish dump, Sundon, E. MILNE-REDHEAD and J. G. DONY: cornfield, Harlington, J. G. DONY.

†281/1. BIFORA RADIANS M.B. 34, W. Glos.; Sharpness Docks, R. B. ABELL, det. A. J. WILMOTT.

283/2b. CAUCALIS DAUCOIDES L. var. MURICATA (Bisch.) G. & G. 13, W. Suss.; cornfield near Rudgwick, 1926, Mrs & R. GRAHAM (wrongly recorded in *B.E.C. 1926 Rep.*, 116, as *C. nodosa* Scop. var. *pedunculata* Druce from Mullion, det. G. C. Druce).

†285/3. CORNUS STOLONIFERA Michx. 44, Carm.; hedges near Fron, J. A. WEBB, comm. NAT. MUS. WALES.

296/3. GALIUM ERECTUM Huds. 15, E. Kent; Juliberry Downs, Chilham; 16, W. Kent; Mount's Wood, Swanscombe; both F. ROSE, confirmed by A. J. WILMOTT.

296/5. GALIUM PUMILUM Murr. 15, E. Kent; abundant on Juliberry Downs, Chilham, F. ROSE and D. H. KENT, confirmed by A. J. WILMOTT.

296/6. GALIUM ULIGINOSUM L. 39, Staff.; rare but "not extinct, however, having been found recently in half-a-dozen localities throughout the county," E. S. Edees (1945: *N.W. Nat.*, *19*, 273).

296/13. GALIUM ANGLICUM Huds. 15, E. Kent; in some quantity on cinders in the railway sidings at Sandwich, J. A. WHELLAN, "flowers greenish," det. J. E. LOUSLEY.

298/1. ASPERULA ODORATA L. 38, Warw.; bomb-site, Burman Road, Shirley, 1944-5, L. T. ADAMS.

†306/3. DIPSACUS SATIVUS (L.) Honck. 30, Beds.; Bradger's Hill, Luton, and intermediates with *D. fullonum* L. (*D. sylvestris* (Huds.) Mill.), P. TAYLOR, comm. J. G. DONY.

320/2×3. ×ERIGERON HUELSENII Kern. 15, E. Kent; frequent with the parents, old lime-works by Medway, Burham; 16, W. Kent; Farningham Wood border: chalk waste at Halling: Allington Quarry; all F. ROSE (as *E. acer* × *canadensis*).

†320/3. ERIGERON CANADENSIS L. 33, E. Glos.; G.W.R. Station, Cirencester, H. C. LEACH, comm. W. R. PRICE.

†322/1. BACCHARIS HALIMIFOLIA L. 11, S. Hants; bushes of this introduced species are well established on the shore at Mudeford, 1942, N. D. SIMPSON and N. Y. SANDWITH.

§324/2. FILAGO APICULATA G. E. Sm. *16, W. Kent; border of Farningham Wood, F. ROSE.

353/2b. BIDENS TRIPARTITA L. var. INTEGRA Koch. 41, Glam.; Morpha Pools, Margam, E. VACHELL.

†354/1. GALINSOGA PARVIFLORA Cav. 90, Forfar; weed in a nursery at Barnhill, Dundee, 1942, R. A. Taylor (1945: *Gard. Chron.*, *117*, 61).

†354/2b. GALINSOGA QUADRIRADIATA Ruiz & Pav. var. HISPIDA (DC.) Thell. 21, Middx.; a large patch on waste ground (bombed site) in front of St James' Church, Piccadilly, London, J. P. M. BRENAN.

†355/3. MADIA SATIVA Molina subsp. CAPITATA (Nutt.) Piper in *Contr. U.S. Nat. Herb.*, *11*, 576 (1906); Keck in *Madroño*, *3*, 4 (1935). 34, W. Glos.; bombed site, Welshback, Bristol, 1944, Mrs BELL; 37, Worcs.; on an H.M. Office of Works camp site at Malvern, Aug. 1941, Surgeon Lt.-Commander J. G. MORE NISBETT, R.N.; all comm. N. Y. SANDWITH.

†368/3. ANTHEMIS ARVENSIS L. 39, Staff.; "the only reliable records . . . point to the conclusion that *A. arvensis* is not a native Staffordshire plant, but occurs from time to time as a casual," E. S. Edees (1945: *N.W. Nat.*, *19*, 274).

†381/1. DORONICUM PARDALIANCHES L. 55, Leics.; roadside, near Ulverscroft, 1944, F. A. SOWTER.

§†383/7. SENECIO SQUALIDUS L. *18, S. Essex; near Barking, 1926, Mr Willis: known for some years at West Ham and Forest Gate, in the Wanstead Park district, 1944: plentiful in Overton Drive, Leytonstone, 1944: G. Lister (1945: *Essex Nat.*, *27*, 172).

383/7×10. SENECIO SQUALIDUS L. × VULGARIS L. 21, Middx.; City of London, on bombed site off Fleet Street, E.C., at Serjeants' Inn, 1944, only one plant seen, N. Y. SANDWITH [2893]. 34, W Glos.; bombed site, Bristol Bridge, Bristol, 1944, C. I. and N. Y. SANDWITH.

†383/8. SENECIO VISCOSUS L. 89, E. Perth; on the railway track at Ballinluig and Dalguise, J. A. WHELLAN.

395/2×1. CARDUUS CRISPUS L. × NUTANS L. 36, Heref.; on the limestone of Nash Scar, N.E. of Kington, N. Y. SANDWITH, confirmed by W. A. SLEDGE.

†395/3(2). CARDUUS TENUIFLORUS Curt. 30, Beds.; gravel pit, Eaton Socon, J. G. DONY, det. E. MILNE-REDHEAD.

396/1. CIRSIUM ERIOPHORUM (L.) Scop. 57, Derbs.; two fasciated plants near Castleton, 1944, P. Newton (1945: *N.W. Nat.*, *19*, 179).

†405/19. CENTAUREA MONTANA L. 44, Carm.; naturalised in grassy hedges, between Dewydd and Ffairfach, J. A. WEBB, comm. NAT. MUS. WALES.

†405/31. CENTAUREA SOLSTITIALIS L. 17, Surrey; a casual by Horne aerodrome, J. A. WHELLAN.

421/3. HYPOCHAERIS GLABRA L. 16, W. Kent; border of Farningham Wood: 1945, F. ROSE.

425/1. LACTUCA VIROSA L. 36, Heref.; still in one spot on limestone rocks on the Little Doward, 1944, J. W. GOUGH and N. Y. SANDWITH.

§†425/2. LACTUCA SERRIOLA L. *7, N. Wilts.; Hullavington Station, J. D. GROSE, det. A. J. WILMOTT.

†425/5. LACTUCA DUBIA Jord. 33, E. Glos.; aerodrome, Brockworth, Gloucester, J. W. HAINES, det. J. E. LOUSLEY (as *L. Serriola* L. var. *dubia* (Jord.) Rouy).

†428/1. TRAGOPOGON PORRIFOLIUS L. 2, N. Cornw.; by roadside (near the sea), Port Gavern, B. VERDCOURT.

428/1×2b. TRAGOPOGON PORRIFOLIUS L. × PRATENSIS var. MINOR (Mill.). 15, E. Kent; cornfield, Ramsgate (with *T. pratensis* var. *minor*, the *T. porrifolius* growing in a derelict garden 50 yards away), 1939, F. DRUCE and R. GRAHAM.

435/8. CAMPANULA PATULA L. 43, Radnor; one plant on roadside between Stanner and Dolyhir, J. W. GOUGH and N. Y. SANDWITH.

435/13. CAMPANULA ALLIARIIFOLIA Willd. (=*C. lamiifolia* M.B.). 1, W. Cornw.; railway cutting at Port Isaac Road station. Collected here and identified independently by J. P. M. Brenan at Oxford and H. K. Airy Shaw at Kew. With Mr Brenan I also observed it from the railway carriage in a similar situation at two other localities—one near Liskeard and the other near Lostwithiel. I have seen no record of the occurrence of this striking plant, but can hardly believe that it has not been observed. I understand that it is a native of the Caucasus, and presumably must have been introduced with ballast or something, but there is little doubt that it is spreading along the Cornish railways, N. E. G. CRUTTWELL.

†474/2. BUDDLEIA DAVIDI Franchet. 14, E. Suss.; " a prominent feature of many bombed sites has been the extraordinary widespread

extension to them of Buddleia and its prolific and rapid growth" (*Hastings and E. Sussex Naturalist, 6*, 171). 35, Mon.; roadside, Undy, A. E. WADE.

§478/4. CENTAURIUM PULCHELLUM (Sw.) Druce. ‡7, N. Wilts.; Spye Park (add to *C.F.* but for previous records see *Journ. Bot.*, 1890 (Rogers and Clarke) and 1904 (Marshall)), J. D. GROSE.

480/6. GENTIANA ANGLICA Pugsl. *6*, N. Som.; Bathford, Mr Lubbock (C. I. Sandwith, 1945: 16).

†490/2. OMPHALODES VERNA Moench. 3, S. Devon; well established in wood near Lindridge House lodge, Miss B. M. MORGAN. 69, Westm.; Ladies' Wood, Whitbarrow Lodge, Witherslack, 1944, Margaret Cross (Winifred M. Woodruff, 1945: *N.W. Nat., 19*, 178-179).

§†497/2. SYMPHYTUM TUBEROSUM L. *33, E. Glos.; Toadsmoor, near Stroud, R. B. ABELL.

†497/4. SYMPHYTUM PEREGRINUM Ledeb. 33, E. Glos.; Frith Wood, Bussage, Stroud, R. B. ABELL. 39, Staff.; "now widely distributed throughout Staffordshire . . . hybrids occur and may be frequent," E. S. Edees (1945: *N.W. Nat., 19*, 274). 44, Carm.; lane near Llandebie lime works, J. A. WEBB, comm. NAT. MUS. WALES. 45, Pembr.; near Freshwater E., Miss L. ABELL.

†498/1. BORAGO OFFICINALIS L. 44, Carm.; near Ferryside, J. A. WEBB, comm. NAT. MUS. WALES.

506/2. MYOSOTIS BREVIFOLIA C. E. Salmon. 63, S.W. York.; above Peckett Wood, 1943, H. Walsh (1944: *Naturalist*, no. 809, 80).

§†506/7. MYOSOTIS SYLVATICA (Ehrh.) Hoffm. *44, Carm.; dry grassy ditches near Ffairfach, J. A. WEBB, comm. NAT. MUS. WALES.

521/1. ATROPA BELLADONNA L. †21, Middx.; near Chelsea Hospital, 1944, Mrs H. R. Davies (Lousley, 1945 B, 12).

524/1. HYOSCYAMUS NIGER L. †18, S. Essex; in some quantity by Barking Power Station and apparently established: also a few plants on waste ground on Plaistow Marsh: J. A. WHELLAN.

§†532/5. LINARIA SUPINA Desf. *10, Wight; stubble field between Apes Down and Carisbrooke, 1933, Mrs CECIL SANDWITH.

†537/2. MIMULUS MOSCHATUS Dougl. 30, Beds.; Side of Great Drakelow Pond, Woburn, E. MILNE-REDHEAD.

§543/2. VERONICA HYBRIDA L. ‡41, Glam.; limestone cliffs west of Port Eynon, Gower, 1937, Miss Mitchell and Miss Simpson (specimen drawn by Miss Duncan), 1945, specimen sent to National Museum of Wales and the locality refound by Miss Mitchell and friends. This confirms an old unaccepted record, see Dillwyn, 1848 (*Materials for a Flora and Fauna of Swansea*, p. 43): " *V. hybrida*. In the Swansea Guide said to be found ' on the sides of mountains rare,' but I have no reason to believe that it has been found in this neighbourhood." Watson, in *Top. Bot.* (ed. 1, 1874, and ed. 2, 1883) treats it as " misnomer ?." Riddelsdell (1907: Flora of Glamorgan, in *Journ. Bot., Suppl.*, 48) says: " Reported by S. W. Jenkins from cliffs near Oxwich . . . also by Dillwyn from ' sides of mountains '." Trow (1911: *Flora of Glamorgan*, 121) excludes three old records as errors or aliens. No mention is made of it in Hyde and Wade (1934: *Welsh Flowering Plants*). Although Miss Duncan's drawing was seen by me in 1939, record was withheld for further information because records from Port Eynon are liable to suspicion as being only garden escapes, since several such have occurred there.—E. VACHELL.

543/6b. VERONICA SCUTELLATA L. var. VILLOSA Schum. 25, E. Suff.; Burgate Wood, F. ROSE.

§543/9. VERONICA AQUATICA Benq. *63, S.W. York.; by lake in Sandbeck Park, J. BROWN, det. A. J. WILMOTT.

543/19. VERONICA AGRESTIS L. 39, Staff.; formerly described as common, but this " is not true to-day. In the last ten years . . . found only half-a-dozen times . . . a decreasing species," E. S. Edees (1945: *N.W. Nat.*, *19*, 274-275).

†543/41. VERONICA FILIFORMIS Sm. 1, W. Cornw.; established in a waste corner of Perranzabuloe churchyard and lane outside; also as garden weed at Lambourne Hill, a quarter of a mile away, F. RILSTONE, det. A. J. WILMOTT. 13, W. Suss.; bank of R. Arun near Houghton Bridge, N. Y. SANDWITH. 41, Glam.; grassy verges by Sketty Green, J. A. WEBB, comm. NAT. MUS. WALES.

545. EUPHRASIA. The following are the vice-comital distributions of the species (and their varieties) distinguished by H. W. Pugsley, as given in his *Monograph of the British Euphrasiae* (1930: *Journ. Linn. Soc. Bot.*, *48*, 467-544), and subsequently in various papers and in the Society's Reports. Irish distributions are based on Praeger (1934: *The Botanist in Ireland—Census List*). Numbers in ( ) are records of varieties only. Other earlier records require re-examination.

[1. "*E. stricta* Host—not British.]

2. *E. borealis* Wettst. 11, 13, 33, 34, 39, 41, 42, 45, 48, 49, 52, 55, 58, 62, 64-66, 69, 70, 90, 92-94, 97, 98, 100, 103, 104, 106, 107, 109-112. H. 3, 12, 16, 19, 21, 22, 24, 27, 33.

[b. var. *pubescens* Towns.—not recognised by Pugsley.]
c. var. *atropurpurea* Pearsall. 112.
d. var. *zetlandica* Pugsl. 111, 112.
e. var. *speciosa* Pugsl. 111, 112.

3. *E. brevipila* Burn. & Gremli ex Gremli. 1, 3, 4, 6, 9, 10, 22, 23, 29, 33-35, 38-49, 52, 55, 57, 61, 62, 66, 69-72, 75, (76), 78-83, 86-88, (89), 90-92, 95-101, 103-112.—H. 1-3, 5, 7-11, 13-22, 24-31, 33, 36, 38-40.
forma *gracilior* Pugsl. 76, 80, 90, 103.
forma *tenuiformis* Pugsl. 108.
b. var. *subeglandulosa* Towns. 3, 43, 104, 110, ?111.
c. var. *notata* Pugsl. 87-89, 93.
d. var. *reayensis* Pugsl. 109.

[4. *E. suecica* Murb.—not recognised as British.]

5. *E. nemorosa* (Pers.) Löhr. 1, 3-24, 27-37, 39-52, (53), 54-60, (61), 62-64, (65-68), 69-71, 73, (78), (82-85), 90, 93, (95), 97, 100, 101, (104), 106, 109, (110-111) (many of the Scottish records are for the var. *collina*).—H. 6, 9, 10, 13, 15, 16, 19-23, 27, 28, 30, 38-40.
[b. var. *ciliata* Drabble—not separated.]
c. var. *calcarea* Pugsl. 11, 17, 30, 45, 50.
d. var. *collina* Pugsl. 5, 9, 33, 41, 42, 45, 46, 53-56, 61, 62, 64-68, 70, 78, 80, 82-85, 104, 109, 110.
e. var. *sabulicola* Pugsl. 90, 97, 104, 110, 111.
f. var. *transiens* Pugsl. 5, 17, 21, 24, 28, 49, 50.
forma *procumbens* Pugsl. 95, 106.
g. var. *obtusata* Pugsl. 9, 13, 14.
h. var. *imbricata* Callen. 80, 104.

[6. *E. campestris* Jord. and 6b. var. *neglecta* Buckn.—The British plants so named are regarded by Pugsley as of various hybrid origin.]

7. *E. hirtella* Jord. 46-48, (55), 88.—H. 12.
b. var. *polyadena* Pugsl. 46-48, 55, 88.

[8. *E. fennica* Kihlm.—not accepted as British.]

9. *E. curta* (Fr.) Wettst. 3, 4, 6, 10, 41, 44-46, 48, 49, 51, 52, 60, 62, 68, 71, 87, 90-92, 95, 97, 98, 108, 112.—H. 1-3, 8, 9, 12, 16, 17, 20, 21, 27, 28, 36, 38-40.
forma *littoralis* Pugsl. 4, 6, 41, 44-46, 52, 60, 68.
b. var. *glabrescens* Wettst. 3, 23, 44, 97.
c. var. *piccola* Towns. 112.
d. var. *rupestris* Pugsl. 49.

9(2). *E. cambrica* Pugsl. ?42, 49, ?69.
forma *elatior* Pugsl. 49.

9(3). *E. coerulea* Tausch.—not accepted as British.]

10. *E. occidentalis* Wettst. 1-4, 5, 9-11, 14, 15, 34, 41, 45, 46, 49, 52, 57, (61, 62), 69, 71, 97, 107, 108, (111).—H. 2, 5, 6, 12, 16, 20, 38.

b. var. *praecox* Buckn. 2.—H. 12.
c. var. *minor* Pugsl. 2, 45, 71.
d. var. *calvescens* Pugsl. S, 2, 3, 4, 9-11, 34, 45, 61, 62, 71, 97, 111.—H. 16.

[11. *E. septentrionalis* Druce & Lumb.—not distinguished by Pugsley.]

12. *E. frigida* Pugsl. [?65], 72, 88-90, 92, 94, 96-98, 104, 106, 108, (110).
b. var. *laxa* Pugsl. 88, 89, 92, 96, 98, 110.—H. ?1, ?27.

12(2). *E. rotundifolia* Pugsl. 108, 112.

12(3). *E. Marshallii* Pugsl. 74, ?93, 104, 108-112.
b. var. *pygmaea* Pugsl. 111, 112.

12(4). *E. Campbellae* Pugsl. 110.

13. *E. foulaensis* Towns. 96, 104, 108-112.—H. ?27.
forma *condensata* Pugsl. 109, 111, 112.
b. var. *maritima* Pugsl. 108-111.

[14. *E. atroviolacea* Druce & Lumb.—see 18d.]

15. *E. micrantha* Rchb. 1-5, 8, 9, 11, 14, 16, 28, 29, 34, 38, 40, 42, 44, 45, 48-52, 58, 60, 62, 64-67, 69-72, 74, 79, 83, 86-92, 94-112.—H. 1, 6, 7, 9-11, 15-17, 20-23, 27-29, 32, 38-40.
forma *simplex* Pugsl. 3, 4, 69, 72, 94, 108, 110, 111.
[b. var. *Friesii* (Sanio) Druce—not distinguished by Pugsley.]
[c. var. *primaria* (Fries) Druce—not distinguished by Pugsley.]
d. var. *Johnstonii* Pugsl. 110, 111.

16. *E. scotica* Wettst. 46, 48, 49, 52, 62, 64, 66, 69, 70, 72, 86, 88-90, 92, 96-98, 100, 101, 103-106, 108-112.—H. 7, 13, 15, 16, 19-21, 25-27, (28), 31.
forma *estriata* Pugsl. 90, ?111.
b. var. *purpurascens* Pugsl. 86, 88, 101, 106, 109-112.—H. 28.

[17. *E. Lumbii* Druce (*E. variabilis* Druce & Lumb, non Kerner), v.-c. 78, is a mixture of 18 and hybrids, according to Pugsley.]

18. *E. confusa* Pugsl. (mostly as the forma *albida* Pugsl.). 1-11, 13, 26, 27, 40-42, 44-46, 48, 49, 52, 53, 57, 62, 64-66, 68-70, 74, 77, 78, 81, 83, 84, 86-90, 92, 97, 98, 100, 103-105, 107, 108, 110-112.
[b. var. *arbuscula* Buckn., v.-c. 69, = the forma *albida* Pugsl.]
c. var. *maciana* Callen. 87, ?88, 96, 97, 103, 105.
d. var. *atroviolacea* (Druce & Lumb) Pugsl. 111, 112.
e. var. *grandiflora* Pugsl. 104, 107, 111.

19. *E. Rostkoviana* Hayne. 34, 35, (40), 41, 42, (44), 46, 48, 49, 60, 62, 65, 69, 70, (79).—H. 1, 6, 7, 20, 23, 28.
[b. var. *minor* (Gaud.) Druce—not distinguished by Pugsley.]
c. var. *obscura* Pugsl. 40-42, 44, 46, 48, 49, 79.
[d. var. *minoriflora* Borb. H. 9—not distinguished by Pugsley.]

19(2). *E. montana* Jord. 40, 42, 64-66, 69, 70.

19(3). *E. rivularis* Pugsl. 48, 49, 69, 70.
forma *compacta* Pugsl.

19(4). *E. anglica* Pugsl. 1-11, 13, 14, 16-18, 20-22, 27, 28, 34-36, 39-42, 45-48, 55-57, 71.—H. 10, 11, 13-15, 20, 25.
b. var. *gracilescens* Pugsl. 4, 5.

[20. *E. Vigursii* Davey = *E. anglica* × *micrantha, teste* Pugsley.]
[b. var. *pallens* Bucknall = a mixture of *E. brevipila* and *E. curta, teste* Pugsley.]

21. *E. pseudo-Kerneri* Pugsl. 7, 10, 11, 13-17, 20, 22-30.
forma *elongata* Pugsl. 27, 28.

22. *E. salisburgensis* Funck. [not British].
b. var. *hibernica* Pugsl. 64, 65.—H. 8, 9, 15-17, 26, 28, 29, 33, 34.

§548/1. RHINANTHUS MAJOR Ehrh. *7, N. Wilts.; cornfield near Norton, J. D. GROSE, det. A. J. WILMOTT.

550/4. OROBANCHE MAJOR L. 16, W. Kent; one plant (on *Centaurea Scabiosa*) near Trottescliffe (" Trosley "), F. ROSE (to whom the last known record for 16 was by Cooper, 1836: *Fl. Metropol.*, 51—as *O. elatior* Sutton).

§558/1. MENTHA ROTUNDIFOLIA (L.) Huds. 15, E. Kent; Hothfield Heath: near Park Wood, Molash: 1945, F. ROSE. *97, Westerness; Ardnamurchan, near Glenborrodale, probably a relic of cultivation, 1943, R. GRAHAM.

558/1×4. ×MENTHA CORDIFOLIA (Opiz) Fraser. 98, Main Argyll; Ballachulish, probably (as usually) a relic of cultivation, 1943, R. GRAHAM.

558/3×4. ×MENTHA NOULETIANA Timb.-Lagr. 97, Westerness; by the shore of Loch Linnhe, south of Fort William, 1943, R. GRAHAM, who adds:—" the exact status of this mint is uncertain: Fraser considered it *M. longifolia* × *spicata*, but Still discarded the name in favour of *excellentiformis* Tr[autv.]—if it is a hybrid it is a remarkably fixed one, apparently always showing the same characters whereby it is easily identified, and it seems truly wild in certain localities."

§558/10. ×MENTHA GENTILIS L. *97, Westerness; Glen Spean: Onich, in a number of complex forms (see *Plant Notes*); 98, Main Argyll; Ballachulish: all 1943, R. GRAHAM (as *M. gentilis* L.).

†566/17. SALVIA VERTICILLATA L. 34, W. Glos.; Sharpness Docks, Miss L. ABELL.

572/1×2. ×SCUTELLARIA HYBRIDA Strail (×*S. Nicholsonii* Lambert). 16, W. Kent; Kilndown Wood (near Goudhurst), F. ROSE.

572/2. SCUTELLARIA MINOR Huds. 97, Westerness; Ardnamurchan, near Glenborrodale, 1943, comm. R. GRAHAM.

573/2. PRUNELLA LACINIATA L. 14, E. Suss.; grassy slope at Cuckmere Haven, (and hybrids with *P. vulgaris*), E. C. E. LEADBITTER.

576/1. MARRUBIUM VULGARE L. 45, Pembr.; Caldey Island, R. B. ABELL.

§577/4. ×STACHYS AMBIGUA Sm. *7, N. Wilts.; Ogbourne Maizey, J. D. GROSE, det. A. J. WILMOTT.

§577/6. STACHYS ARVENSIS L. ‡30, Beds.; Silsoe, H. B. SOUSTER, comm. J. G. DONY (cf. *1943-44 Rep.*, 810).

†579/1. LEONURUS CARDIACA L. 34, W. Glos.; Tortworth, M. PARSONS, comm. [n.d.] W. R. PRICE.

†581/2. LAMIUM MACULATUM L. 30, Beds.; rubbish dump, Luton, H. B. SOUSTER, comm. J. G. DONY. 35, Mon.; hedgebank, Monmouth Cap, S. G. CHARLES, comm. NAT. MUS. WALES. 44, Carm.; hedges near Cynghordy, and near Ashburnham, J. A. WEBB, comm. NAT. MUS. WALES.

§586/3. TEUCRIUM BOTRYS L. *7, N. Wilts.; between Uffcott and Fiddler's Hill, N. PESKETT and J. D. GROSE.

587/2. AJUGA PYRAMIDALIS L. 104, Mid Ebudes; Eigg, abundant on steep dry bank below the eastern precipice of the Sgurr, 1943, R. GRAHAM.

†588/18. PLANTAGO OVATA Forsk. 30, Beds.; rubbish dump, Sundon, J. G. DONY, det with N. Y. SANDWITH and E. MILNE-REDHEAD.

590/1. ILLECEBRUM VERTICILLATUM L. †67, S. Northumb.; on a patch of ground where small trees had been temporarily planted, by the road up to Buckfell plantation, near Falstone, M. PITTAM, det. et comm. J. P. M. BRENAN.—[the specimens were brought to me by my colleague, Mr G. W. Dimbleby, for identification. In a letter from Mr Pittam to Mr Dimbleby, Mr Pittam suggests that the *Illecebrum* was introduced with bundles of trees which had been obtained from various nurseries. *Illecebrum* is said to be plentiful in certain tree nurseries in the New Forest, and the suggested mode of introduction would satisfactorily explain the otherwise very surprising occurrence so far north of this markedly south-western and southern plant)—J.P.M.B.]. Cf. *1943-44 Rep.*, 749—Ed.

†600/26. CHENOPODIUM CARINATUM R. Br. 17, Surrey; abundant near Frensham Pond, G. M. ASH and W. E. WARREN, det. A. J. WILMOTT.

606/2. ATRIPLEX LITTORALIS L. 34, W. Glos.; Severn shore, Lydney—first discovery since Shoolbred first found it in 1895 at Tallards Marsh, opposite Chepstow, where it still is—S. G. CHARLES, comm. W. R. PRICE.

§606/8. ATRIPLEX LACINIATA L. *16, W. Kent; North Beach, Isle of Grain, rare, F. ROSE.

†613/3. SALSOLA PESTIFERA A. Nels. 34, W. Glos.; Sharpness Docks, R. B. ABELL, det. A. J. WILMOTT.

615/1. POLYGONUM DUMETORUM L. 3, S. Devon; roadside banks between Hennock and Ashton, A. E. ELLIS—there is a previous record for v.-c. 3 in *Top. Bot.* on the authority of a catalogue supplied by Dr G. R. Tate but Keble Martin & Fraser in *Fl. Devon*, 1939, 561, say "The records for this species are erroneous."—det. & comm. J. E. LOUSLEY.

615/11. POLYGONUM MINUS Huds. 69, Westm.; sparingly among stones on shore at N.W. end of Grasmere, J. P. M. BRENAN [7209].

618/3×6. RUMEX CRISPUS L. × OBTUSIFOLIUS L. 30, Beds.; Southill Park, E. MILNE-REDHEAD and J. G. DONY, confirmed by J. E. LOUSLEY.

§618/12. RUMEX PALUSTRIS Sm. 21, Middx.; near the canal at Hanwell, 1944, D. H. Kent (Lousley, 1945 B, 12). *35, Mon.; Blackwell Reen, Magor, E. NELMES.

†618/20. RUMEX PATIENTIA L. 21, Middx.; in waste ground in the Isle of Dogs, locally abundant, J. A. WHELLAN, det. J. E. LOUSLEY.

628/5. EUPHORBIA PLATYPHYLLOS L. 17, Surrey; cornfield near Rudgwick, where it has persisted for the last 18 years, R. GRAHAM. 33, E. Glos.; arable field, Ampney St Peter, J. CRIPPS, comm. W. R. PRICE.

§†628/9. EUPHORBIA VIRGATA W. & K. 18, S. Essex; two or three large clumps at Biggin, near Tilbury: and two large patches on waste ground on Plaistow Marsh, J. A. WHELLAN. *34, W. Glos.; Avonmouth Docks, 1936, C. I. SANDWITH: Sharpness Docks, Miss L. ABELL.

628/11. EUPHORBIA CYPARISSIAS L. 15, E. Kent; Chilham, on a very wild and unfrequented downland, 1943 and 1945, D. KENT and F. ROSE. †30, Beds.; Tunnel baulk, Wymington, J. G. DONY.

633/3. ×ULMUS HOLLANDICA Mill. 44, Carm.; wood border, Llandyfeilog, J. A. WEBB, comm. NAT. MUS. WALES.

§667/3. EPIPACTIS LEPTOCHILA Godfery. *30, Beds.; Blackgrove Wood, Tilsworth, J. G. DONY, det. V. S. SUMMERHAYES.

668/2. EPIPACTIS HELLEBORINE (L.) Crantz emend. Britt. & Rend. 43, Radnor; damp wood near Siluria, between New Radnor and Dolyhir, C. I. and N. Y. SANDWITH.

669/7. ORCHIS LATIFOLIA L. sec. Pugsley. 43, Radnor; Rhos-Gôch Common, J. W. GOUGH and N. Y. SANDWITH, confirmed by V. S. SUMMERHAYES—a form with purplish flowers—not recorded from Radnor in *Welsh Flowering Plants*.

669/7c. ORCHIS LATIFOLIA L. sec. Pugsl., var. COCCINEA Pugsl. 44, Carm.; dune marsh, Laugharne, 1945, R. B. ABELL, det. A. J. WILMOTT.

669/7×8. ORCHIS LATIFOLIA L. sec. Pugsl. × PRAETERMISSA Druce. 33, E. Glos.; damp meadow, Ampney Park, with both parents, J. CRIPPS, comm. W. R. PRICE.

§669/9. ORCHIS PURPURELLA T. & T. A. Steph. *101, Cant.; J. S. L. Gilmour (1945: 35).

§669/10. ORCHIS ERICETORUM (Linton) E. S. Marshall. *101, Cant.; J. S. L. Gilmour (1945: 35).

669/10b. ORCHIS ERICETORUM (Linton) E. S. Marshall var. CANDIDISSIMA (Weber) Wilmott. 9, Dorset; by Southern Railway near Corfe Castle, A. DUNSTON, det. A. J. WILMOTT (leaves unspotted, flowers cream coloured).

669/11×10. ORCHIS ERICETORUM (Linton) E. S. Marshall × FUCHSII Druce. 33, E. Glos.; damp meadow, Ampney Park; with both parents, J. CRIPPS, comm. W. R. PRICE.

669(3)/1. HIMANTOGLOSSUM HIRCINUM (L.) Koch. 30, Beds.; Sundon, Miss M. B. BILLINGTON, comm. J. G. DONY.

672/3e. OPHRYS APIFERA Huds. var. TROLLII (Hegets. & Heer) Rchb. 11, S. Hants; downs near Droxford (Meon valley), with the normal form of the species, E. H. WHITE, comm. & det. A. J. WILMOTT.

673/1. HERMINIUM MONORCHIS (L.) R. Br. 33, E. Glos.; Withington, Miss L. ABELL.

674(5)/2. PLATANTHERA BIFOLIA (L.) Rich. emend. Rchb. 45, Pembr.; King's Moor, Kilgetty, Miss L. ABELL (as *Habenaria bifolia*).

†680/1. SISYRINCHIUM ANGUSTIFOLIUM Mill. 59, S. Lancs.; a small cluster on sandhills near Freshfield, Formby, Miss C. FRASER, det. & comm. A. J. WILMOTT (from C. G. M. de WORMS).

†684/2. NARCISSUS HISPANICUS Gouan, flore pleno. 44, Carm.; between Henbont and Llannon, J. A. WEBB, comm. NAT. MUS. WALES (as *N. major* Curt.).

689/1. RUSCUS ACULEATUS L. 45, Pembr.; near Pembroke, Miss L. ABELL.

§691/2. POLYGONATUM MULTIFLORUM (L.) All. *†96, Easterness; shingle of R. Enrick, Drumnadrochit, Miss M. S. CAMPBELL.

694/1. CONVALLARIA MAJALIS L. †38, Warw.; Clowes Wood, Earlswood, L. T. ADAMS.

†706/4. SCILLA HISPANICA Mill. 44, Carm.; established near Dewydd, J. A. WEBB, comm. NAT. MUS. WALES.

§707/2. ORNITHOGALUM UMBELLATUM L. *†90, Forfar; a single plant at Carnoustie, 1943, Doris Parkin (1944: *N.W. Nat.*, *19*, 154).

718/7. JUNCUS FILIFORMIS L. 69, Westm.; rather plentiful on boggy ground at N.W. end of Grasmere, (not recorded from this lake either by Wilson in *Fl. Westmorland* or on the distribution-map of this species by P. W. Richards in *Journ. Ecol.*, *31*, 61, 1943): in fair quantity by the other end (cf. *B.E.C. 1941-2 Rep.*, 506, 1944) of Elterwater, nearest the village, J. P. M. BRENAN.

§718/15. JUNCUS GERARDI Lois. *30, Beds.; gravel-pit, Eaton Socon, E. MILNE-REDHEAD.

§†718/16. JUNCUS TENUIS Willd. *30, Beds.; gravel-pit, Eaton Socon, A. J. WILMOTT and J. G. DONY. *52, Anglesey; by track on common, Llanddona, 1937, E. MILNE-REDHEAD [2442]. 69, Westm.; locally plentiful on wet, rather bare, stony tracks, etc., both above and below the Ambleside to Chapel Stile road, above Elterwater village, J. P. M. BRENAN.

719/7. LUZULA ARCUATA (Wahl.) Wahl. 92, S. Aberd.; scarce about the summit of Cairn Toul; elsewhere in the Cairngorms fairly common above 4000 ft. descending to about 3200 ft. in the Larig Ghru, 1944, R. GRAHAM.

§722/1. SPARGANIUM NEGLECTUM Beeby. *44, Carm.; Felinfoel Reservoir, J. A. WEBB, comm. NAT. MUS. WALES.

§723/1. ARUM ITALICUM Mill. *8, S. Wilts.; water-meadow, Salisbury, Lt.-Col. C. R. CONGREVE, det. A. J. WILMOTT, comm. J. D. GROSE.

737/5. POTAMOGETON ALPINUS Balb. 30, Beds.; gravel-pit, Cople, J. G. DONY, det. J. E. DANDY.

§737/9×13[=12]. ×POTAMOGETON ANGUSTIFOLIUS Presl. *101, Cant.: in a little loch near Dunmore House, 1944, J. S. L. Gilmour (1945: 36).

745/1b. HELEOCHARIS PALUSTRIS (L.) R. Br. var. MAJOR Sonder. 45, Pemb.; between Tenby and Penally, Mrs F. L. REES, comm. NAT. MUS. WALES.

§746/2. SCIRPUS MARITIMUS L. *30, Beds.; gravel-pit, Eaton Socon, E. MILNE-REDHEAD.

746/8. SCIRPUS PAUCIFLORUS Lightf. 43, Radnor; Rhos-gôch Common, J. W. GOUGH and N. Y. SANDWITH [3036].

§746/14. SCIRPUS COMPRESSUS (L.) Pers. *30, Beds.; The Litany, Totternhoe, V. H. CHAMBERS, det. A. J. WILMOTT—previously noted for Beds. by Abbot in his own annotated copy of *Flora Bedfordiensis*.

747/1. ERIOPHORUM LATIFOLIUM Hoppe. 43, Radnor; Rhos-gôch Common, J. W. GOUGH and N. Y. SANDWITH.

749/2. SCHOENUS FERRUGINEUS L. 89, E. Perth; in view of the apparently inevitable destruction of this plant by the Hydro-electric Scheme, two clumps taken from L. Tummel were planted in small gravelly bogs on Ben-y-Vrackie, one at the side of the path from Moulin at 1400 feet and one about 100 yards east of this, 1945, J. A. WHELLAN. (Details of this transplant are printed for purposes of record, but action is best left to corporate bodies interested in the preservation of this species. Removal to another vice-county is particularly open to criticism.—ED.)

753/10. CAREX PENDULA Huds. 38, Warw.; canal bank, Salter Street, Earlswood, 1944-5, locally abundant, L. T. ADAMS.

753/15. CAREX BINERVIS Sm. 15, E. Kent; The Blean, near Dunkirk, common here on wet moory ground and unrecorded for this part of Kent, F. ROSE.

§753/17. CAREX DISTANS L. ‡63, S.W. York; damp roadside border, Doncaster, S. P. Rowlands (1945: *Naturalist*, 111), det. E. Nelmes, but see Lees (1888: *Fl. W. Yorks*, 471) for previous records.

753/19. CAREX HOSTIANA DC. 43, Radnor; Rhos-gôch Common, J. W. GOUGH and N. Y. SANDWITH, confirmed by E. NELMES.

753/21. CAREX LEPIDOCARPA Tausch. 29, Cambs.; Thriplow Peat Holes, F. ROSE.

753/22. CAREX SEROTINA Mérat. The record in *B.E.C. 1925 Rep.*, 901, of *Carex extensa* var. *pumila* from the Culbin Sands, Elgin, on the authority of Druce, must be deleted, since the specimen in Herb. Druce that is the basis of the above record is *C. serotina*: another gathering in Herb. Druce collected at Findhorn in the same region in 1896, probably by Druce, is also *C. serotina*, misidentified as *C. extensa*. J. P. M. BRENAN (as *C. viridula* Michx.).

§753/23. CAREX EXTENSA Good. *35, Mon.; salt-marsh near Magor Pill, E. NELMES and A. E. WADE.

§753/29. CAREX ERICETORUM Poll. *57, Derbs.; Markland Grips, on Magnesian Limestone, J. BROWN, confirmed by E. NELMES. *63, S.W. Yorks.; Lindrick Common, J. BROWN, confirmed by E. NELMES.

753/31. CAREX TOMENTOSA L. 21, Middx., one station near Shepperton has been destroyed, but another one near-by discovered, 1944, J. E. Lousley (1945 B, 13). 33, E. Glos.; dry sloping wood-border just E. of Colesborne, 1941: grassy roadside between Cirencester and Barnsley, 1942: roadside on Akeman Street in several places between Cirencester and Coln St Aldwyn, 1942: at several spots on edges of woods and, many thousands of plants, in wide grassy ride in Oakley Park, 1½ m. S.W. of Cirencester, 1942: roadside about 1 m. S.W. of Duntisbourne Abbotts, 1943: roadside on Baunton Downs, near the Foss Way, between Baunton and Calmsden, 1943: E. NELMES.

753/39. CAREX RARIFLORA Sm. 89, E. Perth; near the source of the Caochan Lub, north of Bruar Lodge, 1944, R. GRAHAM.

753/57×59. ×CAREX AXILLARIS Good. 33, E. Glos.; Newtown, Tewkesbury, C. W. BANNISTER, comm. W. R. PRICE.

753/58. CAREX CANESCENS L. 24, Bucks; still survives at Black Park (Langley), the only locality in the v.-c. (reported in *Fl. Bucks.* as probably extinct), F. ROSE (as *C. curta* Good.).

§753/59(2). CAREX VULPINA L. This species has been recorded in the Reports (see *1939-40 Rep.*, 263→) for the following vice-counties: 13, 14, 16, 33, 34. Add to *C.F.* *15, E. Kent; Orlestone, in woods on Weald Clay, by roadside ditch, with *C. Otrubae* Podp.), F. ROSE. *63, S.W. York; near Thorne, J. M. Taylor and S. F. Rowlands (1945: *Naturalist*, 131-132).

*753/61(2). CAREX POLYPHYLLA Kar. & Kir. *57, Derbs.; in three places in Alport and Lathkill Dale area, J. BROWN, det. E. NELMES.

†756/2. SETARIA VIRIDIS (L.) Beauv. 30, Beds.; Biggleswade: Eaton Socon: J. G. DONY, det. C. E. HUBBARD.

758/3. SPARTINA TOWNSENDII H. & J. Groves. †34, W. Glos.; one plant in mud on Severn shore, Hock Cliff, Frampton; the farthest record up the Severn so far made, W. R. PRICE.

†765/2. PHALARIS BULBOSA L. 30, Beds.; Old Warden, E. MILNE-REDHEAD and J. G. DONY, det. C. E. HUBBARD (as *P. tuberosa* L.) (first record for the v.-c.).

783/4. CALAMAGROSTIS NEGLECTA (Ehrh.) Beauv. 88, M. Perth; in marsh at head of Loch Tummel in fair quantity (unsuccessfully sought in old station at head of Loch Tay), J. E. RAVEN.

785/1. APERA SPICA-VENTI (L.) Beauv. 18, S. Essex; on sandy ground on Wanstead Flats, a few plants only, J. A. WHELLAN.

†794/1b. AVENA FATUA L. var. PILOSA Syme. 30, Beds.; Tilsworth, J. G. DONY, det. C. E. HUBBARD.

†794/1d. AVENA FATUA L. var. PILOSISSIMA S. F. Gray. 30, Beds.; Harlington, J. G. DONY, det. C. E. HUBBARD.

795/2. ARRHENATHERUM TUBEROSUM (Gilib) Druce. 20 [Beds.]; Kensworth, J. G. DONY, det. C. E. HUBBARD. 30, Beds.; Slip End, Caddington, J. G. DONY, det. C. E. HUBBARD—recorded for v.-c. 30 in *C.F.* but no previous record known.

†808/1. CYNOSURUS ECHINATUS L. 16, W. Kent; abundantly naturalised on a chalky roadside bank near Halling, J. A. WHELLAN.

809/1. KOELERIA GRACILIS Pers. 39, Staffs.; Blare: Swinscol: limestone pasture, 1942, E. S. EDEES [2549].

809/3. KOELERIA BRITANNICA (Domin) Druce. 45, Pemb.; near Tenby, R. B. ABELL, det. C. E. HUBBARD (as *K. gracilis* var. *britannica* Domin).

822/1. BRIZA MEDIA L. 38, Warw.; Tidbury Green, Shirley, very local, L. T. ADAMS.

§†824/1. POA CHAIXII Vill. *104, Mid Ebudes; Rhum—abundant in one of the woods of the Kinloch area, R. B. Cooke and H. H. C. (1944: *Vasc. subst.*, *19*, 31).

824/5. POA PALUSTRIS L. 17, Surrey; bed of Fetcham Mill-pond, 1944 (Lousley, 1945 B, 12); †21, Middx.; top of air-raid shelter in Hyde Park, 1944, W. J. L. Sladen (Lousley, 1945 B, 12).

825/2b. GLYCERIA FLUITANS (L.) R. Br. var. TRITICEA (Fr.) M. T. Lange. 33, E. Glos.; roadside, Hucclecote, Gloucester, J. W. HAINES.

§825/3(2). GLYCERIA DECLINATA Bréb. *18, S. Essex; plentiful by a pond at Woodford, J. A. WHELLAN. 27, E. Norf.; abundant in village pond on gravelly substrate (pH 6.6: colorimetric), Lingwood, associated with *Glyceria maxima*, *Ranunculus sceleratus*, *Bidens cernua*, and *Elodea canadensis*, J. M. LAMBERT. 43, Radnor; margin of Llyn Hilyn, c. 1200 ft., N. Y. SANDWITH. *106, E. Ross; near Kilmuir, Black Isle, in salt marsh by sea-shore, 1942, U. K. DUNCAN, confirmed by C. E. HUBBARD.

825(2)/2×6. ×PUCCINELLIA PSEUDOPROCUMBENS (Corb.) Wilmott. 16, W. Kent; in some quantity with the parents, on canal bank near Gravesend Gas Works, F. ROSE (as *P. distans* × *rupestris*).

826/15. FESTUCA MEMBRANACEA (L.) Druce. 15, E. Kent; Dungeness, F. ROSE (as *F. uniglumis* Sol.).

826/16. FESTUCA AMBIGUA Le Gall. 15, E. Kent; Brabourne Lees: near Ashford Warren: abundant near Leeds: Willesborough, F. ROSE. 16, W. Kent: Wrotham Heath: Ryarsh sand pits, F. ROSE.

†827/1(2). BROMUS GUSSONEI Parl. 33, E. Glos.; Fiddington, near Tewkesbury, C. W. BANNISTER, comm. W. R. PRICE.

827/5. BROMUS MADRITENSIS L. 45, Pemb.; on base of Pembroke Castle, R. B. ABELL, det. C. E. HUBBARD.

†827/16. BROMUS SECALINUS L. 34, W. Glos.; Purton near Severn Bridge, S. G. CHARLES, comm. W. R. PRICE.

827/18. BROMUS RACEMOSUS L. 15, E. Kent; marsh at Brooke (near Wye), F. ROSE.

827/19(2)(=30). BROMUS LEPIDUS Holmberg. 15, E. Kent; Chilham Downs (in a wild spot), F. ROSE. 16, W. Kent; Snodland (roadside below downs): Trottescliffe ("Trosley"): Green St Green (Darenth), F. ROSE. 33, E. Glos.; plentiful in rye and clover field, Fiddington: at Natton and Aston Fields near Ashchurch: in meadows by Tewkesbury Abbey: hills above Prestbury, Cheltenham: C. W. BANNISTER, comm. W. R. PRICE. ‡34, W. Glos.; road near Severn Bridge Railway Station, S. G. CHARLES, comm. W. R. PRICE (see *1932 Rep.*, 362, for previous record). *56, Notts.; Misterton, 1937, Mrs C. I. SANDWITH and J. P. M. BRENAN, confirmed by C. E. HUBBARD.

†829/2. LOLIUM TEMULENTUM L. 89, E. Perth; not plentiful, but apparently well established in roadside grass between Pitlochry and Moulin, J. A. WHELLAN.

830/4f. AGROPYRON REPENS (L.) Beauv. var. GLAUCUM Doell. 34, W. Glos.; road near Severn Bridge Railway Station, S. G. CHARLES, comm. W. R. PRICE.

§848/1. ADIANTUM CAPILLUS-VENERIS L. [*48, Mer.; on calciferous lava near Llyn Gafr and in Cwm Aran, identification confirmed at Kew, but not refound and "the record must rank as unconfirmed," E. Price Jones (1945: 176-177).]

§851/9. ASPLENIUM SEPTENTRIONALE L. *67, Northumb., S.; bare dry rock at Beldon, above Blanchland, Rev. R. Featherstonhaugh, 1892—cited by J. W. H. Harrison (1945: *Vasc. Subst.*, *30*, 39).

†855/1. ONOCLEA SENSIBILIS L. 69, Westm.; a few tufts growing in a dense mat of dead stems of *Phalaris arundinacea* on marshy ground with *Salix atrocinerea* trees, near the shore of Rydal Water, J. P. M. BRENAN, confirmed by A. H. G. ALSTON.

856/4b. DRYOPTERIS ARISTATA (Vill.) Druce var. TANACETIFOLIA (DC.) Druce. 34, W. Glos.; Sutton Ponds, Lower Soudley: brook below Buckstone, Staunton: S. G. CHARLES, comm. W. R. PRICE (first record of var. in county).

856/5. DRYOPTERIS AEMULA (Brackenr.) Kuntze. 14, E. Suss.; Chiddingly Rocks; 16, W. Kent; Ashour Wood, east of Penshurst: ravine at Kipping's Cross; all F. ROSE, confirmed by A. H. G. ALSTON.

856/7. DRYOPTERIS OREOPTERIS (Ehrh.) Maxon. 16, W. Kent; several clumps in a wood near Dartford (for many years not seen in N.W. Kent), 1945, F. ROSE, confirmed by A. H. G. ALSTON.

856/9. DRYOPTERIS PHEGOPTERIS (L.) C. Chr. 14, E. Suss.; still in some quantity near Forest Row, reported in *Fl. Suss.* as extinct there, F. ROSE (as *Phegopteris Polypodioides* Fée.).

859/1. CETERACH OFFICINARUM DC. 49, Carn.; church wall, Capel Curig, Miss W. FROST, comm. A. J. WILMOTT.

§868/1. AZOLLA FILICULOIDES Lam. ‡58, Ches.; known for several years (since 1939) in pond near Chester (*N.W. Nat.*, *18*, 326-327) and found (1944) in another pond a mile away, E. G. Williams (*N.W. Nat.*, *19*, 303).—add to *C.F.*

870/5. LYCOPODIUM CLAVATUM L. 89, E. Perth; with single-spiked inflorescence by the Caochan Lub, near its source north of Bruar Lodge, 1944, R. GRAHAM.

870/6. LYCOPODIUM INUNDATUM L. 11, S. Hants: very abundant by Wilverley Bog, F. ROSE.

118. CHARACEAE. All the following records are " det. & comm. G. O. ALLEN."

872/2. NITELLA OPACA Ag. H.29, Leitrim; Lough Melvin, 1938, J. P. M. BRENAN and N. DOUGLAS SIMPSON—in the f. *conglobata* (vide Migula 1890: *Die Characeen*, fig. 35), small much branched, having small globular distant whorls with very incurved branchlets and dactyl apices markedly obtuse, in general appearance not unlike a *Tolypella*, G. O. ALLEN.

872/2c. NITELLA OPACA Ag. var. BRACHYCLEMA Gr. & B.-W. H.35, Dongl., W.; Lough Kindrum, 1939, J. P. M. BRENAN and N. DOUGLAS SIMPSON.

872/9. NITELLA BATRACHOSPERMA (Rchb.) A. Br. H.35, Dongl., W.; Lough Mullaghderg, 1938, J. P. M. BRENAN and N. DOUGLAS SIMPSON.

876/3b. CHARA VULGARIS L. var. LONGIBRACTEATA (Coss. & Germ.) Kütz. 52, Anglesey; pool near Arthur's Table, 1937, H. K. AIRY SHAW and N. DOUGLAS SIMPSON.

876/3c. CHARA VULGARIS L. var. PAPILLATA Wallr. 54, N. Lincs.; drain near "The Poplars," south of Stickford, N. DOUGLAS SIMPSON, comm. G. O. ALLEN.

876/7b. CHARA CONTRARIA Kütz. var. HISPIDULA A. Br. H.34, Dongl. E.; Lough Shannagh, 1938, J. P. M. BRENAN and N. DOUGLAS SIMPSON [38.914].

876/12c. CHARA ASPERA Willd. var. LACUSTRIS H. & J. Groves. H.39, Antrim; Lough Neagh, near the Three Islands, 1938, J. P. M. BRENAN and N. DOUGLAS SIMPSON [38.758].

876/16. CHARA GLOBULARIS Thuill. 35, Monm.; R. Wye between Monmouth and Redbrook, 1944, R. LEWIS [903].

876/17c. CHARA DELICATULA Ag. var. ANNULATA (Wallm.) Gr. & B.-W. H.29, Leitrim; Lough Drumcong, 1939, J. P. M. BRENAN and N. DOUGLAS SIMPSON [39.1063]. H.32, Monaghn; Lough Annaghmakerig, 1939, J. P. M. BRENAN and N. DOUGLAS SIMPSON [39.1062]. H.34, Dongl. E.; Lough Kindrum, 1938, J. P. M. BRENAN and N. DOUGLAS SIMPSON [38.905, a & b].

THE STABILITY OF RUBUS SPECIES

F. Rilstone, A.L.S.

In his review of " Quidam Rubi Cultorum " by L. H. Bailey, Rev. H. J. Riddelsdell stated (1924: *Journ. Bot.*, 83-86):—" Visiting sometimes identical bushes in succeeding years, I am beginning to suspect that forms are actually changing from year to year. . . . My belief is that *Rubus* is, even in this way, a rapidly developing genus, and that variations are often due to an inherent fluidity which arises from some unknown source entirely independent of " crossing "; and that such fluidity frequently finds largely increased scope in new surroundings."

In " Bristol Botany in 1924 " Mr J. W. White comments on this:— " The suggestion that variations in the genus may be often due to an inherent fluidity which arises from some unknown cause independent of crossing, and that forms are actually changing from year to year, well expresses what has long been a supposition of my own. For I can conceive no more likely explanation of peculiar loss of recognised varieties and the appearance of others in our own area."

Such views are, I believe, rather widely held, but my experience has been of so entirely contrary a character that it may be well to set out the facts as I have found them. It should be stated that I have had the advantage of living all the year round in a good bramble district and so have been able to know and to keep under observation *all* the forms over a limited area, and I am convinced that it is only of such an area, more or less thoroughly known, that one can speak with any confidence. An area only partially known will certainly harbour overlooked forms which, when at last they are found, may easily be taken for new arrivals.

The plants in my own neighbourhood, some of them well-known species such as *R. griseoviridis*, others equally well-marked but with names as yet unpublished, have been studied by me for nearly thirty years and none of them has changed in the slightest except in the natural response to environment. Many species, indeed, have a considerable range of variation due to conditions of growth. The " Cornish bramble," the distinct species hitherto known as var. *cornubiensis* of " *R. nemoralis*," is in sheltered situations a tall large-leaved plant with smooth leaflets with comparatively little felt and large broad panicles but on dry sunny banks it has a low growth, small highly plicate and heavily felted leaflets and small dense panicles and looks very different.

There is also in some bramble species a certain variability of form and clothing which may or may not be due to instability of characters but is a persistent characteristic of the species and not at all a sign

of changing type. Such is the production by *R. cryptadenes* Sudre (*R. argenteus*) of abnormal lax panicles with long slender pedicels.

It is not always realised that individual bushes and clumps of brambles are very long-lived. Most of those I first studied nearly thirty years ago are still flourishing and it happens that my recollection of still existing clumps of two species go back more than fifty years. These are *R. Rilstonei* Bart. & Ridd., outstanding because of its early fruiting (it has provided many blackberry pies in this locality during late July of this year—1945), and *R. pydarensis* Rilst. because of the globular juicy fruits of few drupelets. Bramble bushes occasionally disappear through being dug out and destroyed or being crowded out by other growth, but in general changes are few and slow. Investigation over several years has, however, shown that all the species, named and un-named alike, are renewed by seedlings. Two species, *R. rusticanus* and *R. Rilstonei*, produce seedlings in abundance, the others more sparingly. Most of the seedling plants observed have been in garden plots and in fields where sooner or later they are sure to be destroyed by cultivation, but some succeed in gaining a footing in the hedges.

One is sometimes tempted to consider that what seem to be " local " species of very restricted range are of recent origin but such speculations are probably very unsafe. Such " local " species have a way of turning up in remote districts. Thus when *R. cinerosiformis* was published by the present writer it was known only from a stretch of country about seven miles wide in East Cornwall. It has since been seen from the Fal valley and from Devon—a seventy mile stretch. A distinct but as yet un-named species which has been recorded as *R. curvidens* was at first known only from some miles west and south from Liskeard but a gathering from Devon was included among some brambles sent me for examination by Dr Fleming a year or two ago. Other similar instances might be cited; it is evidently unsafe to assume that any apparently local form is really confined to a small area.

A possible explanation of Mr White's impression that the actual species of a locality vary from year to year is that he did not realise how " patchy " is the local distribution of *Rubus* species, and that unless he was quite sure of visiting the precise spot he might well find a different assortment. For example, the fields within a 500 yard radius of my house do not contain a single plant of any of three species which are plentiful on the other side of the hill barely half a mile away.

My experience is that even what seem to be brambles of limited local occurrence have numerous individual bushes and judging from the known fact that some such occur in distant localities they would seem to be remnants of former populations rather than newer species. But in all areas, apparently, there is a sprinkling of solitary bushes or clumps no one of which can be matched in its vicinity. Some such are plainly intermediate between neighbouring species and are pretty certainly first crosses. Of others the parentage is not so obvious and it is

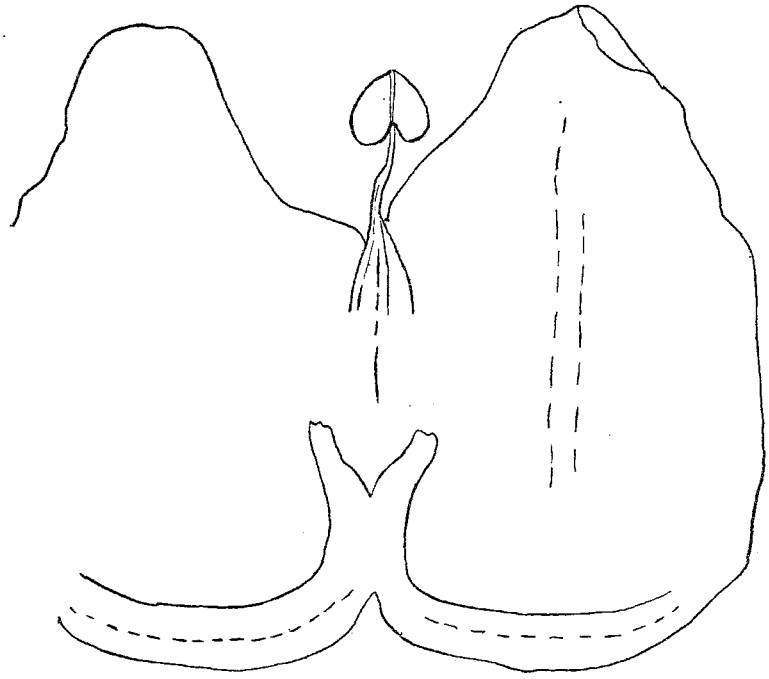
tempting to fall back on the theory of " fluidity " but continued study brings the impression that all are probably hybrids of the first (and probably final) generation. Some such I have had under observation for many years but have never seen a seedling.

To conclude, I do not presume to assert that new forms do not arise as " sports "; it may well be that they do. I merely place on record that I have closely observed the brambles over one small area of Cornwall for more than a quarter of a century and have seen no change in the character of the plants.

A NOTE ON CUSCUTA EUROPAEA L. VAR. NEFRENS FRIES

BERNARD VERDCOURT, B.Sc.

Fries (1846: *Summa Veg. Scand.* (sect. prior) 11 (*nomen nudum*), 191, in obs.) proposed this name for a variant of *Cuscuta europaea* which he distributed in his *Herbarium Normale*. The label with the specimen in the Kew Herbarium reads "*Cuscuta* (*europaea*) *nefrens* Fr. B.N." There is a pencil note on this sheet by G. Engelmann—"has certainly scales in the corolla." Engelmann (1859: *Trans. Acad. Sci. St Louis, 1*, 468) in his monograph of the genus states that all the specimens reputed to belong to this variety which he had examined did bear at least traces of scales. The B.N. on the herbarium sheet stands for "*Botaniska Notiser*" but the writer has had no opportunity of seeing the early volumes of this. W. C. Areschoug (1853: *Revis. Cuscutarum Sueciae*—reviewed in *Bot. Not. f. 1853*, 132-141) mentions the *Herbarium Normale* specimen and states that it was found on *Vicia*



PART OF COROLLA. About ×50.

sativa near Warberg and also that all specimens which he had seen did bear scales. The writer can confirm the presence of quite normal scales in Fries's specimen at Kew. Despite the fact that this variety was shown to have been imaginary it was recorded several times for Britain in later years and is still mentioned in several modern European Floras. The writer has examined as many sheets of the so-called variety as could be found and notes are appended on these.

Dodder scales are frequently difficult to see, especially in herbarium material, and this is particularly the case with *Cuscuta europaea* where the scales are small and lie very flat. The method of examination employed is therefore described. Flowers are softened either by soaking in 50% glycerol for several days or by boiling in water for a few seconds. Corollae are removed, opened, and examined prior to dehydrating and mounting. It is useless to try and observe scales in mounted corollae and the best method is to lift up the scales with a fine needle using unmounted corollae viewed with oblique top illumination under a binocular microscope. With care individual scales may be separated and mounted.

The following British records have been examined. Only one of these would appear to have been published (Syme, J. T.; 1866: *Eng. Bot.*, ed. 3, *6*, 90) as far as the writer is aware. Syme gives the locality as Thirsk in Yorkshire. Specimens of the gathering on which this record is undoubtedly based are in the Watson Herbarium at Kew and the Syme Herbarium. The sheets bear the following data—" In a Forage field between Thirsk and Kirby Knowle in August 1861." The labels also bear the name of J. G. Baker and the Thirsk Natural History Society. These specimens definitely bear scales in the corolla (Fig. 1) though these are a little smaller than usual. Naturally, in accordance with the normal laws of individual variation, the size of scales varies within certain limits. The rest of the records are taken from herbarium sheets in various British Herbaria.

British Herbarium of the British Museum (Nat. Hist.):—

1. Railway bank near Hasthwaite Station, North Yorks., 25.ix.1908. Coll. T. J. Foggitt—labelled *Cuscuta trifolii*, but this crossed out and replaced by *europaea* var. *nefrens* Fries. The specimen is not *europaea* but a form of *C. epithymum* Murr.

Druce Herbarium, Oxford:—

2. Kelso. On *Vicia*, 1877. This is *europaea* with larger scales than usual!
3. Blacklaw Edge, Roxburgh. On *Vicia*, Aug. 1875, var. *nefrens* fide Syme (two sheets). Definitely contains scales within corolla.

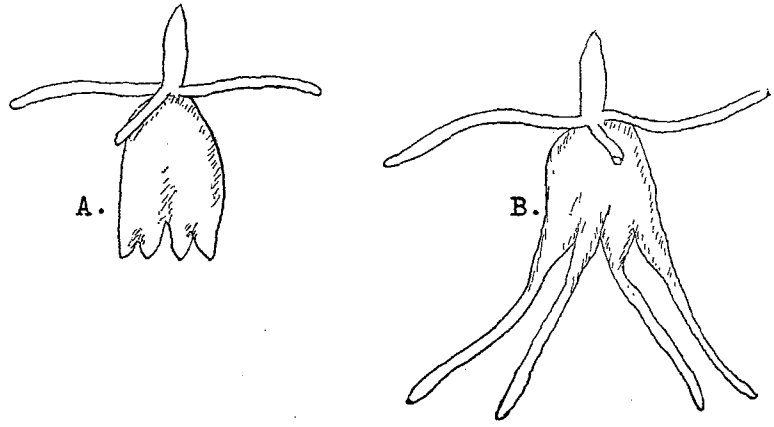
The variety should therefore be deleted from Druce's *British Plant List*, ed. 2, (515/2b.).

The writer is indebted to Mr Airy Shaw, Mr Wilmott, and Mr Chapple for their kind help.

ORCHIS LATIFOLIA L. OR O. INCARNATA L.?

I. P. VERMEULEN.

Mr Pugsley in his article " On some Marsh Orchids " (*Linn. Soc. Journ. Bot.*, xlix (1935), p. 553) argued that the plant that had been called *O. incarnata* L. for the last century, should really bear the name of *O. latifolia* L. As far as I can gather, his view has generally been accepted in England. Not, however, on the continent. Dr Mansfeld, in his: " Zur Nomenklatur der Farn—und Blütenpflanzen Deutschlands," II, in *Fedde Repert.*, xlv (1938), suggested to drop the name *O. latifolia* L. as a *nomen ambiguum* and to use *O. strictifolia* Opiz for *O. incarnata* L. His view has been accepted in Germany as well as in Scandinavia. The reason why Mr Pugsley's change of names so readily found acceptance in England has probably lain in the fact that the plant that was called *O. latifolia* (*O. majalis* Rchb.) before 1935 is not found there. Consequently there was only one change in England, whereas on the continent, of two common species, A was to be called B in future and B was now called C. This causes a hopeless confusion, the more so as the old and new flora-editions are continually being used side by side, in which A is still A and B still B.



P.V., 1946.

TUBERS OF ORCHIS SAMBUCINA (A) AND O. INCARNATA (B).
A=Orchis bulbis subpalmatis.
B=Orchis bulbis palmatis.

On close study of Mr Pugsley's argument, however, I found some weak points in it, which have led me to the conclusion that his view is not the right one. Briefly (I hope to give a detailed argument soon) my objections come down to the following:

In *Hortus Cliffortianus* (1737) Linnaeus described one single species of subgenus *Dactylorchis* as *Orchis radicibus palmatis*, etc., which plant was *O. incarnata* according to modern views.

In *Öländska och Gothländska Resa* (cited as It. Oel.) the account of a journey to these two islands in 1741 (published in 1745) we come across the following report of 2nd June 1741 (p. 48) (rendered in Engl.):

> Orchis bulbis subpalmatis rectis, nectarii cornu conico: labio trilobo integerrimo, bracteis flore longioribus, *which is generally called*: Orchis palmata Sambuci odore, *varying with red, white or rust-coloured flowers. Tuber* palmate, oval hardly digitate, straight, elongated downwards. *Leaves* unspotted. *Bracts* as long as the corolla. The three sepals spreading, the two petals forming a hood; *lip* three-parted, slightly notched, the mid-lobe being narrower but not shorter. *Spur* as long as ovary, obtuse.
>
> *Orchis*, bulbis palmatis patentibus, nectarii cornu germinibus breviore: labio crenato, (petalis) dorsalibus patulis, *generally called*: Orchis palmata maculata. Differs from plant just mentioned by bracts being shorter, lip three-lobed notched: mid-lobe much smaller. Lateral sepals spreading, not reflexed as in the plants mentioned above. *Tubers* more widely spread and scattered and digitate.
>
> Orchis palmata palustris non maculata *differs from* maculata *in this respect*, that the two lateral sepals were reflexed, whereas in maculata they are straight and spreading. The lip is but slightly incised and the side-lobes less reflexed; stem shorter, flower-spike rough and bracts longer than flowers. It does not differ quite so much from Orchis odore Sambuci, but the spike is denser and the roots are more widely spread.

So we see that here Linnaeus found *O. sambucina* L., *O. maculata* L. and *Orchis palmata palustris*, which was a synonym of his *O. radicibus palmatis*, i.e. *O. incarnata* L. In the Index of the itinerary Linnaeus mentions two plants only, *O. sambucina* and *O. basilica* (=*O. maculata* L.).

On p. 15 sub no. X of *Act. Soc. Upsal.*, 1740 (published 1744) Linnaeus then describes: "*Orchis bulbis subpalmatis rectis, nectario cornu conico: labio trilobo integerrimo, bracteis flore longioribus.*" This then is not the third species found in Rella, but the first, later distinguished as *O. sambucina*, whereas *O. radicibus palmatis*, the plant of the Hort. Cliff. is cited as the first synonym. The tuber of *O. sambucina* especially shows a typical difference with *O. incarnata*, the fingers being very short, hence "*subpalmatis*," instead of "*palmatis*" of *O. incarnata* (Fig.). This proves, that Linnaeus had *O. sambucina* in his mind now, and he forgot all about the third plant from It. Oel.

In 1745 Linnaeus's Flora Suecica was published; no wonder that there too the diagnosis quite agrees with that of *O. sambucina* from It. Oel. After the synonym from the Hort. Cliff. another follows from

the German A. von Haller and then comes *O. palmata pratensis latifolia longis calcaribus Bauhin*, derived from Dodoens's *Satyrium basilicum primum*, which plant might be *O. praetermissa* or *O. incarnata* according to Mr Pugsley (*l.c.*, p. 555) but which I rather suppose to be an *unspotted O. majalis*.

Again it is not to be wondered at that *O. latifolia* L. from *Spec. Plant.* (1753), vol. ii, p. 941, shows almost the same diagnosis; only the lip is now described as follows: "*labio trilobo lateribus reflexo*" but even that characteristic also occurs with *O. sambucina*. The fact that *Orchis palmata sambuci odore* is mentioned as var. shows how little Linnaeus then mastered this group. Fries is certainly right, when he says (*Nov. Fl. Suec. Mant. tertia* (1845), p. 128) that Linnaeus mistook *O. incarnata* for *O. sambucina*, but apparently Mr Pugsley overlooked this.

Also in *Fl. Suec.*, ed. ii (1755), the diagnosis of *O. latifolia* remains unchanged, but in an addition at the end the leaves are now described as spotted, evidently a change that is based on personal observation and not on the study of literature, for now we also find descriptions of *O. incarnata* and *sambucina* besides that of *O. latifolia*. The description of *O. latifolia* makes an half-hearted impression, for it shows a plant that has the tuber of *O. sambucina* and possesses spotted leaves, which occur neither with *O. sambucina* nor with *O. incarnata*. Consequently it is parts of different plants that are made here into one "species" and this proves that *O. latifolia* is a *nomen confusum* according to modern nomenclature (*Intern. Rules Bot. Nom.*, 3rd ed. (1935), art. 64).

After this "*latifolia*" we find the following diagnoses in the same work:

NO. 802 Orchis (*incarnata*) bulbis palmatis, nectarii cornu conico; labio obscure trilobo serrato, petalis dorsalibus reflexis.

Orchis palmata lutea, floris labio maculato. Segu. veron. 3, p. 249, t. 8, f. 5.

Habitat *in Pratis rarius*.

Praecedenti simillima, a qua differt: Foliis pallide viridibus immaculatis; nec saturate viridibus maculatis. Caule dimidio breviore. Bracteis vix flore aut germine longioribus. Corollis pallide incarnatis; nec rubris. Petalis 2 dorslibus totaliter reflexis; nec tautum patulis, nec maculatis; Nectarii labium structura convenit.

NO. 803 Orchis (*sambucina*) bulbis subpalmatis rectis, nectarii cornu conico, labio ovato subtrilobo, bracteis longitudine florum.

Orchis palmata, sambuci odore, floribus exalbidis. Tourn. inst. 435.

Orchis ornithophora candida. Chahr. sciagr. 249.

Orchis palmata, sambuci odore. Bauh. pin. 86, Rud. elys. 2, p. 213, f. 9.

Orchis foetida sylvatica praecox, flore albo barba luteola, Hall. rupp. 297.

Orchis pannonica viii Clus. hist., 1, p. 269.

Orchis palmata, sambuci odore, floribus purpureis. Tourn. inst. 435.

Habitat, etc.

Radix bulbis subpalmatis, rectis nec divaricatis, oblongis, apice in duos digitos bifidos divisis. Gemma squamis tribus. Caulis vix spithamaeus, pallide viridis, teres. Folia alterna, lineari-lanceolata, obtusiuscula, basi vaginantia, pallide viridia, immaculata, obsolete nervosa, vix ultra 4 s. 5, a basi ad medium cauli inserta. Flores in spicam subovatam caulis apici angulato insidentes, communiter septem. Bracteae lanceolatae, carinatae, flore non longiores, marginibus basin recurvatis. Germen angulatum & contortum. Petala 3 dorsalia patula, quorum lateralia omnino reflexa; 2 interiora conniventia in Fornicem. Nectarii labium ovatum, raro cordatum, versus apicem trilobum: intermedio lobo paulo productiore & obtuso. Cornu nectarii gibbum s. crassiusculum, obtusum, longitudine fere germinis. Color corollae flavescenti-exalbidus, labio pallide flavo ad basin punctis oblongis s. lineolis longitudinalibus interruptis purpurascentibus notato. Variat etiam Floribus livide purpureis.

Planta obscura, etc.

From the description of the tuber forms of these species we understand at once that these two cannot be synonymous and besides it shows what Linnaeus means by a *bulbis subpalmatis*: a tuber such as is found with *O. sambucina*. But what makes Linnaeus use Seguier's *Orchis palmata lutea* as a synonym of *O. incarnata*, when it is now generally understood that this is the yellow-flowering variety of *O. sambucina*? He was probably misled by Seguier's description of the plant with palmate, not with subpalmate, tubers, so it was perhaps a yellow-flowering *O. incarnata* in the sense of Linnaeus. Perhaps Linnaeus understood *lutea* as an adjunct to tuber, and not to the colour of the flower. Against the diagnosis of *O. incarnata* it might be argued that the plant was described with short bracts, but this form is actually found in Sweden, as I gathered from Swedish herbarium material.

Moreover there is a plant in Linnaeus's herbarium in London, which was there in 1767 and was determined by Linnaeus himself, and which is undoubtedly a real *O. incarnata* according to views held before 1935. (Cf. Stephenson, *Journ. of Bot.*, Nov. 1923). The specimen of *O. latifolia* L. from Linnaeus's herbarium is not a clear specimen of the species, according to Mr Pugsley, for "*its condition is too poor for the accurate determination of its features*" (*l.c.*, p. 563). The habit itself is not typical either. How else can it be explained that English botanists (Stephenson, Godfery!) did not recognize this specimen as *O. incarnata*?

Haller's criticism (Act. Helvet., iv (1760)) probably induced Linnaeus to take away the spotted leaves from *O. latifolia* in Spec. Plant., ed. ii (1762-1763), but again the diagnosis of this species is not changed.

The great change comes in 1771, in Linnaeus's *Mant. Plant. altera*, after the publication of Haller's *Hist. Stirp. Helvet.*, ii (1768), where on plate 32 a very fine illustration of *O. majalis* is given. Then Linnaeus evidently saw that his *O. latifolia* was an absurdity, a collection of diagnoses made at different times of different species, and Linnaeus is converted to Haller's view. He entirely changes the diagnosis and adopts that given by Haller and also cites the plate 32 in his diagnosis. Afterwards, when Fries, Koch and Reichenbach fil. call *O. majalis* Rchb. p. *O. latifolia*, they undoubtedly think of Haller's plant, the plant meant in Linnaeus's 1771 diagnosis. Consequently their *O. latifolia* L. should not bear 1753 but 1771 as its date! In that case that name is quite justified. Let us, however, avoid the name "*latifolia*" as *nomen confusum*, for now that Mr Pugsley has several followers already, not only in England, but also on the continent (Nevski in *Flora URSS*, iv (1935), p. 717, & Hellmayr in *Boissiera*, vii (1943), p. 387), the reintroduction of that name would merely add to the confusion and that should be prevented at all costs. In my opinion, however, there is no objection whatever to the maintenance of the name *O. incarnata* L. (excl. syn.); on the contrary, the continuity of the nomenclature should be preserved wherever and as much as possible, and certainly in those cases where we cannot be absolutely sure that the suggested change is a right one. We as specialists should bring about as few changes of names as possible, lest systematic botany should be discredited.

Here is the survey of the used names:

Before 1935.	After 1935.		
	By Pugsley.	By Mansfield.	By Vermeulen.
ORCHIS.	1935.	1938.	1944.*
latifolia L.=	*majalis* Rchb.=	*impudica* Crantz=	*majalis* Rchb.
incarnata L.=	*latifolia* L.=	*strictifolia* Opiz=	*incarnata* L.

*Cf. Vermeulen in *Ned. Kruidk. Arch.*, 53 (1943), p. 116.

Amsterdam, Jan. 1946.

II. H. W. Pugsley.

My paper criticised by Dr Vermeulen (*Journ. Linn. Soc. Bot.*, *49*, pp. 553-592 (1935)) was written chiefly to publish my discoveries of *Orchis cruenta* Müll. in the Alps and a new form (*O. occidentalis*) in Ireland, as well as to discuss the affinities of the British *O. latifolia* of Godfery, Stephenson and others (*O. pardalina*) and the high Alpine plant included by Ascherson and Graebner under the same name as a race *impudicus* (*O. alpestris*).

Before treating of these plants it was found essential to fix the interpretation of *O. latifolia* L., the earliest binominal name in the group, for in England there were three existing claimants to this name, and not one only as Vermeulen suggests.

My paper was reviewed by Dr Stephenson in the *B.E.C. Report for 1935*.

The paper first shows that the early herbalists from Dodoens onwards to Linnaeus assumed the existence of two greater Palmate Orchids, a male with unspotted leaves and a female with spotted leaves, and that these two plants with variants were repeatedly described. It is next demonstrated (1) that Linnaeus's specific diagnosis and description of *O. latifolia* in *Sp. Plant.* (1753) refers to the male plant and his type to the form recently regarded as *O. incarnata* L.; (2) that his synonyms relate to a similar plant; (3) that his note in *Hort. Cliff.* respecting spotted and unspotted leaves is due to the fact that in 1737 he did not recognise *O. maculata* as a separate species; and (4) that the existing specimens in his own and in Clifford's herbarium (excluding one example of *O. maculata* in the latter) are likewise " *O. incarnata.*" It thus follows that the later name *O. incarnata* L., if adopted for this plant, is invalid, being applied to a species already validly published by Linnaeus as *O. latifolia.*

Vermeulen's objections to the maintenance of the Linnaean name *O. latifolia* are not very clearly stated, but they seem to be mainly based on his conception of the difference between the palmate and subpalmate tubers mentioned by Linnaeus in his descriptions; and he assumes that subpalmate tubers are those characterised by short segments or fingers as seen in *O. sambucina* L. The term " subpalmate " was first used by Linnaeus in the " Species Orchidum " in *Act. Soc. Upsaliensis* (1740). On page 14, in the account of the female plant (afterwards *O. maculata*), where Linnaeus uses the term palmate to describe the tubers, he explains it thus (translated): " Roots spreading and fingers bent outwards." On page 15, in the account of the male plant (afterwards *O. latifolia*), he defines subpalmate thus (translated): " Root divided into FEW fingers, and so scarcely palmate, straight, scarcely spreading." This effectually disposes of Vermeulen's theory of long and short fingers, for few straight fingers characterise *O. latifolia* L. (*O. incarnata* auct.) just as more numerous spreading ones do *O. maculata*, and the contention that the *Orchis bulbis subpalmatis rectis*, etc., of *Act. Soc. Upsal.* and subsequent works is primarily *O. sambucina* L. is completely stultified. It is to be regretted that Dr Vermeulen should thus cite and draw conclusions from works that he cannot have read.

Like other early herbalists, Linnaeus was interested in the roots of Orchids and was aware of the short " fingers " of *O. sambucina.*

An important fact that Vermeulen leaves unmentioned is that from 1753 to 1832, when Elias Fries wrote his *Novit. Fl. Suec., Mantissa I*, there was no confusion over the identity of *O. latifolia* L., either in Continental or British literature. It is excellently figured in *Flora Danica*, Smith's *English Botany*, and Curtis's *Flora Londinensis.* During this period *O. incarnata* L. was consistently regarded as a variety of *O. sambucina* L. It was only after the elder Reichenbach

in 1828 had separated the widely spread plant with spotted foliage as *O. majalis* that Fries, who seems to have been actuated by a desire to suppress Reichenbach's name, proposed the changes that have led to the subsequent confusion. In 1832 he first suggested that *O. incarnata* was not a form of *O. sambucina*; in 1839 that it was identical with *O. Traunsteineri* Sauter; and in 1842 that Reichenbach's *O. latifolia* and *O. majalis* were *O. incarnata* and *O. latifolia* respectively. The confusion over these plants is connected with *O. incarnata* rather than *O. latifolia*; and there seems no good reason for treating *O. latifolia* L., *Sp. Plant.*, ed. 1, as a *nomen confusum* or a composite species. It is clearly described and typified, although shown with varieties, some of which have been transferred from it, as in the case of many other Linnaean species.

Vermeulen's remarks on the accounts of these plants subsequent to 1753 are of secondary importance seeing that the main point in question is the validity and correct application of the binary name *O. latifolia* published by Linnaeus in *Species Plantarum* in that year. I think they are all anticipated in chronological order in my original paper. I do not consider that Fries or Koch were influenced by Linnaeus's last *Mantissa* of 1771, for here *O. latifolia* is still described with unspotted leaves and *O. incarnata* is but briefly noticed and said to be " perhaps a variety of *O. sambucina*."

III. A. J. Wilmott.

In 1922 Mr W. N. Edwards, now Keeper of Geology in the British Museum (Nat. Hist.) informed me that he was visiting Oeland, and he undertook to try to obtain specimens of the Marsh Orchis referred to by Linnaeus (1753: *Sp. Pl.*, 941) as " *Orchis bulbis subpalmatis rectis, nectarii cornu conico: labio trilobo lateribus reflexo, bracteis flore longioribus.* Act. Ups., 1740, 15. It. Oel., 48." We obtained all possible information from Linnaeus's MS. of his " *Öländska och Gothlandska Resa*, and although Mr Edwards found that the locality indicated by Linnaeus near "Rella" [Rälla] no longer bore any Marsh Orchids he brought back a good series from a small marsh just round the corner (on the Högsrum road) less than half a mile away. These were exhibited to the Linnean Society of London (see *Proc. Linn. Soc. Sess., 138*, p. 3). At the time I was misled by Dr Druce, who identified the specimens as *O. praetermissa*, and the remarks there published must be set aside, for the specimens are all *O. incarnata* auct., a species I then knew mainly in the small forms occuring in Wicken Fen, and the Rälla plants were tall plants with purple flowers. I had written up a long account of the history of the names *O. latifolia* and *O. incarnata* when I received a request from Col. Godfery, who had seen the notice in the Linnean Society's Proceedings, asking me to let him have my views on the matter. Unaware that Col. Godfery was intending to publish a paper on *Orchis latifolia* (see

Journ. Bot., *62*, 35: 1924), I replied that it would take too long to write them out again, but that I had them set out in a paper I was preparing which I would lend him if he wished. He borrowed the paper, extracted the results of my successful efforts to obtain the Rälla plant, and other details, and published them without asking my permission or making any acknowledgment to me. My own paper containing a full exposition of *O. latifolia* L. was never published. Once the Rälla plants had been identified by Dr Stephenson as *O. incarnata*, I had, however, come to very much the same conclusion as Mr Pugsley did years later, and, as a result of my own investigations, was aware of many of the various discoveries which he made concerning the history of Linnaeus's *Orchis latifolia*. I therefore wish to make some rejoinder to Dr Vermeulen's views, as I consider that there are " weak points " in his arguments also.

My first objection is that *Orchis latifolia* L. cannot be regarded as a *nomen confusum* because it included more than one species. If this were the case we should have to reject hundreds of Linnean names. It is certainly a *nomen ambiguum* in the sense in which I defined and gave this term (also " *nomen confusum* " and " *nomen dubium* ") to Dr Sprague for inclusion in the *Proposals of British Botanists* made to the International Botanical Congress, 1930, i.e., as a name which is used currently in more than one sense. But I proposed that for purposes of nomenclature, *nomina ambigua* should be given precision by the citation of a second author after " *sec.*" = *secundum*, i.e., " according to." When a *nomen ambiguum* is found by further study to be capable of being given precision, by proper typification or otherwise, there is no reason for its rejection, as the wrong use disappears and the name ceases to be a *nomen ambiguum*. The citation of a second author is only necessary during the period of transition from the wrong use to the right one, and Dr Sprague's alteration of my proposal to the Congress (unknown to me) was unjustifiable. If all names which have at one time or another been *nomina ambigua* are rejected, and mere misinterpretation is to be allowed as a reason for rejection of names, how many more names we shall have to change! *Orchis latifolia* is *not* a *nomen confusum*, and must be used if it can be satisfactorily typified.

The specimen representing *Orchis latifolia* in the Linnean Herbarium is an exact match of the crassest of the specimens brought back by Mr Edwards from near Rälla. There is no doubt that it is *O. incarnata* auct. of the form met with when a cow-pat has been dropped upon the plant. The two specimens even match to the fungus spots to be found on the leaves of both, which fungus spots were in my opinion responsible for the mention of spots on the leaves of *Orchis latifolia*, printed by Linnaeus for the first time when he described *Orchis incarnata* (1755: *Fl. Suec.*, ed. 2, 312). For the descriptions of *O. latifolia* and *O. incarnata* were taken from his MS. notes in his own interleaved copy of the first edition of *Flora Suecica*, where on the same page he notes to no. 726, " Descriptio . . . it. oel. 45 " and to no. 727,

" Descriptio . . . it. oel. 46." As examination of the " Iter Oelandica " shows, Linnaeus paid considerable attention to Orchids on 2nd June 1741, and the annotations to *Flora Suecica* under *Orchis latifolia* and *O. incarnata* were made when the results of his travels in Oeland and Gothland, etc., were entered up into his Flora in preparation for a second edition. This annotation in *Flora Suecica* is the first mention made by Linnaeus of the occurrence of spots on the leaves of *O. latifolia*, and I had no doubt in 1922, and have none now, that the spots mentioned were the fungus-spots on the leaves of his herbarium specimen, which I believe he first noticed when comparing with it the weak specimen, also in his herbarium, that he was describing as *O. incarnata*. For *O. latifolia* had previously been primarily (Linnaeus's var. α both in his " 1740 " monograph and in the *Species Plantarum*) a plant with unspotted leaves, as Mr Pugsley independently discovered. Linnaeus's interest in these orchids started in Holland, and the plants in the Clifford Herbarium show that the reference to " *Hort. Cliff.*" belongs to *O. incarnata* auct. which is common in Holland. The development of his views in *Flora Suecica* and *Species Plantarum* were largely a consequence of his journey in Oeland, to which I will return later in this article.

In the monograph published by Linnaeus in " *Act. Ups.*, 1740 " [1744] all these orchids were included under the general definition " *Orchis bulbis subpalmatis rectis,*" etc., the definition repeated in 1753. But this was a composite definition including all the varieties (α→) distinguished by Linnaeus. The stress laid by Vermeulen on the word " sub-palmatis " was in my opinion quite without justification, as I considered the " sub- " to signify merely " more or less." That this was so seemed to be shown by the fact that although in the " *Iter Oelandica* " in this definition Linnaeus says " *subpalmata,*" in the *description* of *O. sambucina* he says " Radix palmata " and *not* subpalmata.* Further, Vermeulen appears to consider that the definition given by Linnaeus including the whole of the varieties refers only to the references preceding his var. α, whereas it is evident that these references are only general references which he regarded either as inclusive or not referable by him to the various varieties. This is clearly seen by reference to pp. 11 and 12 of his monograph, where, after a similar composite definition followed by several references preceding a large number of varieties (α→), he concludes by adding: " α−ε, Labium aequale . . . ζ−λ, Labium . . . μ−ο, Labium . . . " After reading the remarkable (for him) description given in 1755 by Linnaeus of *Orchis sambucina* (separated from *O. latifolia*), I suggest that Dr Vermeulen has not mastered Linnaeus's monograph, etc., rather than that Linnaeus had not mastered the group, so far as his limited information permitted.

*See, however, Mr Pugsley's paper where Linnaeus's meaning of "sub-" is satisfactorily explained.

Where Linnaeus did go wrong was in citing " it. oel." under *O. latifolia* in 1755 instead of removing the reference to where it belonged, under *O. sambucina*. There was some justification for this citation, perhaps, because in the " It. Oel.", p. 48, Linnaeus deals with three orchids which he found near Rälla. First he describes " *Orchis bulbis subpalmatis rectis, nectarii cornu conico: labio trilobo integerrimo, bracteis flore longioribus* som allmänt kallas *Orchis palmata Sambuci odore*," which is *O. sambucina* L. (1755), the var. γ (and δ) of the "1740" monograph and only the var. β of the *Flora Suecica*, 1745, no. 728. Then he describes " *Orchis bulbis palmatis, patentibus, nectarii cornu geminibus breviore: labio crenato, dorsalibus patulis,* kallas allmänt *Orchis palmata maculata*," which the specimens brought back by Mr Edwards indicate to be *O. Fuchsii*. But he describes also a third plant, a marsh orchis, " *Orchis palmata palustris non maculata* " which is the Rälla *O. incarnata*, as shown by Mr Edwards's specimens and Linnaeus's remarks that the outer corolla leaves are bent back against each other. It is clear that the reference to " it. oel. 48 " could refer to both the first and third of these, for the name used for the third is not mentioned anywhere in either edition of the *Flora Suecica* and yet, being a Swedish orchis which *should* have been mentioned in that Flora—especially as Linnaeus clearly entered up the plants of the " *it. oel.*" into his *Flora Suecica*—the only place where it could be considered to be mentioned is in the reference to " it. oel. 48." It will be noted that although Linnaeus adds this reference after the *Act. Ups.* definition, the definition given in " it. oel." for neither plant is the same as that in the *Act. Ups.* It may therefore be that Linnaeus left the reference where he did because it covered both the first and third plants described on p. 48. But to me it seems more likely that Linnaeus produced so much work that he was rather careless (as so many of his slips indicate). Certainly if the reference to " it. oel. 48 " referred only to the first plant, it should have been transferred in 1755 to no. 803, *Orchis sambucina*," and not left under no. 801, *O. latifolia*. And this, I think, disposes of another of Vermeulen's arguments. It should also be added that *Orchis sambucina* is not a Marsh Orchis: it is a plant of *dry* meadows, bushy places, and light woodland (cf. Ascherson & Graebn. 1907: *Syn. Mitteleur. Fl.*, iii, 752). And if we read what Linnaeus says on p. 47 of the " it. oel." we find (B. Daydon Jackson's translation for me): " After 1½ miles [nearly 8½ English miles] horses were changed at Isgiärde inn, whereupon we came into a large area of pine and oak, the pinewood was very serviceable for timber. At Rella estate [or farm] grew . . . " [the three orchids mentioned, and other plants named]. Presumably the *Orchis sambucina* grew in the woods and the *O. latifolia* (*incarnata*) in the marsh.

[My recollection is that the MS. said that this was so, but the MS. is at the moment not available for re-examination: I think Mr Edwards and I found that the marsh was just before the turning to

Högsrum.] But that Linnaeus confused *Orchis latifolia* (*incarnata*) with *O. sambucina* is not in the least borne out by all this detailed evidence given.

Another point that should be made is that the lip of *O. sambucina* is described as " trilobo," whereas in 1755 Linnaeus says that the lip of his *O. incarnata* is " structura simile " to that of *O. latifolia*, and the " 3lo " [=3 lobo] which he wrote was crossed out. This is from the MS. on the interleaf of *Flora Suecica*, ed. 1. The lip of 728 (which became *O. latifolia* in ed. 2) was there described as " vix trilobum," which is stronger than what he actually printed in 1755 (" obscure trilobum "), and fits *O. incarnata* better than it does *O. majalis*. Whatever may be responsible for the (mis-) interpretation of *O. latifolia* by Fries, this does not affect in any way all the evidence brought forward to show that, as Pugsley said, *O. latifolia* L. was *O. incarnata* auct. And unless the Vaillant figure is referable to *O. praetermissa*, there is nothing to show that that species enters into the matter, although it is probable that, had he known it, Linnaeus would have included it in his *O. latifolia*. Everything points to the view that the Linnaean name should be retained (for the time being as " sec. Pugsley ") for the plant so long known as *O. incarnata* L., and that the specimen in Herb. Linn. was used by Linnaeus as his type and should be regarded as such.

A HYBRID SEDGE NEW TO THE BRITISH ISLES

E. NELMES.

As announced in the *Irish Naturalist* (*8*, p. 339: 1946), what appears to be a hybrid between *Carex hirta* L. and *C. vesicaria* L. was discovered in County Wicklow, Eire, by Mr J. P. Brunker, of Dublin, in July 1944. No hybrid between these species seems to have been recorded hitherto from the British Isles, and at the time of Kükenthal's monograph of the *Caricoideae* such a hybrid was known only from West Prussia. Descriptions show this to be very similar to the Irish plant, which does not appear to lean more to one parent than to the other, unless its shortly and subdensely hairy utricles are considered to be nearer to the longly and densely hairy ones of *C. hirta* than to the glabrous ones of *C. vesicaria*!

Kükenthal's Latin description of the hybrid found in Germany is rather short, and Fiek's two accounts are in German. Below is a full description of the Irish plants.

Carex hirta × *vesicaria* Fiek in *Allg. bot. Zeitschr.*, *2*, 182 (excl. syn.) (1896).—×*C. Grossii* Fiek in Aschers. et Graebn. *Syn.*, *2*(*2*). 228 (1903).—Kükenthal in Engl. *Pflanzenreich*, *4*(*20*), 760 (1909).

Rootstock absent. *Stems* about 60 cm. tall, erect, triquetrous, glabrous and smooth except for the scabrid angles near the apex, rather slender, ribbed. *Leaves* absent from the base of the stem, but 4-5 present on the lower half, the lower of which are short bladed, the upper longer but falling short of the apex of the stem, about 3-3.5 mm. wide, flat or flattish, closely and rather strongly nerved, with the midrib keeled on the under-surface and canaliculate-impressed on the upper surface, glabrous except towards the base, where they are sparsely hairy, smooth below but scaberulous on the margins and midrib towards the long attenuated apices; sheaths of the lower leaves glabrous or glabrescent, stramineous to reddish, membranaceous and often splitting into herring-bone shaped fibres in front, sheaths of the upper leaves glabrous below, sparsely to densely hairy above, pale and membranaceous in front. *Spikes* 4, erect to suberect, upper 2-3 staminate, dense-flowered, slenderly cylindrical, 2.75-4 cm. long, about 1.5-3 mm. thick (when the pistillate spikes are fruiting), subapproximate, lateral ones sessile, remaining 1-2 pistillate, subdense-flowered but sometimes lax-flowered at the base, cylindrical, 3.5-5 cm. long, about 7-8 mm. thick when the utricles are fully developed, at nodes 6-8 cm. apart, sessile to very shortly peduncled. *Bracts* of the staminate spikes from subfoliaceous and about as long as the spike to reduced to large scales, not sheathing the stem, bracts of the pistillate spikes foliaceous to subfoliaceous, from about reaching to falling short of the apex of the terminal staminate

spike, glabrous, not or scarcely sheathing. *Pistillate scales* 3.5-5.75 mm. long, or about 2.75-4.75 mm. long if the rather ill-defined awn be excluded, 1.5-1.75 mm. wide, lanceolate to oblong-ovate-lanceolate or ovate-lanceolate, flattish to cymbiform, margins often involute, especially towards the apex, gradually to suddenly and obtusely narrowed above into the awn, rather thin and translucent, whitish to reddish with a broad, pale, central stripe and broadish whitish-hyaline margins, at least above, nerveless or nearly so, except for the midrib and 2 closely parallel nerves which converge upwards and coalesce to form a stouter midrib, which is excurrent in an ill-defined, minutely hispidulous-margined awn about .75-1 mm. long. *Utricles* 5-6 mm. long, 1.8-2 (2.25) mm. broad, ovoid-conical but subinflated-trigonous and somewhat shrunken, strongly pluri-nerved, evenly and subdensely covered with shortish hairs (much shorter and less dense than those of *C. hirta*), subcoriaceous, straight, obliquely spreading, shortly but stoutly stipitate at the rounded base, gradually tapering upwards and subgradually narrowing above into a compressed-cylindrical, narrowly marginate, glabrescent to sparsely hairy, sparsely hispidulous-margined, bidentate beak about 1.5 mm. long; mouth straight; teeth somewhat diverging, about .5 mm. long. *Nut* undeveloped.

West Prussia. On the side of a ditch between Tiegenhof and Reinland with the parents, *R. Gross.*

Ireland. H.20, Wicklow; coastal marsh, Magherabeg, 2nd July 1944, *J. P. Brunker.*

TWO CRITICAL GROUPS OF BRITISH SEDGES

E. NELMES.

As these are mainly attempts to help those interested in British sedges to identify the members of the two most difficult groups, questions of nomenclature will not be discussed in detail here. The specimens cited are all in *Herb. Kew.*, except the one mentioned as in *Herb. Druce*.

I. CAREX FLAVA L. (agg.).

There seems no doubt as to the identity of *Carex flava* L. itself, which was well explained by Mr N. Y. Sandwith in the *B.E.C. 1934 Report*, p. 992, and *C. lepidocarpa* Tausch is widely accepted as the correct name for another of the four species forming the group in Britain. The third species in descending order in the classification below has not hitherto been treated as a species since the time of the Swedish botanist, N. J. Andersson, and even he, in 1849, reduced to a subspecies of *C. Oederi* [auctt., non Retz.] his *C. tumidicarpa*, which he had established earlier in that year. British and European botanists have placed this plant either as a form or subspecies under *C. Oederi* or as a variety of *C. flava* L. There seems little doubt about the plant's specific status and *C. tumidicarpa* appears to be its name. There has been no disagreement, at least in recent years, about the status of the fourth and last British "*flava*," but its correct name has been and still is in some doubt. Recently (see *Journ Bot.*, 77, 301-4: 1939), I suggested that it might be *C. serotina* Mérat, and this name has been accepted both in Europe and America. *C. demissa* Hornem. (1806) may be the correct name for one of the above-mentioned species, but the identification of Hornemann's plant has yet to be established.

KEY TO THE SPECIES

Utricles 4-7 mm. long, becoming strongly bent or curved at the apex (base of the beak); stems about 10-70 cm. tall, erect; occurring only on or under the influence of basic or calcareous soils:

Female spikes 2 or 3, not reduced to 1, rarely increased to 4, crowded with the terminal (male) spike, or lowest approximate or, less commonly, more distant, 10-15 mm. long, 10-12 mm. thick when the utricles mature; utricles 5-7 mm. long when curved or bent, longer if straightened out ..... 1. *flava.*

Female spikes 1, 2, or 3, rarely 4, usually all separated from one another and from the terminal spike by varying lengths up to 1.5 or 2 cm., less commonly more distantly spaced, 7-15 mm. long, 7-9 mm. thick when the utricles mature; utricles 4-5 mm. long when curved or bent, a little longer if straightened out ..... 2. *lepidocarpa.*

Utricles 2-4.5 mm. long, straight or straightish, or some sometimes becoming slightly curved; stems about 2.5-35 cm. tall, erect, curved, or semi-decumbent; apparently not occurring on calcareous soils (female spikes 2-5 in each species):

Stems often curved or semi-decumbent but sometimes more or less erect, 5-35 cm. tall; leaves about 2-4.5 mm. broad, flat or flattish; female spikes 5-13 mm. long, 5-8 mm. thick when the utricles mature, uppermost usually situated well below the base of the terminal spike, upper from crowded to approximate, lower separated by varying distances up to 1 cm. from one another, lowest usually distant or very distant from the one next above, not infrequently arising from the axil of a leaf (bract) at the base of the stem; whole inflorescence about 2-20 cm. long; utricles 3-4.5 mm. long, beak about as long as the rest of the utricle ..... 3. *tumidicarpa*.

Stems erect, 2.5-20 cm. tall; leaves about 1-3 mm. broad, more or less canaliculate, female spikes 4-9 mm. long, 4-6 mm. thick when the utricles mature, crowded with the terminal (usually male) spike, or sometimes the lowest 1-2 approximate, less commonly the lowest up to 1-2 cm. from the next above; whole inflorescence about 1-4 cm. long, rarely longer; utricles 2-3 mm. long, beak about ½ as long as the rest of the utricle ..... 4. *serotina*.

1. CAREX FLAVA L., *Sp. Pl.*, ed. 1, 975 (1753).

So far as is known this species is very rare in Britain, its only certainly known locality up to the 1946 season being a wood near Haverthwaite, v.-c. 69, N. Lancs., from where it was distributed through the Club by W. H. Pearsall in 1913, though a plant recorded by J. Fraser from Seckley Wood, Arley, Worcs. (formerly Staffs.) may belong to this species (see *B.E.C. 1884 Rep.*, 118). During the summer of 1946 it was found in v.-c. 64, M.W. Yorks., by Mr G. A. Shaw. In Lancs. and Yorks. the habitat is damp peat overlying carboniferous limestone. It is a widely spread species in Europe.

This, the largest member of the group, has at least one character in common with *C. serotina*, the smallest, which is the crowded nature of its spikes, but it is not likely to be confused with any species except *C. lepidocarpa*. From this it is distinguished by its spikes crowded at the apex and its longer utricles.

2. C. LEPIDOCARPA Tausch in *Flora*, *17*, 179 (1834).

This, like *C. flava*, appears to be a calcicole. In Gloucestershire, for example, where I know it best, it is the only " flava " on the limestone Cotswolds, where it occurs in runnels and wet places originating from springs on the hillsides. In the alluvial Severn Vale and on the Old Red Sandstone west of the Severn it is replaced by *C. tumidicarpa*. It is widely spread on the Continent and in Britain.

This species somewhat resembles *C. tumidicarpa*, especially before its utricles develop and become strongly bent at the apex. Its straight stems distinguish it from curved or semi-decumbent specimens of *C. tumidicarpa*, and from these and straight-stemmed forms it differs in being without a subradical spike, having strongly bent utricles, and in eschewing acid soils.

Specimens.—11, S. Hants; St Clair's Farm, Droxford parish, *E. Milne-Redhead* 2473. 12, N. Hants.; Greywell, *E. C. Wallace*: *ibid.*, *E. Milne-Redhead* 2211: *ibid.*, *E. Nelmes* 378, 379. 22, Berks.; Cothill, *J. E. Lousley*: *ibid.*, *C. E. Hubbard* 11122: *ibid.*, *J. P. M. Brenan* CA.50, CA.54. 23, Oxon.; Headington Wick

Copse, *W. B. Turrill*: Weston on the Green, *J. P. M. Brenan* CA.56, CA.57. 26, W. Suff.; Thelnetham Fen, *E. Milne-Redhead* and *H. K. Airy Shaw* 2073. 27, E. Norf.; Thurne, *C. E. Salmon*. 28, W. Norf.; Caldecote Fen, *J. E. Little*, 1919 (*B.E.C.* and *Wats. B.E.C.*); Derby Fen, near Roydon Common, and E. Walton Common (2 localities), *E. L. Swann*. 29, Cambs.; Wicken Fen, *E. Nelmes* 203. 30, Beds.; The Litany, Totternhoe, *E. Milne-Redhead* and *J. G. Dony*. 33, E. Glos.; Seven Springs, Bourton on the Water, *E. Milne-Redhead* 1275: near Brimpsfield, *E. Milne-Redhead* 2405: *ibid.*, *E. Nelmes* 703, 733: near Duntisbourne Abbots, *H. K. Airy Shaw*; Puckham Bog, *E. Nelmes* 705, 748. 36, Heref.; Gt. Doward, 1889, *A. Ley* (*B.E.C.*). 42, Brecon, Penderyn, *E. Milne-Redhead* and *H. K. Airy Shaw* 5479. 52, Anglesey; Cors Bodeilio, *E. Milne-Redhead* 2418. 56, Notts.; near Shireoaks, *J. Brown*. 63, S.W.Yorks.; Bolton Abbey, *J. B. Wood*. 64, M.W.Yorks.; Ribblehead, 1934, *W. A. Sledge* (*B.E.C.*): Ripon Parks, 1938, *C. M. Rob* (*B.E.C.*). 65, N.W.Yorks.; Sleddale, *E. Milne-Redhead* and *H. K. Airy Shaw* 1535. 66, Durham; Newbiggin, *J. E. Lousley*. 69, Westm.; near Whelprigg, *E. Milne-Redhead* and *H. K. Airy Shaw* 1480. 88, M. Perth; Ben More, *E. Nelmes* 415: Ben Lawers, *E. S. Edees* 4702 (part). 89, E. Perth; Spittal of Glenshee, *J. Raven*. 90, Forfar; Clova, *J. E. Lousley*. 92, S. Aberd.; Loch Ceander, *G. C. Druce*. 96, Easterness; near Nairn, *W. A. Shoolbred* 568. 98, Main Argyll; Ben Douran, 1933, *E. C. Wallace* and *R. Mackechnie* (*Wats. B.E.C.*): Ben Lui, *J. E. Lousley*. 105, W. Ross; Cnochan Rocks, *J. E. Lousley*. 108, W. Suth.; Inchnadamph, *E. S. Marshall*. 109, Caithn.; Wick River, *J. Grant*; Loch Winless, *P. M. Hall* and *E. C. Wallace* 3427. 111, Orkney; Hoy, *H. H. Johnston*: Isle of S. Ronaldshay, *J. W. Heslop Harrison*.

H.9, Clare; Cahir River, *J. E. Lousley*. 15, S.E. Galway; Gort, *J. E. Lousley*. 19, Kildare; Leixlip, *A. W. Stelfox*. 27, W. Mayo; Mweelrea, *J. P. Brunker*. 33, Ferm.; near Derrygonnelly, *D. Meikle*.

Most of the Scottish specimens cited above belong to what has been called the " mountain form " of the species. This plant has larger fruits and darker glumes.

3. C. TUMIDICARPA Anderss. in *Bot. Notiser*, 1849, 6.—*C. Oederi* subsp. *oedocarpa* Anderss., *Cyper. Scand.*, 25 (1849).—*C. flava* var. *minor* Towns. in *Journ. Bot.*, *19*, 263 (1881).

As mentioned above, this species appears to be a calcifuge, and is found on a variety of non-calcareous soils, in rather damp rides in woods, furrows in meadows, and in rather damp spots on heaths. It is the commonest " *flava* " in Britain, being widely spread throughout the British Isles, and also on the Continent.

Small specimens are sometimes misidentified as *C. serotina*, but the arrangement of the spikes, broader and flattish leaves, actually and relatively longer beak, and semi-decumbent habit, singly or in combination, of *C. tumidicarpa*, should enable one to recognise this species.

It appears to be divisible into several forms as is suggested by its erect or semi-decumbent stems, and its spaced or more crowded spikes, with or without a distant or basal one, but such forms have not been clearly recognised.

Specimens.—1, W. Cornw.; Mullion, 1929, *J. E. Lousley* (*B.E.C.*). 2, E. Cornw.; near Launceston, *E. Thurston*. 3, S. Devon; Postbridge, *W. T. Stearn*. 6, N. Som.; Ashcott Peat Moor, 1929, *H. S. Thompson* (*Wats. B.E.C.*). 7, N. Wilts.; Braydon, *J. D. Grose*. 9, Dorset; Corfe, *N. D. Simpson*. 11, S. Hants.; Holmsley, *E. Nelmes* 387. 12, N. Hants.; Fleet Pond, *E. Nelmes* 361. 13, W. Suss.; Iping Marsh, *E. Milne-Redhead* and *V. S. Summerhayes* 5397. 17, Surrey; Epsom Common, 1933, *E. C. Wallace* 1876 (*B.E.C.*): near Brook, 1933, *E. C. Wallace* 1878 (*Wats. B.E.C.*). 20, Herts.; Northaw, 1912, *J. E. Little* (*Wats. B.E.C.*). 28, W. Norf.; Wretton Fen, 1925, *J. E. Little* (*B.E.C.*). 33, E. Glos.; Brockeridge Common, *E. Nelmes* 741. 34, W. Glos.; Hill, *E. Nelmes* 158: between Drybrook and Mitcheldean, *E. Nelmes* 697, 880. 35, Monm.; near Pontrewydd, *A. E. Wade*. 37, Worcs.; Castlemorton Common, *F. M. Day*. 38, Warw.; Wolford Heath, *H. J. Riddelsdell*. 39, Staffs.; Stanton, *E. S. Edees* 2124. 42, Brecon; Llangattock, *E. Milne-Redhead* and *H. K. Airy* Shaw 5444, 5452. 45, Pemb.; Strumble Head, *J. S. L. Gilmour*. 46, Card.; Teifi Bog, Tregaron, *J. A. Whellan*. 48, Mer.; Corris, *V. S. Summerhayes*. 52, Anglesey; Cors Goch, *J. F. G. Chapple*. 56, Notts.; near Shireoaks, *J. Brown*. 57, Derby; near Cat and Fiddle Inn, *E. S. Edees* 1073. 58, Ches.; Seaman's Moss, *G. E. Hunt*. 59, S. Lancs.; St Helens, *A. B. Jackson*. 63, S.W.Yorks.; Kirkhouse Green, *J. M. Taylor*. 64, M.W.Yorks.; Spofforth, *E. C. Wallace* 5186, 5188, 5189, 5191. 65, N.W.Yorks.; near High Force, *E. C. Wallace* 5185. 69, Westm.; Barbon Dale, *E. Milne-Redhead* and *N. Y. Sandwith* 2022. 70, Cumb.; Wasdale Head, *H. K. Airy Shaw* 46/41. 74, Wigt.; Portencorkrie, *C. I. Dickinson*. 88, M. Perth; between Ben More and Crianlarich, *E. Nelmes* 403. 91, Kinc.; Glenbervie, *J. Fraser*. 97, Westerness; near Fort William, *W. T. Stearn*. 98, Main Argyll; Crarae, Loch Fyne, *A. K. Jackson*. 99, Dumb.; near Milngavie, *W. B. Turrill*. 101, Cantyre, W. Loch Tarbert, *J. S. L. Gilmour*. 102, S. Ebudes; Isle of Colonsay, *J. Heslop Harrison*. 104, N. Ebudes; Isle of Rhum, *J. W. Heslop Harrison*. 105, W. Ross; Gairloch to Port Henderson, *M. L.* and *T. A. Sprague*. 109, Caithn.; Scrabster, *R. W. Butcher*. 110, O. Hebr.; Pabbay, Harris, *W. A. Clark*. 111, Orkney; Hoy, *H. H. Johnston*.

H.1, S. Kerry; Gt. Blasket Island, *S. Ross-Craig*, *J. R. Sealy*, and *B. L. Burtt*. 7, S. Tipp.; Glen of Aberlow, *A. W. Stelfox*. 20, Wick.; Athdown, *A. W. Stelfox*. 21, Dublin; Glenasmole, *J. P. Brunker*. 27, W. Mayo; Louisburgh, *J. P. Brunker*. 33, Ferm.; near Derrygonnelly, *D. Meikle*. 36, Tyrone; Newmills, *D. Meikle*. 38, Down; Tollymore Park, *J. P. M. Brenan* 5007. 39, Antrim; shore of L. Neagh, near Toome, *D. Meikle*. 40, Derry; Carntogher, *M. M. Whiting*.

4. C. SEROTINA Mérat, *Fl. Paris*, ed. 2, *2*, 54 (1821).—*C. Oederi* auctt., non Retz.

This plant seems to be a calcifuge, and perhaps still more decidedly so than *C. tumidicarpa*, being especially partial to coastal sand slacks throughout the British Isles and Western Europe. It is much less common inland, but when it does occur there it is often more robust in habit, such as the form found on the Shapwick peat moors in Somerset and that in disused gravel pits near Cirencester.

Specimens.—4, N. Devon; Braunton Burrows, *W. B. Turrill*. 6, N. Som.; Shapwick Peat Moor, 1930, 1933, *H. S. Thompson* (*Wats. B.E.C.*). 12, N. Hants.; shore of Fleet Pond, *N. Y. Sandwith*. 28, W. Norf.; Wretton Fen, *J. E. Little*: Leziate, *E. L. Swann*. 29, Cambs.; Chippenham, *F. J. A. Hort*. 33, E. Glos.; Siddington parish, near Cirencester, *E. Nelmes* 693b, 804b. 41, Glam.; Kenfig dunes, *J. S. L. Gilmour*: Mynydd-y-Glew, *C. I. Sandwith*. 48, Mer.; Barmouth Sands (*Hb. Shuttleworth*). 49, Caern.; near Criccieth, *J. A. Whellan*. 52, Anglesey; 1810, *Rev. Hugh Davies* (*Hb. Goodenough*). 59, S. Lancs.; Ainsdale, *G. E. Hunt*: near Southport, *E. Dovaston*. 60, W. Lancs.; between Blackpool and St Anne's, *J. A. Whellan*. 70, Cumb.; Ravenglass, *H. K. Airy* Shaw 46/48. 95, Moray; Culbin Sands, *N. Y. Sandwith*. 107, E. Suth.; Cambusavie, Loch Fleet, *J. E. Lousley*. 110, O. Hebr.; Uig, Lewis, *W. A. Clark*. 111, Orkney; Hoy, *H. H. Johnston*.

H.1, S. Kerry; stony shore of Caragh Lake, *J. E. Lousley*. 2, N. Kerry; edge of Muckross Lake, Killarney, *S. Ross-Craig*, *B. L. Burtt*, and *J. R. Sealy*. 39, Antrim; shore of L. Beg, *D. Meikle*.

II. C. MURICATA L. (agg.).

What Linnaeus meant by his *Carex muricata* has been variously interpreted. Two of the greatest caricologists of recent years, Mackenzie (1923) and Krechetovich (1935: 152) identify it with the small stellately-spiked bog sedge usually known as *C. echinata* Murr. (*C. stellulata* Good.) as did Hudson in his *Fl. Angl.* of 1762. Most British botanists, up to recent times, have applied the Linnaean epithet to the species which many Continental botanists were at the same time calling *C. contigua* Hoppe, the correct name of which is probably *C. spicata* Huds. (see *Journ. Bot.*, *80*, 105: 1943). These Continental botanists, headed by Kükenthal, preferred not to adopt the epithet "*muricata*", because of doubt as to its application. Other Continental authors followed the British view and so recently as 1944 *C. spicata* Huds. was still being accepted as the plant of Linnaeus. Finally, as *C. Pairaei* F. Schultz came more and more to be recognised as specifically distinct from *C. spicata*, and especially when Linnaeus's " type specimen " was identified as *C. Pairaei* by authorities who examined it, this species was by some held to be true *C. muricata* L.

In the present paper this specimen of Linnaeus is taken to be his *C. muricata*, the evidence for this view being now in preparation. It

is considered to be distinct, though possibly not specifically distinct, from *C. Pairaei*. It should, however, be noted that this splitting is in conflict with the views of caricologists monographing the European sedges, including Kükenthal (1909) and Krechetovich (1935: 155).

Besides *C. muricata* itself, the group is taken to comprise, in Britain, *C. polyphylla* Kar. et Kir. (*C. Leersii* F. Schultz, non Willd.), *C. divulsa* Stokes, *C. Pairaei* F. Schultz, and *C. spicata* Huds. (*C. contigua* Hoppe). There is also a plant with characters intermediate between those of *C. polyphylla* and *C. divulsa*, found on the Cotswolds and on similarly calcareous soils in Norfolk and other counties, which may have originated through hybridization, but its precise status and relationship are at present in doubt. It is possibly what Schultz intended by his *C. Chabertii*, but this remains to be investigated.

C. divulsa, *C. Pairaei*, and *C. spicata* are common in many parts of western Europe. *C. polyphylla*, on the contrary, seems to be most common and typical in eastern Europe, and the chief area of distribution of *C. muricata* appears to stretch from Sweden to the Balkans, their British representatives being rather less robust plants with narrower leaves, and therefore less readily distinguishable from *C. divulsa* and *C. Pairaei* respectively.

KEY TO THE SPECIES

1. Lower leaf-sheaths, throughout the plant's life, the scale-like base of the bracts, from and including the flowering stage onwards, and some of the female scales, from an early fruiting stage until the scales wither, stained and splashed vinaceous or reddish-vinaceous; ligule much longer than broad; female scales 3-5 mm. long; utricles 4-6 mm. long, spongy-thickened at the base, so that the nut is situated well above it:—(leaves 2-4 mm. wide; inflorescence 1.5-4(5.5) cm. long and 8-12 mm. thick when the fruits are mature; lower spikes contiguous or slightly separated—the 2 lowest infrequently by as much as 5-7 mm.—all simple or, rarely, lowest composed of several spikes crowded together; lowest bract from about as long as to twice or more as long as its spike; beak of the utricle—apex of nut to apex of teeth—about 2 mm. long) ..... 5. *spicata*.

1. Lower leaf-sheaths, the scale-like base of the bracts, and the female scales, pale to brownish (the leaf-sheaths sometimes faintly pinkish) but never vinaceous or reddish-vinaceous; ligule from broader than long to slightly longer than broad; female scales 2.5-4 mm. long; utricles 3-5.5 mm. long, not or but little spongy-thickened at the base:

2. Inflorescence 3-14(17) cm. long; lower "spikes" from slightly to distantly separated from one another, each often composed of 2-5 simple spikes and then 0.8-3(4) cm. long:

3. Leaves 2.25-4 mm. wide; ligule usually broader than long; inflorescence 3-7 cm. long and 7-10 mm. thick when the fruits are mature; lower spikes contiguous to subapproximate, lowest 2 contiguous to 2 cm. apart (up to 2.5 cm. from node to node) when the fruits are mature, lowest 1-2(3) "spikes" sometimes composed of 2-5 spikes which are usually crowded or, less commonly, contiguous on an elongated axis, 0.8-1.5 cm. long; lowest bract sometimes shorter but at other times considerably longer than its spike; female scales 2.5-3.5 mm. long, light to dark brown; utricles 4.5-5.5 mm. long, 2-2.5 mm. broad, rather broadly marginate, beak about 2 mm. long; teeth straightish to diverging, sparsely scabrid on the outside, 0.5-1 mm. long ..... 1. *polyphylla*.

3. Leaves 1.5-3 mm. wide; ligule from as broad as long to slightly longer than broad; inflorescence 4-14(17) cm. long and 5-7 mm. thick when the fruits are mature; lower spikes at increasing distances apart down the stem, so that the lower ones are separated from one another by 1-4 cm. (1.5-5 cm. from node to node) when the fruits are mature, lowest 1-2(3) " spikes " sometimes composed of 2-4 spikes on an elongated axis, 0.8-3(4) cm. long, 1 or all of these, except the terminal, represented by empty bracteoles; lowest bract longer, often very much longer, than its spike; female scales 3-4 mm. long, white, sometimes slightly tinged reddish-brown; utricles 3.25-5 mm. long, 1.5-2.25 mm. broad, narrowly marginate, beak 1-1.5 mm. long; teeth straight, smooth or nearly so, 0.25-0.4 mm. long ..... 2. *divulsa.*

2. Inflorescence 1-3.5 cm. long; lower spikes contiguous to little separated from one another, all simple, about 4-7 mm. long (female scales 2.25-4 mm. long; utricles 3-4.75 mm. long):

4. Leaves 2-4 mm. wide; 2 lowest spikes often separated from each other by 2-5 mm.; female scales usually dark brown; utricles 2-2.5 mm. broad, rather broadly marginate, becoming subpatent to patent at maturity, beak 1.5-2 mm. long ..... 3. *muricata.*

4. Leaves 1.5-3 mm. wide; 2 lowest spikes rarely separated from each other by as much as 2-3 mm.; female scales usually light brown; utricles 1.5-2 mm. broad, narrowly marginate, becoming suberect to subpatent at maturity, beak 1-1.5 mm. long ..... 4. *Pairaei.*

1. C. POLYPHYLLA Kar. et Kir. in *Bull. Soc. Nat. Mosc., 14,* 859 (1841).—*C. Leersii* F. Schultz in *Flora, 53,* 459 (1870) et *54,* 25, t. II (1871); non Willd. (1787).

C. polyphylla shows a distinct preference for calcareous soils, and its favourite habitats appear to be hedge-banks, roadsides, and wood-borders on chalk and limestone hills, where it forms large tufts, usually very few in any one spot. It is scattered thinly and unevenly over England, but is almost unknown, at least at present, from Wales, Scotland, and Ireland.

Many botanists have been reluctant to recognise this as a distinct species, most of them, like Kükenthal, treating it as a variety of *C. Pairaei*, though Samuelsson and others considered its chief affinity to be with *C. divulsa*. Kükenthal no doubt noted its resemblance to another eastern European sedge, *C. muricata*, which he included in *C. Pairaei* (called by him *C. echinata* Murr.). *C. polyphylla* is certainly, and perhaps more closely, related to *C. divulsa*. It may be supposed to represent most nearly the ancestor of the group, and to have forked into *C. divulsa* and *C. muricata*, the latter giving rise to *C. Pairaei*. *C. spicata* probably deviated earlier from the main stem.

It has utricles which are similar in size and shape to those of *C. spicata* but usually much less rounded and spongy-thickened at the base. The scales are shorter in comparison with the utricles than those of *C. spicata* and are brown in colour. In eastern Europe its leaves are usually grey-green and up to 5 mm. wide. Its lowest spikes are compound much oftener than those of *C. spicata*, and its inflorescence of considerably longer average length. Its ligule, too, is quite distinct from that of the other plant.

Specimens.—6, N. Som.; near Tickenham, *C. I.* and *N. Y. Sandwith*: near Cheddar, *E. Nelmes*. 7, N. Wilts.; Marlborough, *M. L. Wedgwood*. 11, S. Hants.; between Portchester and Fareham, 1929, *P. M. Hall* (*B.E.C.*). 12, N. Hants.; Coombe, *A. B. Jackson* and *J. Fraser*. 15, E. Kent; Holly Hill, N. Downs, *E. Milne-Redhead* and *N. Y. Sandwith* 33. 17, Surrey; near Godalming, *E. B. Bishop*: above Mickleham. *N. Y. Sandwith*. 34, W. Glos.; near Sea Mills, 1905, *J. W. White* (*Wats. B.E.C.*): between Tarlton and Coates, *H. K. Airy Shaw*: *ibid.*, *E. Nelmes* 829, 830. 38, Warw.; between Hampton and Clevedon, *A. R. Horwood*. 39, Staffs.; Madeley, *E. S. Edees*. 57, Derby; near Bakewell, *J. Brown*. 63, S.W.Yorks.; Fishlake, *S. P. Rowlands* and *J. M. Taylor*. 64, M.W.Yorks.; Copgrove, 1944, *E. C. Wallace* 5521 (*B.E.C.*). 65, N.W.Yorks.; Coverham, 1945, *C. M. Rob* (*B.E.C.*).

2. C. DIVULSA Stokes in With. *Bot. Arrang. Brit. Pl.*, ed. 2, 1035 (1787).

This species occurs on roadsides and hedgebanks, and in or near woods, in dry to rather damp situations. It is a rather common plant in England but uncommon or rare in the remainder of Britain.

It was long ago recognised as distinct from its allies (excepting *C. polyphylla*, not then known here), probably owing to the fact that its lower spikes are so much separated from one another, forming a long, slender inflorescence. It seems to be most distinct from *C. polyphylla* when it occurs on light and non-calcareous soils, for which it shows a preference. Then it has white scales, except for the green midrib-stripe, and very short, slender, smooth teeth to the beak of the utricle. When the species occurs on calcareous soils, which appears to be less frequent, a brownish tinge is found on the scales, the utricles are slightly larger and the teeth a little less slender. Then it is sometimes confused with *C. polyphylla*, and, indeed, it is not easy to distinguish such specimens of *C. divulsa* from slender plants of *C. polyphylla*. It is hoped that the detailed descriptions in the key will enable complete specimens of these two species to be correctly identified. Its invasion of calcareous areas brings this species into contact with *C. polyphylla*, and it may be that the unidentified plant mentioned in the introduction has been a result of this association.

Specimens.—3, S. Devon; Kingswear, *J. D. Grose*. 11, S. Hants.; Titchfield, *E. Milne-Redhead* 2476. 13, W. Suss.; near Strood Green, 1934, *E. C. Wallace* (*B.E.C.*). 14, E. Suss.; Fairwarp, *N. Y. Sandwith*. 16, W. Kent; Goudhurst, *J. R. Wallis*. 17, Surrey; Newdigate, *J. E. Lousley*. 20, Herts.; Watford, *J. Fraser*: Langley, Hitchin, 1924, *J. E. Little* (*Wats. B.E.C.*). 21, Middx.; Stanwell, *B. Welch*. 27, E. Norf.; Haveringland, *E. L. Swann*. 30, Beds.; Stanbridge, *J. G. Dony*. 34, W. Glos.; near Thornbury, *E. Nelmes* 74: near Winterbourne, *C. I. Sandwith*. 35, Monm.; S. of Raglan, *N. Y. Sandwith* 3104. 64, M.W.Yorks.; E. Keswick, 1944, *E. C. Wallace* 5522 (*B.E.C.*).

H.21, Dublin; near Lucan, *J. P. Brunker.* 39, Co. Antrim; between Shore Road Greenisland and Troopers Lane Station, *D. Meikle.*

3. C. MURICATA L., *Sp. Pl.*, ed. 1, 974 (1753).—*C. loliacea* Schkuhr, *Riedgr.*, *1*, 22 (1801); non L.—*C. nemorosa* var. *cuprina* Sándor ex Heuffel in *Linnaea*, *31*, 662 (1862).—*C. cuprina* (Sándor) Nendtvich in *Verhandl. Zool.-Bot. Ges. Wien.*, *13*, 566 (1863).

Here, for the first time, a distinction is made between *C. muricata* L. and *C. Pairaei*, though whether they are specifically distinct, as is here tentatively suggested, is a matter for further study to decide. Specimens of *C. muricata* from northern and, especially, eastern Europe, with broader leaves, often rich dark brown scales, and strongly reflexed utricles, look strikingly different from authentic French and typical British *C. Pairaei.* (The latter species was described from French specimens.) British specimens of *C. muricata*, if those cited below really do belong to this species, have scarcely broader leaves than those of *C. Pairaei*, and the other distinguishing characters do not seem quite so distinct as in specimens from eastern Europe. Before the war I had come to regard the plant of the Linnaean herbarium as matching specimens of " *C. Pairaei* " from Scandinavia and eastern Europe and as representing a distinct species, but it was not until 1942 that I recognised it as a possible British plant. In that year I was examining *Carices* in Druce's herbarium, and a specimen there of supposed *C. Pairaei* from Woodchester, in the Cotswolds, seemed to me to be *C. muricata.* This opinion was later strengthened by the realization that Woodchester has a limestone soil, which is favoured by *C. muricata*, whereas *C. Pairaei* seems confined to soils of a sandy or gravelly nature. After the war similar plants were noted in the *C. Pairaei* covers at Kew from a limestone area in Yorkshire and from the other similar habitats mentioned below.

Specimens.—34, W. Glos.; Woodchester [oolitic limestone], 1900, *G C. Druce.* 50, Denb.; in a dry, exposed situation among broken stones, on the top of a limestone hill, near Wrexham, 1840, *J. E. Bowman.* 64, M.W.Yorks.; limestone slopes near Gordale, 1934, *E. Milne-Redhead* and *N. Y. Sandwith* 2016: limestone scree, Gordale Scar, 1000 ft., 1937, *J. E. Lousley.* 81, Berwick; Lauder, 1878, *A. Brotherston.*

4. C. PAIRAEI F. Schultz in *Flora*, *51*, 302 (1868).—*C. muricata* auctt., non L.

This species is a decided calcifuge and is widely spread in Britain, occurring frequently in dry or dryish situations, on roadsides, heaths, commons, etc., on the older, acid soils of the west, and on sandy or gravelly soils over southern and eastern England.

The relationship of this species to *C. muricata* is discussed above. The only other species with which it is likely to be confused is *C. spicata*, because these two have similarly congested and contracted heads of spikes, and from this species it can easily be distinguished by the absence

of vinaceous colouring, and also by its shorter ligules, scales, and utricles.

Specimens.—1, W. Cornwall, Mullion, 1917, *E. S. Marshall* 4397 (*B.E.C.*). 4, N. Devon; near Tiverton, *A. L. Still.* 6, N. Som.; Keynsham, *N. Y. Sandwith.* 13, W. Suss.; Midhurst, 1922, *J. E. Little* (*Wats. B.E.C.*). 16, W. Kent; Seal, *E. Nelmes* 347. 17, Surrey; Richmond Park, *E. Nelmes* 342, 444: Westcott, 1932, *E. C. Wallace* (*B.E.C.*). 20, Herts.; Codicote High Heath, 1924, *J. E. Little* (*Wats. B.E.C.*). 21, Middx.; Strand-on-the-Green, *B. Welch.* 22, Berks.; Frilford, *N. Y. Sandwith.* 23, Oxon.; Stow Wood, *C. E. Hubbard* 10750A. 28, W. Norf.; Cockley Cley, *C. E. Hubbard.* 30, Beds.; Rowney Warren, 1924, *J. E. Little* (*B.E.C.*): Heath and Reach, *E. Milne-Redhead* 5276. 34, W. Glos.; Bromsberrow, *E. Milne-Redhead* 2002, 2005: Chase End Hill, *E. Milne-Redhead* 2004: Michael Wood, near Stone, *E. Nelmes* 795, 795a, 839, 840, 859. 35, Monm.; Abergavenny, *N. Y. Sandwith* 3106. 37, Worcs.; Malvern Wells, 1914, *R. F. Towndrow* (*B.E.C.*). 39, Staffs.; Swynnerton, Colwich, Enson (3 localities), *E. S. Edees* 2613, 2977, 3253. 43, Radnor; Stanner Rocks, *J. E. Lousley.* 45, Pemb.; St David's, *C. I.* and *N. Y. Sandwith.* 46, Card.; Pentryn, *J. A. Whellan.* 47, Mont.; near Llanwyddn, *N. Y. Sandwith.* 49, Caern.; between Llanystumdwy and Criccieth, *J. A. Whellan.* 52, Anglesey; between Ty Croes and Llyn Maelog, *C. E. Salmon.* 62, N.E.Yorks.; Catton, *C. M. Rob.* 63, S.W.Yorks.; near Doncaster, *S. P. Rowlands.* 64, M.W.Yorks.; Spofforth, *E. C. Wallace* 5149, 5150. 70, Cumb.; Ullswater, *N. Y. Sandwith.*

H.7, S. Tipp.; Glen of Aberlow, *A. W. Stelfox.*

5. C. SPICATA Huds., *Fl. Angl.*, ed. 1, 405 (1762).—*C. contigua* Hoppe in Sturm, *Deutschl. Fl.*, xiv, lxi [t. 962] (1833).—*C. muricata* auctt., non L.

This is the commonest member of the group in England, occurring frequently in the south but thinning out northwards and becoming much less common in Scotland. It is also uncommon on the older rocks in the west. The plant is found on almost all soils, though it is more partial to the calcareous and basic ones, such as limestone, chalk, marl, and clay. Somewhat damp but not wet situations seem to suit it best, on roadsides and along the margins of streams and other water-courses, out of reach of the water, but it appears to be quite happy, though possibly less robust, in light soil on a dry hillside, bordering a hedge or wood.

This species is, in my opinion, more distinct from the other British members of the group than they are from one another. The vinaceous colouring on sheaths, bracts, and scales is a certain distinguishing character because it is never found in any of the allied species, though it has not been used in this way before. The length of female scale and ligule is also a useful aid in identification.

Kükenthal uses a distinguishing character for *C. spicata* which I do not find dependable. He speaks of an appendage, tongue, or convex apex to the mouth of the membranous front of the sheath, opposite the ligule. While this may sometimes occur in *C. spicata*, I have noticed it in this group only in *C. polyphylla* and then but rarely. What one does observe about the apex of the sheath in all these species is that it is usually more or less truncate in the lower sheaths and more or less concave in the upper ones.

It may be well to add a warning here against placing too much reliance on ligule characters in this group of sedges. The length of the ligule varies somewhat within each species, but the breadth varies more, as it seems to agree with the leaf-breadth. In spite of this the ligule character can be used to help distinguish *C. spicata* from its allies, because its ligule is so long that it remains longer than broad even in the broadest leaves. In the other species, however, although the ligule is usually broader than long in *C. polyphylla*, often broader than long in *C. muricata*, usually about as broad as long in *C. Pairaei*, and from as broad as long to slightly longer than broad in *C. divulsa*, the variation, especially in breadth, in the ligule in each species is such that clear-cut distinguishing differences are not to be found.

Specimens.—6, N. Som.; Bristol, Ashton Gate, site of White City, 1922, *H. S. Thompson* (*Wats. B.E.C.*). 7, N. Wilts.; Lottage, Aldbourne, *J. D. Grose*. 13, W. Suss.; near Hardham, 1933, *E. C. Wallace* (*Wats. B.E.C.*). 14, E. Suss.; Eastbourne Crumbles, *E. Milne-Redhead* and *N. Y. Sandwith* 1797, 1802. 17, Surrey; Thames-side, Putney, 1924, *D. G. Catcheside* (*Wats. B.E.C.*): Ham gravel pits, *E. Nelmes* 202. 21, Middx.; Ealing, meadow near R. Long (*Herb. Goodenough*): St Olave's Churchyard. City of London, *J. E. Lousley*. 22, Berks.; near Old Windsor, *W. B. Turrill*. 23, Oxon.; Beckley, 1932, *J. F. G. Chapple* (*B.E.C.*): between Yarnton and Wolvercote, *C. E. Hubbard* 11226; *ibid.*, *W. B. Turrill*. 28, W. Norf.; Wallington, 1922, *J. E. Little* (*B.E.C.*). 30, Beds.; Houghton Regis, Tingrith, and Chalgrave (3 localities), *E. Milne-Redhead* 5268, 5310, 5314. 33. E. Glos.; Elmore, *E. Milne-Redhead* 2462: Daglingworth, *E. Nelmes* 549, 678, 725, 863. 34, W. Glos.; near Hill, *E. Nelmes* 94, 355. 35, Monm.; near Tintern, 1904, *S. H. Bickham* and *E. F. Linton* (*Wats. B.E.C.*). 42, Brecon; Llangasty-Tal-y-llyn, *E. Milne-Redhead* and *H. K. Airy Shaw* 5474. 57, Derby; near Calver, *J. Brown*. 63, S.W.Yorks.; Fishlake, near Thorne, *S. P. Rowlands*. 64, M.W.Yorks.; Copgrove, *E. C. Wallace* 5145.

H.33, Ferm.; shore of L. Erne, *D. Meikle*.

Krechetovich, V. I.; 1935; *Fl. SSSR*, *3*, 152, 155.
Kükenthal, G.; 1909: *Engl. Pflanzenreich*, *4*, *20*, 160.
Langhe, J. E. De; 1944: Sur le groupe du *Carex muricata* L. en Europe; *Bull. Soc. R. Bot. Belg.*, *76*, 37-50.
Mackenzie, K. K.; 1923: Notes on *Carex*, xiii. *Bull. Torr. Bot. Club*, *1*, 346-347.
——; 1931: *N. Amer. Fl.*, *18*, 109.

A CONTRIBUTION TO THE ADVENTIVE FLORA OF SOUTHAMPTON

J. P. M. BRENAN, M.A.

Surprisingly, perhaps, the number of species of alien plants hitherto recorded from Southampton is not as large as the size and importance of the port might lead one to expect. A very useful list, by J. F. Rayner, of those found in Hampshire and the Isle of Wight appeared in *Proc. I.O.W. Nat. Hist. Soc., 1*, 229-274, 1925, and a few records additional to this list occur in Rayner's *Suppl. Townsend's Fl. Hants.*, 1929.

While travelling by rail from Bournemouth to London on 14th July 1939, I broke my journey at Southampton and spent an hour or so pleasurably botanising, with results that form much of the basis for this paper. One area in particular was occupied by an adventive flora of quite remarkable richness and variety; this area was a large tract of waste land that lies on the seaward side of the main Southern Railway line between Southampton Central (formerly Southampton West) station and Millbrook; in the following list all plants, unless otherwise stated, were collected in this area. In a good many instances the plants were small and sometimes insufficiently developed for certain determination, and it was intended to pay another visit to the area later that year; the outbreak of war in the autumn unfortunately frustrated this plan.

On 6th September 1941, a second visit was successfully made by the writer accompanied by the Rev. N. E. G. Cruttwell and Dr J. N. Mills. The flora had become appreciably poorer in the interval, and most of the interesting species seen on the first visit had gone. In spite of this, however, a number of very interesting additions were made.

It is worth noting that on the first visit the great majority of the adventive flora was such as might occur as weeds in grain-fields in the eastern Mediterranean region, e.g., Syria or Palestine. It is likely that their presence was owing to waste from a large adjacent flour-mills being deposited here. The North American element in the flora was negligible, being clearly represented in the main area only by a solitary plant of *Ambrosia trifida*. By the second visit the Mediterranean element had greatly decreased while several of the additions were plants native of North America.

In the following list the year or years in which each species was seen are given. For the records of 1939 I alone am responsible; those of 1941 are to be attributed to the Rev. Cruttwell, Dr Mills and myself jointly. Where no locality is given the plant concerned was observed on the area between Southampton Central station and Millbrook, as described above, and all the localities are in District VII, Sub-district (2), as defined by

Townsend, *Fl. Hants.*, Ed. 2, 1904. Voucher specimens of all the plants mentioned are preserved in Herb. Brenan, unless otherwise noted; those seen in 1941 are often also represented in the herbaria of my companions on that visit, and where one or both of the latter herbaria are cited, it implies that the plant in question is not in Herb. Brenan.

Mr C. E. Hubbard kindly named some of the grasses and has written a note on one of them, Mr G. M. Ash confirmed an *Epilobium*, and the late Mr A. L. Still examined two mints; to these botanists my thanks are owing for their valuable help. For most of the other determinations I must be held responsible. Finally there is the pleasure of sincerely thanking my two friends for all their aid and companionship on the 1941 visit and at other times, and not least for the trouble they have taken in facilitating subsequent examination of specimens in their herbaria.

49/5. SISYMBRIUM IRIO L. 1939.

49/6b. SISYMBRIUM OFFICINALE (L.) Scop. var. LEIOCARPUM DC. 1941. Specimen not kept.

49/13. SISYMBRIUM LOESELII L. 1941.

54/20. BRASSICA GALLICA (Willd.) Druce. 1939 (Herb. Brenan); 1941 (Herb. Cruttwell & Herb. Mills).

54/22. BRASSICA GENICULATA (Desf.) J. Ball (*Hirschfeldia incana* (L.) Lagrèze-Fossat). 1941 (Herb. Cruttwell & Herb. Mills).

55/1b. DIPLOTAXIS TENUIFOLIA (L.) DC. var. INTEGRIFOLIA Koch. 1941.

61/4. LEPIDIUM RUDERALE L. 1941 (Herb. Cruttwell & Herb. Mills).

61/22. LEPIDIUM DENSIFLORUM Schrad. 1941 (Herb. Mills).

70/2. NESLIA APICULATA Fisch., Mey., & Avé Lall. (*Vogelia apiculata* (Fisch., Mey., & Avé Lall.) Vierh.). 1939. Several fine plants of this species were seen. For a note on its characters and distribution, see C. I. & N. Y. Sandwith in *B.E.C. 1935 Rep.*, 102, 1936.

72/1. MYAGRUM PERFOLIATUM L. 1939.

76/3. RAPISTRUM RUGOSUM (L.) All. 1941 (Herb. Cruttwell).

85/2b. RESEDA LUTEA L. var. PULCHELLA J. Muell. 1941 (Herb. Cruttwell).

95/2(2). **Saponaria oxyodonta** (Boiss.) Boiss., *Fl. Or.*, *1*, 525, 1867; *Vaccaria oxyodonta* Boiss., *Diagn.*, *Ser. 2*, *1*, 68, 1853. 1939. Several plants of this species, not hitherto recorded from the British Isles, were seen. Its resemblance to the not uncommon adventive species, *S. Vaccaria* L., is most marked, and it may well have been passed over or misidentified in the past, so that botanists will do well to re-examine carefully their material of *S. Vaccaria*. *S. oxyodonta* differs principally in the calyx, whose teeth are lanceolate, with a conspicuous keel and narrow, whitish, membranous margins which disappear towards the apex. *S. Vaccaria* has triangular calyx-teeth with broad scarious margins which reach the apex, and the petals are larger and obovate. The re-

semblance between the two species is such that it might, perhaps, be held that *S. oxyodonta* represents no more than an oriental race or variety of *S. Vaccaria*, but such authorities on the flora of the Orient as Boissier, Post, and Dinsmore agree in maintaining the two as distinct species, and I am willing for the present to follow them. *S. oxyodonta* occurs in or has been recorded from Cyprus!, Syria, Palestine!, Iraq!, Afghanistan and Baluchistan!. The exclamation-marks indicate that I have seen specimens from those areas so marked.

96/4. SILENE NOCTIFLORA L. 1939. Specimen not collected.

96/7. SILENE GALLICA L. 1939 (Herb. Brenan); 1941 (Herb. Cruttwell & Herb. Mills).

100/14. CERASTIUM DICHOTOMUM L. 1939.

117/7. MALVA NICAEENSIS All. 1939 (Herb. Brenan); 1941 (Herb. Cruttwell & Herb. Mills).

117/9. MALVA PARVIFLORA L. 1939.

152/2. TRIGONELLA FOENUM-GRAECUM L. 1939.

152/13. TRIGONELLA CAELESYRIACA Boiss. 1939. Several plants of this striking species occurred, all of which apparently come under forma *genuina* Širjaev, *Generis Trigonellae Revisio Critica, 2*, 19, 1929. The direction of the developing legumes after flowering is variable. Širjaev remarks that the pedicels after anthesis are at first more or less deflexed, and then afterwards erect themselves. However, an examination of material in the Kew Herbarium shows that the deflection of the pedicels is by no means strictly correlated with the stage of development of the legumes. Thus, a specimen collected by Boissier in Syria in May 1846 has the legumes erect at all stages up to a length of 6 cm., while *Dinsmore* 8939, collected from fields near Jerusalem, has numerous legumes at various stages up to a length of 4.5 cm., all becoming deflexed immediately after flowering. It seems that the matter is more complex than Širjaev implies, and it would be interesting if studies could be made on living populations of this species. In the only Southampton specimen with well-developed legumes, they are still deflexed at a length of 4.6 cm.

153/4b. MEDICAGO HISPIDA Gaertn. var. DENTICULATA (Willd.) G. & G. 1939.

153/4f. MEDICAGO HISPIDA Gaertn. var. CONFINIS (Koch) Burnat. 1939.

154/4. MELILOTUS INDICA All. 1939.

155/34. TRIFOLIUM ECHINATUM M.B. On a smaller patch of waste ground, not far from the main area, near Southampton Central station, 1941.

163/1. GALEGA OFFICINALIS L. The normal plant with purple flowers on waste ground between Southampton Central station and the docks, 1939.

163/1b. var. **albiflora** Boiss., *Fl. Or.*, *2*, 191, 1872. Growing with the normal plant, 1939. Although the white-flowered form of this species has been previously noted in Britain (e.g., in *B.E.C. 1937 Rep.*, 473,

1938), the above varietal name for it appears to be an addition to the British list.

165/1. COLUTEA ARBORESCENS L. 1941 (Herb. Cruttwell & Herb. Mills).

169/–. SCORPIURUS sp. A plant of this unmistakable genus was seen in 1941. Under cultivation, however, it unfortunately died before producing the fruits necessary for specific determination.

170/3. CORONILLA SCORPIOIDES (L.) Koch. 1939 (Herb. Brenan); 1941 (Herb. Cruttwell).

175/1. CICER ARIETINUM L. 1939.

176/5. VICIA VILLOSA Roth. 1941 (Herb. Cruttwell & Herb. Mills).

177/1. LENS CULINARIS Medic. 1939 (Herb. Brenan); 1941 (Herb. Mills).

178/9. LATHYRUS APHACA L. 1941 (Herb. Cruttwell).

178/13. LATHYRUS INCONSPICUUS L. 1939; 1941.

178/18. LATHYRUS CICERA L. 1939.

220/7(2). EPILOBIUM ADENOCAULON Haussk. Waste ground near the entrance to Southampton docks, not far from Southampton Central station, 1939. Confirmed by G. M. Ash.

220/9. EPILOBIUM LANCEOLATUM Seb. & Maur. 1941 (Herb. Cruttwell).

249/2. AMMI VISNAGA (L.) Lam. 1941.

250/1. CARUM CARVI L. 1941. Not flowering and no specimen collected.

283/1. CAUCALIS LEPTOPHYLLA L. 1939.

296/10. GALIUM TRICORNE Stokes. 1939.

298/5. ASPERULA ARVENSIS L. 1939. Many plants seen, one with flowers almost white.

306/1. DIPSACUS SATIVUS (L.) Honck. 1941 (Herb. Cruttwell & Herb. Mills).

307/2. CEPHALARIA SYRIACA (L.) Schrad. 1939.

339/4. AMBROSIA TRIFIDA L. 1939. Only a single plant seen.

354/1. GALINSOGA PARVIFLORA Cav. A weed of cultivated ground in Southampton docks, 1939.

368/3. ANTHEMIS ARVENSIS L. On a railway track by the Solent Flour Mills, Southampton docks, 1939.

378/16. ARTEMISIA BIENNIS Willd. 1941.

395/3b. CARDUUS PYCNOCEPHALUS L. var. **arabicus** (Jacq.) Boiss., *Fl. Or.*, *3*, 521, 1875; *Carduus arabicus* Jacq., *Icon. Pl. Rar.*, *1*, 16 et icon, 1781-6; Jacq. ex Murr., *Syst. Veg.*, 724, 1784 (with reference to *Icon. Pl. Rar.*); Jacq., *Coll.*, 56-7, 1786. 1939. This variety, recorded from Egypt, Palestine, Syria, Persia, Mesopotamia and Arabia, differs from typical *C. pycnocephalus* in the often dwarfed habit, in the more narrowly winged stems which are naked above, the less divided leaves, the oblong-lanceolate phyllaries much shorter than normal with the nerve hardly apparent and tapering at apex into a very short prickle, and the innermost phyllaries tinged with purple at apex.

405/25. CENTAUREA DIFFUSA Lam. 1941. A remarkably distinct-looking knapweed, about 60 cm. high, several-stemmed from the base, profusely branched above and forming a dense, bush-like growth with very numerous, small, spiny capitula with white florets.

405/31. CENTAUREA SOLSTITIALIS L. 1941.

405/32. CENTAUREA MELITENSIS L. 1939.

405/35b. CENTAUREA PALLESCENS Del. var. HYALOLEPIS (Boiss.) Boiss. 1939.

405/40. CENTAUREA IBERICA Trev. 1941.

493/2. LAPPULA ECHINATA Gilib. 1941.

509/1. ECHIUM VULGARE L. 1941.

524/1. HYOSCYAMUS NIGER L. 1941. Specimen not collected.

532/16. LINARIA CHALEPENSIS (L.) Mill. 1939.

558/–. MENTHA sp. A spicate mint occurred in 1941, which the writer, after comparison with the material named by the late Mr J. Fraser in Herb. Druce, sent to the late Mr A. L. Still as ×*M. niliaca* Jacq. var. *nemorosa* (Willd.). Mr Still replied:—"Not *nemorosa* Willd., but may well come into the rubbish-heap of *nemorosa* (auct.)." It is to be hoped that some student of the genus may be able to unravel the intricacies of these *longifolia*-like mints, which, although often doubtless only throw-outs from the kitchen-garden, are not uncommon on waste land and show a disposition to hold their ground there.

558/14b. MENTHA PULEGIUM L. var. ERECTA (Mill.) Martyn. 1941. Confirmed by the late Mr A. L. Still.

571/2. LALLEMANTIA IBERICA (M.B.) Fisch. & Mey. 1939. Two plants of this unusual labiate were seen. It is readily recognisable by the cuneate-based bracts, each divided towards its apex into six to eight aristate teeth, by the fifteen-nerved calyx borne on a transversely flattened pedicel, and by the broad, obtuse-apiculate upper calyx-tooth. The corolla of the Southampton plants was cream-coloured, but Post's *Fl. Syria, Palestine & Sinai*, ed. 2, *2*, 366-7, 1933 (revised by Dinsmore) remarks that the corolla is blue, rarely yellowish.

575/1. SIDERITIS MONTANA L. 1941 (Herb. Cruttwell).

588/1. PLANTAGO INDICA L. 1941 (Herb. Cruttwell & Herb. Mills).

596/4. AMARANTHUS CHLOROSTACHYS Willd., *sens. lat.* Waste ground near Southampton Central station. 1941 (Herb. Cruttwell & Herb. Mills).

596/6. AMARANTHUS RETROFLEXUS L. 1941 (Herb. Cruttwell & Herb. Mills).

600/8. CHENOPODIUM ALBUM L.; var. EU-ALBUM (Ludwig) Schinz & Thell. forma CYMIGERUM (Koch) Schinz & Thell. 1939.

600/11b. CHENOPODIUM PRATERICOLA Rydb. var. THELLUNGIANUM Aell. (*C. leptophyllum* auct., non Nutt.). 1941.

600/14. CHENOPODIUM VULVARIA L. 1941.

600/21. CHENOPODIUM HIRCINUM Schrad. 1941.

615/32. POLYGONUM CUSPIDATUM Sieb. & Zucc. 1941 (Herb. Cruttwell).

628/–. EUPHORBIA. A species of this genus occurred in 1939, characterised by bearing most remarkable emergences on the ovary; those take the form of narrowly conical papillae, each tipped by a rather short and very fine hair. It is probable that the plant is referable to *E. cybirensis* Boiss., *Diagn., Ser. 1, 7,* 89, 1846; *op. cit., Ser. 1, 12,* 109, 1853; it is said to be common in fields and vineyards in Syria and Palestine, and is also recorded from Turkey, the Aegean Islands and Mesopotamia. The Southampton material is so exiguous that there is an element of doubt about the determination, especially as similar outgrowths on the ovary and capsule occur in *E. akenocarpa* Guss., although in the last-named species they are much sparser than in *E. cybirensis*.

754/1. PANICUM MILIACEUM L. On a smaller patch of waste ground, not far from the main area, near Southampton Central station, 1941. Specimen not collected.

756/2. SETARIA VIRIDIS (L.) Beauv. 1939.

756/4. SETARIA VERTICILLATA (L.) Beauv. 1941 (Herb. Mills).

763/2. SORGHUM HALEPENSE (L.) Pers. On a smaller patch of waste ground, not far from the main area, near Southampton Central station, 1941 (Herb. Cruttwell & Herb. Mills).

765/1. PHALARIS MINOR Retz. 1939. Plant densely tufted with numerous culms and shorter and fewer-flowered panicles than usual. It probably corresponds with var. *gracilis* (Parl.) Parl., which, Mr C. E. Hubbard informs me, is merely an ecad, however.

777/9. PHLEUM SUBULATUM (Savi) Aschers. & Graebn. 1941. Determined by Mr C. E. Hubbard.

785/1. APERA SPICA-VENTI (L.) Beauv. On waste ground near Southampton Central station, 1939.

794/5(2)b. AVENA LUDOVICIANA Durieu var. **glabrescens** Durieu ex Godron in Grenier & Godron, *Fl. France, 3,* 513, 1856; *Avena sterilis* var. *Ludoviciana* subvar. *glabrescens* (Durieu) Husnot, *Gram.*, 39, 1897; *Avena sterilis* subsp. *Ludoviciana* var. *glabrescens* (Durieu) Thellung in *Viertelj. Naturf. Ges. Zürich, 56,* 314, 1911; *Avena sterilis* subsp. *Ludoviciana* var. vel forma *glabrescens* (Durieu) Thellung in *Rec. Trav. Bot. Néerl., 25a,* 433, 1928; *Avena macrocarpa* race *A. Ludoviciana* var. *glabrescens* Rouy, *Fl. France, 14,* 126, 1913.

This interesting oat occurred in 1941, and has been determined by Mr C. E. Hubbard, who kindly contributed the above synonymy and the following notes on the plant.

Distribution: Here and there with the type in S.W. France (both of which have been introduced there), and, according to Malzew (*Bull. Appl. Bot. Genet. & Pl.-Breed, Suppl. 38,* 374, 1930), in Tauria, Ucrania, Ciscaucasia, Transcaucasia, Georgia, Afghania and Persia.

Distinguished from the typical variety by the lemmas (flowering glumes) being glabrous except for the bearded basal callus.

824/15. POA PERSICA Trin. 1939. Confirmed by Mr C. E. Hubbard.

827/1(2). BROMUS GUSSONEI Parl. 1939.

827/2. BROMUS RIGIDUS Roth. 1939.

827/9. BROMUS INERMIS Leyss. 1941 (Herb. Cruttwell).

827/13. BROMUS UNIOLOIDES H.B.K. 1941 (Herb. Cruttwell).

827/16b. BROMUS SECALINUS L. var. HIRTUS (F. Schultz) Hegi. Waste ground in Southampton docks, 1939.

827/20. BROMUS MOLLIFORMIS Lloyd. 1941 (Herb. Cruttwell).

827/29. BROMUS JAPONICUS Thunb. (*B. patulus* M. & K.). Railway line near the Solent Flour Mills, Southampton docks, 1939.

829/2a. LOLIUM TEMULENTUM L. var. MACROCHAETON A. Br. 1939. Plants with both rough and smooth culms occurred, but all have been determined by Mr C. E. Hubbard as this variety.

829/2b. LOLIUM TEMULENTUM L. var. LEPTOCHAETON A. Br. (var. *arvense* (With.) Bab.). 1939 (culms rough only). Determined by Mr C. E. Hubbard.

829/4. LOLIUM MULTIFLORUM Lam. 1939.

832/1(2). TRITICUM MONOCOCCUM L. 1941. Determined by Mr C. E. Hubbard.

835/4. HORDEUM HYSTRIX Roth (*H. Gussoneanum* Parl.). 1939.

Besides the plants enumerated in the preceding list, a very handsome composite with capitula of sky-blue florets has so far defied determination, owing to the inaccessibility of material for comparison. A specimen of this plant was kindly sent to me by Mrs J. V. Phelps of Bournemouth in June 1941, who had collected it on waste ground near Southampton docks. On our visit in September of that year my companions and myself saw what was probably the self-same plant between Southampton Central station and Millbrook. There was but one plant, and that in a suggestively decapitated condition, but still flowering on basal shoots.

[This has since been determined by Mr W. R. Philipson of the British Museum as *Perezia multiflora* (Humb. & Bonpl.) Less., a native of S. America.]

REVIEWS

The Flora of Uig. Edited by M. S. CAMPBELL. Pp. 63 with 5 plates from photographs and 2 maps. Arbroath: T. Buncle & Co. Ltd., 1945; 10/6 post free.

The title of this book is somewhat misleading as it is not a local flora in the usually accepted sense of the term nor does it cover the whole of the Parish of Uig. It is better described by its sub-title " A Botanical Exploration," being the account of an expedition undertaken by Miss Campbell and five others in the summer of 1939. It is refreshing to discover that an area so little known botanically as Uig could so recently still exist in the British Isles. The book brings out well the botanical peculiarities of this area, which I visited this summer with two of the members of the previous expedition. These peculiarities lie not in the presence of any great rarities (though two species, *Orchis hebridensis* and *Euphrasia Campbellae*, both discovered by the editor and the latter perhaps endemic to the Outer Hebrides, occur in some quantity), but in the absence or rarity of many common or expected plants (e.g. *Festuca ovina, Deschampsia caespitosa* and many common weeds), in the peculiar habitats in which many species occur (e.g. *Silene acaulis* on top of sea cliffs, *Coeloglossum viride* in sandy pastures near the sea, etc.), and in the correlated peculiarities of the plant communities.

The book is divided into nine sections of which the first is a short introduction contributed by the editor. The next three sections contain the main results of the expedition, consisting of a comprehensive account of the vascular plants of the area, being a list of the species found (contributed by the editor), an account of the vegetation, and notes on critical species (the two last by A. J. Wilmott). The list includes some 300 species, and its completeness is attested by the fact that the additions made this year (when areas not previously visited were mainly investigated) only number about 25 species. Indications of frequency and often of habitat are given but the usefulness of the list to workers in the field is greatly impaired by the almost complete absence of localities. It is not clear why, for such a plant as *Epilobium angustifolium*, " In one locality only " is preferred to the more informative (and shorter) " Valtos Glen."

The section on vegetation is an example of the older type of descriptive ecology which has unfortunately fallen prematurely into disrepute among professed ecologists. The facies and distribution of many of the plant communities of the British Isles are still very inadequately known and descriptions and lists of the kind given in this book are of great value both for comparison with other districts and for the elucidation of the autecology of individual species. Attention may be drawn

to the transitional community of mixed dominants, Molinii-Nardetum, here described (Molinii-Callunetum is also of very wide occurrence in Uig, though strangely omitted*). Too many authors have disregarded this type of community being perhaps biassed by an *a priori* idea of dominance. Mixed communities are very widespread and merit more attention than they have received in the past.

The systematic notes are of more than local interest and should give valuable indications for further study, both in Uig and in other areas. The key to the known British subspecies of *Festuca vivipara*, a species which seems to have been almost completely neglected in this country, may be especially mentioned in the hope that it may be re-published in this Report.

The five remaining sections contain lists of the lower plants collected and a list of references. The lower plants were less studied and the lists are admittedly incomplete but the number of lichens new to the Hebrides would seem to indicate that the islands would be a promising field for a lichenologist.

The work will be indispensable to all botanists contemplating a visit to the Outer Hebrides and contains much of interest to all those interested in British plants. It may be hoped that Miss Campbell's example in producing an account such as this one will be followed by others. A series of similar works on other (not necessarily unknown) districts would be of great value in elucidating many problems connected with British plants. The fear of publishing incomplete work is too often a deterrent and many results, valuable as a basis of further study, are thus lost.

E. F. WARBURG.

Wayside and Woodland Ferns. [The late] EDWARD STEP, F.L.S., revised by A. BRUCE JACKSON. Pp. 144, with 64 colour plates by Mabel E. Step and 79 plates from photographs and drawings. London and New York: F. Warne & Co., Ltd., 1945; 12/6 net. [$6\frac{7}{8}$" × 5"; cloth gilt, round corners.]

There is no longer need to eulogise the late Mr Step's work as middleman and interpreter to the nature-lover of the work of the pure scientist. That is, as he once told me, how he regarded his work, and his share in Messrs Warne's *Wayside and Woodland Series* is some of his best work. The present edition has been revised with the help of experts; in it the illustrations have been improved and increased, and the text has been slightly modified to reflect modern developments.

It is an account of the normal development and form of the British ferns, horse-tails, club-mosses and quillworts. The abnormalities so beloved by fern specialists are ignored and must be sought elsewhere.

*In hill areas which, owing to a recent illness, I was unable to visit.—A. J. WILMOTT.

In this way the account is made clearer for those whose needs the series caters, viz., the field naturalist.

There are still minor errors which need correction, but the chief criticism to be made is that the names have been brought into line with the modern scientific nomenclature without the necessary alterations being always made in the text to correspond. Thus the statement that the Bracken is the sole British representative of a large genus, whose name *Pteridium*, from the Latin *pteron* . . . is simply untrue; it was true for *Pteris* (except that *pteron* is Greek). Similarly no attempt has been made to bring the derivations given for the scientific name into line with the new nomenclature used. The attempt to put new wine into old bottles is always a hazardous proceeding, and some parts need more re-writing to correspond with the classification adopted. Mr Step's edition was more consistent in itself; the next edition should have these blemishes removed somehow.

The illustrations are a valuable part of the work, but it is perhaps a pity that so few of them are placed with the account of the species they represent; a little less even spacing throughout the book might be worth while to get text and pictures together.

It is a useful book and makes pleasant reading; well worth keeping in print.

A. J. WILMOTT.

Flowers in Britain—wild, ornamental and economic—and some relative in other lands. L. J. F. BRIMBLE, B.Sc., F.L.S. Pp. x, 393, 167 " figures " and 18 col. pl. London: Macmillan & Co., 1944; 12/6.

After 36 pages of introductory matter concerning " The Flowering Plant " a great deal of interesting information of all kinds about plants to be met with in Britain is for the most part grouped under families in Bentham and Hooker Order. The illustrations are in general good, but that of " A Buttercup Plant " (p. 9) dreadful: certainly not like any buttercup known to me. Certainly a useful book to a very large number of people, and one which will stimulate interest in plant life.

A. J. WILMOTT.

Taschenatlas der Schweizer Flora. EDOUARD THOMMEN. Pp. xiv, 274. Basel: Birkhäuser, 1945. [7½″ × 4½″.] Also in French as " Atlas de Poche de la Flore Suisse."

This is a nicely produced little book containing over 3000 small but characteristic illustrations of plants, often with enlargements of important detail. The short introduction explains that the aim has been to illustrate the flora in the smallest possible space in such a way that the individuality of each plant is so depicted as to make recognition simple. Descriptions must be sought in other Floras. It is a com-

panion to the School Flora of Switzerland by Binz, in German, ed. 4, 1940, and the Flora of Switzerland by Binz & Thommen, in French, 1941. Some subspecies and varieties are included, and few important species other than *Rubi* are omitted. The illustrations form two bands across each page, and the Latin names, followed by the German and French ones, and sometimes by an indication of the colour of the flower, are given below each band of drawings. After the illustrations are 16 pages of remarks on localities followed by the index of Latin and popular names. It is a *multum in parvo* which should be invaluable to the general botanist visiting the rich flora of Switzerland.

A. J. WILMOTT.

ABSTRACTS FROM LITERATURE

Abstracts are by the Editor except where indicated by [L.] = J. M. Lambert, [S.] = F. A. Sowter, and [Wa.] = A. E. Wade, to whom thanks are given for their assistance. Further assistance is desired in order that a wider field may be covered.

When only one entry is made in this Report from a single paper the full reference is given with the entry, in order to avoid both unnecessary printing and cross-reference: the usual method of citation by reference to the Bibliography is retained when more than one reference is made to the same paper.

Note to Contributors: It would be a great convenience to the Editors if contributors would send in their Abstracts, and any necessary References for the Bibliography, on slips of uniform size, the size desired being 8 inches by 5 inches, the long edge to be treated as the top of the page. A separate slip for each item permits the easy sorting of the MS. without the transcription which is otherwise too often necessary in the preparation of copy for the printer. The uniform slips can be easily filed and will be available for future reference, thus enabling the Editors to avoid repetition and to make helpful references to previous notes.—ED.

(A) TOPOGRAPHICAL

2, E. CORNWALL; CAMEL ESTUARY.—Hepburn, Ian. (1945: *J. Ecol.*, *32*, 180-192) gives an exhaustive account, with plant lists of "The Vegetation of the Sand Dunes of the Camel Estuary, North Cornwall." The flora is contrasted with that of the dunes in a number of other places in Britain.—[Wa.] The sand is rich in calcium carbonate, always over 50% and said to be over 80% at Harlyn Bay.

6 & 34, N. SOMERSET AND W. GLOUCESTERSHIRE.—Sandwith, Cecil I. (1945: Bristol Botany in 1944; *Proc. Bristol Nat. Soc.*, *27*, 14-18) gives an account of the more interesting records made in 1944.—[Wa.]

7, N. WILTSHIRE; MARLBOROUGH.—*The Report of the Marlborough College Natural History Society*, No. 93, 9-10, 1944, contains the yearly flower list and phenological records.—[Wa.]

17, SURREY; BOOKHAM.—The vegetation of the chain of ponds at Bookham is described by Castell, C. P. (1945: *London Nat. for 1944*, 15-22).

18, S. ESSEX; EPPING FOREST.—The Survey of the London Natural History Society has produced an account of the vegetation and a table of the distribution of the flowering plants in the 14 areas into which the Forest is subdivided (*London Nat. for 1944*, 40-55).

21 (etc.), LONDON.—Botanical Records for the London area are given by Lousley (1945 A; 1945 B). They include additional records from bombed sites.

27, 28, NORFOLK.—Libbey, R. P. (1944: *Trans. Norf. Norw. Nat. Soc., 16,* 76-77) publishes a brief note on the introduction and spread of certain alien species in the county (*Setaria viridis* (L.) Beauv. and *Panicum Crus-galli* L., both widely distributed; *Panicum capillare* L. var. *occidentale* Rydb., *Setaria glauca* Beauv., *Amaranthus retroflexus* L., *Kochia scoparia* (L.) Schrad. and *Salsola Kali* L. var. *Tragus* L., less frequent). The abundance of an alien dodder (*Cuscuta pentagona* Englm.) in a field of carrots is recorded.—[L.] [see *B.E.C. 1943-44 Rep.*, 693-4. The *Salsola* was, presumably, *S. pestifera* Nelson.—ED.]

28, W. NORFOLK.—Swann, E. L. (1943: *Trans. Norf. Norw. Nat. Soc., 15,* 426-7) publishes notes on certain uncommon and rare plants observed here in 1943; habitats are given for *Sagina ciliata* Fr., *S. nodosa* (L.) Fenzl. var. *glandulosa* Bess., *Lathyrus Nissolia* L., *Utricularia intermedia* Hayne, ×*Carex axillaris* Good., *C. serotina* Mérat, *C. diandra* Schrank, *Apera interrupta* Beauv., *Potentilla recta* L., *Calamagrostis epigeios* (L.) Roth, and *Pilularia globulifera* L. The arable weeds *Silene anglica* L., *Lychnis Githago* (L.) Scop., *Legousia hybrida* (L.) Delarbre and *Linaria Elatine* (L.) Mill. are reported to have increased in the district.—[L.]

——; ROYDON COMMON.—Swann, E. L. (1944: *Trans. Norf. Norw. Nat. Soc., 16,* 23-6) gives a brief account of Roydon Common, W. Norfolk, and lists the species occurring in the dry heath, wet heath, reed-swamp, carr and bog regions of this area respectively.—[L.] Petch, C. P. (1945: Vegetation of Roydon Common; *J. Ecol., 32,* 143-146) describes the vegetation of this common. It occupies an area of about 2 square miles, about two-thirds is elevated and dry, and dominated by *Calluna vulgaris* and *Pteridium aquilinum*. A remarkable feature is the persistence of grass-heath with *Agrostis stolonifera* (*"alba"*) and *Festuca ovina* co-dominant, on an area last cultivated in 1918. " The vegetation of the wet areas has the nature of a valley bog developed in a region of impaired drainage with the soil water lacking in mineral salts. Peat is from 9 to 18 in. deep." *Erica Tetralix* is dominant, with *Molinia caerulea* and *Sphagnum* spp. locally dominant. Wetter parts of the bog support *Myrica Gale* and taller marsh plants, whilst around streams draining the bog is a dense thicket, locally known as carr, with *Betula alba* dominant. Full lists of the plants on the common are given. —[Wa.]

39, STAFFORDSHIRE.—Edees, E. S. (1945: Report of the Botanical Section; *Trans. N. Staffs. F.C., 79,* 77-85) contributes plant notes and records for 1944.—[Wa.]

40, SHROPSHIRE.—" Records of Bare Facts, for the year 1942 "; *Caradoc and Severn Valley Field Club,* No. 52, 4-6 (1945) gives a number of records of new localities of the rarer plants.—[Wa.]

46, CARDIGAN; FIGYN BLAEN BREFI.—Davies, E. G. (1945: Figyn Blaen Brefi: A Welsh Upland Bog; *J. Ecol., 32,* 147-166) gives a detailed account of the bog at Blaen Brefi, near Llanddewi Brefi, Cardiganshire. " Formerly the vegetation was dominated by *Scirpus caespitosus,*

but the lowering of the water table has caused vegetational changes, so that now a Callunetum forms a continuous band down the centre of the bog. . . . Preliminary investigation of the peat suggests that Figyn Blaen Brefi developed from Phragmites swamps, in depressions in the boulder clay. An early *Pinus-Betula* co-dominance gave way subsequently to woods in which *Alnus* and *Quercus* were co-dominant, with *Betula* and *Ulmus* still present. These woods appear to have been replaced by a vegetation in which *Eriophorum angustifolium* was dominant. Still later, a Scirpetum was developed, parts of which are still actively growing. It is from the Scirpetum that the present erosion complex has been formed."—[Wa.] At present the bog presents an erosion complex in retrogression, with *Eriophorum* attempting recolonisation in the wetter areas and with Scirpetum succeeding the erosion complex over the largest area of the bog, locally broken by Molinietum which borders the bog on the hill slopes.

48, MERIONETH; CADER IDRIS AND CRAIG-Y-BENGLOG.—The study of the distribution of floristically rich localities in relation to bed-rock; E. Price Evans (1945). The floristically rich areas are determined by the presence of lime in a form (calcite) readily available for plants. They are " situated on or about the Basic Volcanic series of rocks which form part of the ' ring-fence of volcanoes ' on the southern and eastern flanks of the Harlech Dome " of Cambrian rocks. In addition to the ecological lists given, there is an account (pp. 176-177) of rare species recorded for the area. The presence to-day of some of these needs confirmation (see *Plant Records*).

61-65, YORKSHIRE.—" Some early records of Yorkshire plants " are set out by Beckerlegge, J. E. (1945: *Naturalist*, 93-96). They are taken from MS. notes made by Doctor Richard Richardson (fl. 1663-1741) of North Bierley, Bradford, in his copy of Ray's *Synopsis*, ed. 2 (1696), now preserved in the National Library of Wales, and antedate the first records mentioned in Lees's *Flora of West Yorkshire*.

64, M.W. YORKSHIRE; AUSTWICK MOSS.—An account of this interesting bog is given by Cheetham, C. A. (1945: *Naturalist*, 117-121). Recent work on a drainage scheme exposed the base of the Moss, showing that the retreat of ice at the close of the glacial period left a layer of stiff clay in which boulders and smaller stones were embedded. This later formed the base of a shallow lake fed by glacier water, and laminated clays, followed by shingle, were deposited. The previously found shell marl, supposed to be the basis of the lake, was a local stream deposit.

——; GRASSINGTON.—An ecological description of Grass Wood and Bastow Wood is given by Smith, A. Malins (1945: *Naturalist*, 105-107) and a list of the rarer plants seen there (during a meeting of the Yorkshire Naturalists) is added by Sledge, W. A. (1945: *l.c.*, 107).

90, ANGUS; CARNOUSTIE.—Parkin, Doris (1944: " Notes on the Flora of Carnoustie," *N.W. Nat.*, *19*, 154-158, pls. 6-7—photographs of *Plantago maritima*, *Armeria maritima* and *Cakile maritima*) mentions the

finding of *Ornithogalum umbellatum* " in a hidden corner of the bank." Except for the well-known abundance of *Astragalus danicus* on the sandy maritime pasture, the plants mentioned are mainly the common species.

101, CANTYRE.—Gilmour, J. S. L. (1945) botanized for ten days on West Loch Tarbert and his notes on the plants seen include three new vice-county records.—[S.]. See *Plant Records*.

(B) TAXONOMY AND CLASSIFICATION

CLASSIFICATION.—Parkin, J. (1945: *N.W. Nat.*, *20*, 18-27) in an interesting paper, " The Classification of Flowering Plants," (Angiosperms), discusses the Bentham and Hooker versus Engler and Prantl systems; and advocates the use of Hutchinson's system of classification. A general sketch and the special features of this latter system are described with a recommendation that its adoption be carefully considered.—[S.]

LINNAEAN METHOD.—An interesting study " On the Descriptive Method of Linnaeus " is given by Svenson, H. K. (1945: *Rhodora*, *47*, 273-302, 363-388).

(C) NOMENCLATURE

See *Corrections to B.P.L.*

(D) GENETICS

TRANSPLANT EXPERIMENTS.—Marsden-Jones, E. M., and Turrill, W. B. (1945: *J. Ecol.*, *33*, 57-81) give the " Sixth Report of the Transplant Experiments of the British Ecological Society at Potterne, Wiltshire." No morphological differences between the ramets on the different soils appeared in the case of *Centaurea nemoralis* Jord. f. *radiata albiflora*. In *Silene maritima* With. no morphological changes were observed but the leaves of plants on sand were slightly smaller than those on other soils; the characters—deep anthocyanin, narrow leaves, narrow calyx and essential femaleness remained constant. The large variety of *Plantago major* L. showed some tendency for the gross morphological characters to become similar to those of the small variety when grown on any one soil but the differences between the two were never obliterated. The experiments on *Phleum pratense* L. and *Phleum nodosum* L. are considered as confirming the conclusion that they must be regarded as belonging to two distinct taxonomic species, whatever their origin or cytogenetic relationships. The habit characteristic of prostrate habit of growth of *Solanum dulcamara* L. var *marinum* Bab. has been shown to be genetic and also constant (not plastic) under the different plot conditions of the transplant experiments.—[Wa.]

(E) CYTOLOGY

[Information concerning chromosome numbers extracted from the year's literature will be combined with that for 1946 in the next *Report*. —ED.]

(F) BIOLOGY AND MORPHOLOGY
(General; cf. also *Plant Notes*)

ABNORMAL STRUCTURES IN TREES.—Gurney, R. (1944: *Trans. Norf. Norw. Nat. Soc., 16,* 14-15) describes certain abnormal features observed in certain trees (*Salix* spp.—3 flowering shoots from each bud instead of one, transitional leaf-like bracts with imperfect flowers in male catkins; hazel—elongated female catkins; birch—bisexual catkins; lime, oak, plane and sycamore—tricotyledonary seedlings).—[L.]

ENDEMICS.—Wherry, E. T. (1944: *Ecology, 25,* 247-248) classifies endemics as:—

A. Primary = newly originated increasing in area (for a time at least surrounded by its progenitors (="neo-endemic" of Wynne Edwards, 1937).

B. Secondary = relic-endemics, diminishing in area (often disjunct from the progenitors [or nearest relatives—ED.].
   (a) environmentally repressed, i.e., existing in unfavourable surroundings, and liable to "expand its area when brought into an environment sufficiently unlike its native one":
   (b) genetically repressed, i.e., abnormally homozygous, and liable not to grow unless the native environment is closely watched:
   (c) senescent—"an endemic which is really senescent should, under culture, fail to reproduce its kind or expand its planting at all" [sounds more like moribund—few ancient relict-species are so debilitated—ED.].

WEEDS.—Details of adventive and ruderal species found at several places in Blekinge (Sweden) are given by Holmgren, Bj. (1941: *Bot. Not.,* 65-98).—[Wi.]

ARCTIC PLANTS AND VITAMIN C (l—Ascorbic acid) content.—Knowledge of the antiscorbutic properties of arctic plants would have been valuable on ancient arctic expeditions. A large number of common Greenland species have been investigated for their Vitamin C content by Rodahl, K. (1944: *Trans. B.S. Edinb., 34,* 205-210), the list including the British species. *Honckenya peploides, Rumex Acetosella, Empetrum nigrum, Betula nana* and six of our high mountain rarities.

(G) ECOLOGY
(General: for regional papers see "Topographical" section)
The order followed in this section is that of Tansley, A. G. (1939: The British Islands and their Vegetation).

COLONISATION OF DERELICT AND BOMBED SITES.—Shove, R. F. (1945: *School Nature Study, 40,* 58-60) describes "the flora of a derelict site in the Zoological Gardens, Regent's Park."—[Wa.]

REGENERATION.—E. W. Jones (1945: *J. Ecol., 33,* 44-56) discusses "The Regeneration of Douglas Fir (*Pseudotsuga taxifolia* Britt., in the

New Forest." "Establishment in the area studied seems to be largely determined by the presence of a carpet of coniferous litter, deciduous litter providing unsuitable conditions, bare mineral soil is also suitable." As natural regeneration has been observed in other parts of Britain it is suggested that Douglas Fir may become fully naturalised in this country. "If, however, its behaviour in the New Forest is characteristic, it would only be able to enter our native woodland freely under the rather special conditions provided by the floor of a conifer crop or by the clearance of vegetation by felling, burning, etc. Very slow invasion might of course take place without these special conditions, and this would be assisted by its ability to regenerate on its own litter."—[Wa.]

OAK WOOD—in South-East Scotland.—Fenton, E. Wyllie (1945) "Some Factors affecting the Natural Regeneration of Oak in Certain Parts of South-East Scotland"; *Trans. Bot. Soc. Edinb.*, *34*, 213, 232 (Presidential Address). The various factors which affect regeneration are discussed: mortality of young oaks, grazing, soil erosion and leaching after felling, etc.

GRASSLANDS.—The effects of lime, and of acid and basic manures on the hay yield and composition of rotation pastures (i.e., those sown in the course of crop rotation) in Ayrshire, are described by R. Laird (1945: *J. Ecol.*, *32*, 193-203). He finds that the composition of the grass seed mixture sown is of far less importance in influencing the botanical composition of the sward than the lime and phosphate relations of the soil.

PONDS.—See 17, Surrey; Bookham.

FEN AND BOG.—Petch, C. P. (1944: *Trans. Norf. Norw. Nat. Soc.*, *16*, 18-22) distinguishes between and notes the occurrence of areas of fen and bog in West Norfolk, and lists typical plants from each.—[L.]

HEATHER MOOR.—An investigation of the ecology of heather moor at St Ives, Bingley (800-825 feet), Yorkshire, is described by Smith, A. Malins (1945: *Naturalist*, 45-48).

BOG.—See 28, W. Norf.; Roydon Common.

HEATH.—See 28, W. Norf.; Roydon Common—46, Card.; Figyn Blaen Brefi.

EFFECT OF SEA FLOODS.—Buxton, A. (1943: *Trans. Norf. Norw. Nat. Soc.*, *15*, pp. 410-9) describes the state in 1943 of the farm crops and natural vegetation in the area covered by the extensive 1938 Norfolk sea floods.—[L.]

SAND-DUNES.—See 2, E. Cornw.; Camel Estuary.

(H) DISTRIBUTION

(a) DISPERSAL: FRUITS AND SEEDS.

(b) HISTORY OF THE BRITISH AND NEIGHBOURING FLORAS.

PEAT DEPOSITS.—Godwin, H. (1945: *New Phytol.*, *44*, 152-155) describes "A Submerged Peat-bed in Portsmouth Harbour." This was near the Weevil Lake, Gosport, 59 feet below O.D. Tree pollen was predominantly birch and pine: four fruits (figured) are determined as

Betula nana or the two largest perhaps *B. nana* × *pubescens*. Oak pollen 15%; *Salix* 47%. The bed referred to his zone IV. "In view of the many problems which turn upon knowledge of when last the English Channel was dry land, it is clear that further investigation of such deeply submerged Channel peats as these would be of great interest."

"COASTAL PEAT BEDS OF THE NORTH SEA REGION, as indices of land- and sea-level changes," by Godwin, H. (1945: *New Phytol.*, *44*, 29-69). Godwin (1943: see last *Report*) has already indicated that a fair degree of correlation can be made between the results of pollen analyses of peat and archaeological horizons in England and Wales. In the present paper he carries the work further in attempting approximate correlations with deposits across the English Channel and North Sea from northern France to southern Sweden. Six regularly recurring horizons have been sought:—

A.D. 1940. Pr. (Present day). Profiles of bogs still growing.
VIII (zone on English scale) = Pr. to G.H.

B.C. 500. G.H. ("Grenzhorizont"). A regularly recurring surface recognisable in many sections, mostly by stratigraphical evidence: the "Sub-Boreal to Sub-Atlantic transition" at the end of VII. Transition from Bronze Age to Iron Age.
VIIb. = G.H. to Ul. = Neolithic plus Bronze Age.

B.C. 3500. Ul. (Ulmus). Time of sharp decrease from abundant Elm (commonly associated with diminution of Pine and sometimes also of Lime: transition from VIIa to VIIb. The Early Neolithic Age.
VIIa = B.A.T. to Ul. = Late Mesolithic Age.

B.C. 6200. B.A.T. (Boreal-Atlantic transition). Sudden increase of Alder and recession of Pine=transition from VI to VII.

B.C. 7500. H. (Hazel). Beginning of the rapid increase in Corylus pollen = beginning of V.

B.C. 8000. P.G. (Post-Glacial). End of the Late Glacial and beginning of the Post-Glacial, corresponding with increase of ratio of tree pollen to total non-tree pollen = transition IV to V.

The whole series of profiles compared shows considerable similarity in forest history. When the diagrams go back far enough they show basal birch-pine period followed by increase in pine (hazel high, elm, oak, and lime often present); at B.A.T. alder increases (remaining high, and oak-elm-lime preponderate over birch-pine); above this little eventful till at G.H. Lime is reduced, and above it Beech or Birch increases. Discrepancies from this norm may be due to local variations in conditions, as, e.g. conditions favouring Beech, which may be considerable between B.A.T. and G.H. German profiles are very similar to the Dutch: the Beech increases above G.H. but is generally present in the second half

of the Atlantic period (practically absent before this). The Hazel curves vary considerably, but do not prevent the conclusion that the profiles as a whole show that post-glacial forest history has followed a fairly uniform course over the whole area.

In Holland there was a rapid marine transgression at the end of VI. The " Old Sea Clay " was laid down, now 5-6 metres below N.A.P. (Mean Sea Level), probably ending in the middle of VII. It was probably laid down behind a coastal bar bearing a big dune system, inside which great raised bogs were formed on the flat clay surface. The southern part of this dune system was largely destroyed A.D. 300-500; after A.D. 900 a new dune system arose which did not prevent the ultimate destruction which led to the formation of the Zuider Zee. The Young Sea Clay which sometimes overlies the upper peat belongs to the 12th and 13th century invasion which formed the Zuider Zee. The whole series shows alternating fresh water and marine deposits with thick peat beds at the bottom, continuous on the landward side and above them fine sands and clays (Old Sea Clay), then the upper peat, above which is sometimes a Young Sea Clay.

In N.W. Germany between Holland and Slesvig-Holstein the low coast and chain of Frisian Islands shows all characteristic of recent submergence. Deep " moorlog " peats from the North Sea floor belong to zones IV and V (pine-birch); some samples from 35 m. indicate VIa. None of the deep submerged peats are younger than this. The ability to date the formation of the various coastal deposits has led to the following conclusions, evidence for which is given in considerable detail:— a rapid and deep sea transgression in VI, slowing off in VII; a retrogression in the period including G.H. and a resumed transgression in the first centuries A.D.

Slesvig-Holstein shows similar but not identical profiles. There is evidence that marine silt was forming at the time of marine transgression in N.W. Germany, due to tilting movements of the isostatic post-glacial land elevation.

In Denmark there is clear evidence of the isostatic land elevation which followed the removal of the ice load which had depressed the earth's crust (i.e. raised beaches and terraces). The melting of the ice led also to a purely eustatic rise in sea level (influx of melted ice water) of about 80 metres. The interplay of eustatic and isostatic factors in countries marginal to the ice produced very complex phenomena, but pollen analysis methods greatly assist interpretation. At the close of the late glacial period, Jutland was continuous with Sweden and the Baltic was an ice-dammed sea with an opening through the Öresund and Great Belt. Regression of ice opened the Baltic at the beginning of the Post-Glacial (the Baltic the cold water " Yoldia Sea "), but land elevation soon closed it again (the Baltic then a fresh water " Ancylus") sea with an opening through central Sweden and later through the Great Belt. The "continuous land period" extended from Late Glacial to the later part of the " Ancylus Sea." The independent fresh water

level of the Baltic (Ancylus Sea) was destroyed by the opening of the Sound into the North Sea, the Baltic becoming the "Littorina Sea" (transition VI to VII, i.e. B.A.T.). Recent investigations indicate four maxima of salt water concentration and confirm (a) the early Neolithic age of the late Atlantic transgression, and (b) the correlations of the Ul. horizons in Britain and Denmark. These subdivisions made by pollen analysis methods have since been confirmed by further study of the associated human cultures.

In southern Sweden the changes of sea level are very complex. Investigations confirm the multiple character of the Littorina transgression. Its maximum is placed by Nilsson in the Neolithic period at a later date than the Ul. horizon whereas in Britain and Denmark the Neolithic period coincides fairly closely with the Ul. horizon. In northern France and Belgium few analyses of coastal peats have been made, but Dubois published in 1924 a comprehensive memoir on the coastal deposits of northern France. By their faunal contents he divides the marine transgression following the Würm ice into three stages:—beds 26 to 33 m. deep, mixed Boreal and Atlantic with a few arctic (V/VI), beds 15 to 20 m. deep with a restricted fauna of the upper littoral belt (VIIa), beds with fauna of to-day in *Cardium* sands and *Scrobicularia* clays formed at known times (a) between the 3rd and 8th centuries A.D. and (b) in the 13th century, (VIII).

The whole series of profiles are summarised by Godwin, with a tabulation of results (p. 64) which includes Britain (S.E. and S.W.). In order to correlate the results it is necessary to postulate *either* eustatic rise of about 20 m. between B.A.T. and to-day, compensated in the west of Britain by an equal isostatic land uplift, *or* the formation of a large basin of depression affecting Holland and Germany to a large extent and East Anglia to a lesser degree. Also *either* the submergence in VII continued later in Denmark and southern Sweden than in Somerset and Wales *or* the forest zones were later in spreading to Somerset and Wales than in Denmark (which is less likely since Somerset and Wales are more, and not less, Atlantic than Denmark). Further problems are thus raised for investigation.—[Wi.]

[This interesting paper indicates clearly, however, how the pollen analysis methods are establishing post-glacial history on an ever increasingly sure foundation. Although its results primarily concern neighbouring foreign lands, they will have a great bearing on future developments in this country.—Ed.]

Cleve-Enler, A. (1943: *Bot. Not.*, 41-47) concludes that some diatoms found in high lakes in S. Sweden colonised them in a period before the latest glaciation, when Atlantic and Baltic water was overflowing Sweden to a much greater extent than ever since has been the case.

(c) Various.

Pollen Studies.—In II of "Studies in Atmospheric Pollen," Hyde, H. A., & Williams, D. A. (1945: *New Phytol.*, *44*, 83-94) describe "Diur-

nal variation in the incidence of grass pollen." The catch of pollen on adhesive slides changed 2-hourly, "has been related to the times of flowering of the principal grasses concerned and to the weather conditions experienced." On fine sunny days *Festuca rubra* and *Holcus lanatus* flowered as a rule but slightly in the morning and profusely in late afternoon. Pollen liberation was crowded into a short period. On dull days anthesis was largely suppressed.

[Pollen analyses of peat are dealt with under section A.]

(K) BIOGRAPHY

BRADLEY, A. E. (1873-1944).—See W. A. S[ledge] (1945: *Naturalist*, 115). He lived most of his life at Leeds, working specially at *Rubus* and later at *Salix*. Discovered *Rhinanthus spadiceus* ("*R. monticola*": *J.B.*, 1913: 281) on Malham Moor. His herbarium was presented by his widow to the Natural History Museum.

CURTIS, WILLIAM (1746-1799).—The bicentenary of the birth of this famous naturalist was celebrated on his birthday, January 11th, by a special exhibition in the Curtis Museum at Alton and by a meeting and memorial service the following week-end at Battersea, where he was buried. An account of his life and work is given by Lousley, J. E. (1946: *London Naturalist for 1945*, 3-12).

GRINDON, LEOPOLD HARTLEY (1818-1904).—Warne, L. G. G. (1945: *Proc. Bristol Nat. Soc.*, *27*, 27-36) gives an account of his life and contributions to Bristol Botany.—[Wa.]

(L) NATURE CONSERVATION AND RESERVES

27, 28, NORF.—Riviere, B. B. (1943: *Trans. Norf. Norw. Nat. Soc.*, *15*, 392-4) gives an outline of the recommendations submitted to the Nature Reserves Investigations Committee by the Norfolk Committee.—[L.] Gay, C. E. (1944: *Trans. Norf. Norw. Nat. Soc.*, *16*, 3-13: Presidential Address) gives an account of the history and achievements of the Norfolk Naturalists' Trust.—[L.]

57, DERBS.—Claims of the Peak District for schedule as a National Park set out in a brochure issued by the Joint Committee for the Peak District National Park (1944) are reprinted in the *N.W. Nat.* (*20*, 29-34).—[Wi.]

59, S. LANCS.—The Claims of South Lancashire Dunes as a National Nature Reserve are put forward in the *N.W. Nat.* (*19*, 293-294).

(M) MISCELLANEOUS

SYSTEMATIC.

Abstracts previously placed in this section have now been included in *Plant Notes*.

BIBLIOGRAPHY

References included here are to papers mentioned several times in this *Report*. Otherwise references are given where the paper is mentioned.

EVANS, E. PRICE; 1945: Cader Idris and Craig-y-Benglog; *J. Ecol.*, *32*, 167-179.

GILMOUR, J. S. L.; 1935: Ten Days on West Loch Tarbert; *N.W. Nat.*, *20*, 34-37.

LOUSLEY, J. E.; 1945 A: Botanical Records for 1943; *London Nat. for 1944*; 9-11.

—— ; 1945 B: Botanical Records for 1944; *London Nat. for 1944*; 12-13.

SANDWITH, C. I.; 1945: Bristol Botany in 1944; *Proc. Bristol Nat. Soc.*, *27*, 14-18.

LIST OF MEMBERS AND SUBSCRIBERS.

(As at 20th February 1947)

*—Signifies Members of the Exchange Club.
*L—Signifies Exchange Members who have paid Life Composition.
L—Signifies Ordinary Members who have paid Life Composition.
†—Signifies Members who have contributed Notes or Records to this Report.

PATRONESS.

H.R.H. THE PRINCESS ROYAL, COUNTESS OF HAREWOOD, Harewood House, Yorkshire.

HONORARY MEMBERS.

(The Society has no recent news of Dr G. Kükenthal.)

Aellen, Dr Paul, Oberwilerstrasse 126, Basle, Switzerland.
Almquist, Dr E. B., 80 Ostermalmsgaten, Stockholm, Sweden.
Fernald, Prof. M. L., The Gray Herbarium, Harvard University, Cambridge, Mass., U.S.A.
Jansen, P., Frans van Mierisstraat 128, Amsterdam, Holland.
Kükenthal, Dr G., Alexandrinestrasse 7, Coburg, Germany.
Livingstone, B. E., John Hopkin's University, University Parkway, Baltimore, U.S.A.
Masaryk University, 63 Kounicova, Brno, Czechoslovakia.
Missouri Botanical Gardens, St Louis, U.S.A.
Montréal, Institute botanique de l'Université de, 4101 est, rue Sherbrooke, Montreal.
Rechinger, Dr K. H., Friedrichstrasse 6, Wien I, Austria.
Ronniger, Dr Karl, Strohberggasse 29, Wien XII/87, Austria.
Senay, P., 10 Rue Dupré, Asnières, France.
Seine Maritime, Linnéenne Société de la, 56 Rue de Lycée, Le Havre, France.
Swedish Academy of Sciences, Dr Arne Holmberg, Chief Librarian, Stockholm 50, Sweden.
University of California, Berkeley, California, U.S.A.
Vermeulen, Dr P., Woodanstraat 14, Amsterdam-Zuid, Holland.

CORRESPONDING MEMBERS.

Drabble, Mrs E., Tregudda, Ayr, St Ives, Cornwall.
Lumb, D., 1 Market Place, Dalton-in-Furness.
Sherrin, W. R., A.L.S., South London Botanical Institute, 323 Norwood Road, S.E.24.
Swanton, E. W., M.B.E., A.L.S., Educational Museum, Haslemere, Surrey.

ORDINARY AND EXCHANGE MEMBERS AND SUBSCRIBERS.

†Abell, Miss L., Thorndale, Andoversford, Glos.
†Abell, Rev. R. B., Bussage Vicarage, Stroud, Glos.
Ackerley, Miss M. E., The Vicarage, Long Preston, via Skipton, Yorks.
L Adair, G. S., M.A., F.R.S., Low Temperature Station, Downing Street, Cambridge.
Adams, Rev. J. H., M.A., Landulph Rectory, Saltash, Cornwall.
†Adams, L. T., 96 Burman Road, Shirley, Warwickshire.
Adamson, Prof. R. S., M.A., Dept. of Botany, University of Cape Town, S. Africa.
Adeane, Hon. Mrs H., West Hall, Mundford, Thetford, Norfolk.

†Allen, G. O., St Oswalds, Enton Green, Godalming, Surrey.
Allison, Miss I. Jean, 11 High Street, Sandy, Beds.
†Alston, A. H. G., M.A., F.L.S., Dept. of Botany, British Museum (Nat. History), Cromwell Road, S.W.7.
Ambrose, F. V., 3 Danson Mead, Welling, Kent.
Amherst, C. T., Crown Hotel, Exford, near Minehead, Somerset.
Arsène, Bro. Louis, Maison St. Joseph, Highlands, Jersey.
*†Ash, G. M., F.L.S., Lower Birtley Farm, Witley, Surrey.

Baker, C. M., C.I.E., Meopham Green, Kent.
Baker, Edmund G., F.L.S., 3 Cumberland Road, Kew, Surrey.
Baker, F. T., F.R.E.S., Curator, City and County Museum, Lincoln.
Baker, Rt. Hon. H. T., P.C., Crabwood, Sparsholt, Winchester, Hants.
Bannister, H. E., The Moorings, Felden Lane, Hemel Hempstead, Herts.
Baring, Hon. Mrs G., Empshott Grange, Liss, Hants.
Barnes, Mrs Egbert, Hungerdown, Seagry, Chippenham, Wilts.
Barrett, Miss Primrose, Melton Lodge, Woodbridge, Suffolk.
Barton, Miss F. M., 19 Park Street, Bath.
Basden, E. B., 10 St Bernard's Road, Slough.
Bates, Dr G. H., The Farm Institute, Penkridge, Stafford.
Beak, P. G., Imperial Forestry Bureau, Oxford.
Bell, Peter R., Adelaide, South Street, Whitstable, Kent.
Bemrose, G. J. V., City Museum and Art Gallery, Hanley, Stoke-on-Trent.
Bergens Museum, Bergen, Norway.
Bingley, F. J., B.A., Holywell Row Farm, near Bury St Edmunds, Suffolk.
Birmingham Public Libraries, The City Librarian, Birmingham 1.
*Bishop, Edmund B., Lindfield, Marshall Road, Godalming, Surrey.
Blackburn, Dr K., Botany Dept., King's College, Newcastle-on-Tyne 2.
Blackwell, B. H., Ltd., Broad Street, Oxford.
Bland, Harold, 11 St James' Road, Hereford.
Bloomer, H. H., Longdown, Sunnydale Road, Swanage, Dorset.
Boucher, W. W., White Lodge, Malvern Wells, Worcs.
*Braid, Prof. K. W., Dunalistair, 22 Buchanan Street, Milngavie, Glasgow.
†Brenan, J. P. M., M.A., 9 Longwall Street, Oxford.
Brighton Public Library, Church Street, Brighton 1.
Brokenshire, Fred. A., 2 Rock Avenue, Barnstaple, Devon.
Brooke, Miss W. M. A., F.L.S., 300 Philip Lane, Tottenham, N.15.
Brooklyn Botanic Gardens, 1000 Washington Ave., Brooklyn 25, N.Y., U.S.A.
Brown, Geo. C., 16 Lion Walk, Colchester.
†Brown, John, 16 Stafford Road, Sheffield 2.
Browning, F. Robert, Nutwood Lodge, St George's Road, Bickley, Kent.
Brunker, J. P., 28 Grosvenor Place, Rathgar, Dublin.
Bull, Mrs H., Upper House, West Burton, Pulborough, Sussex.
Bunker, H. E., 18 Abingdon Drive, Ashton-on-Ribble, Preston, Lancs.
†Burder, Lewis A. W., Denes, East Chiltington, Lewes, Sussex.
*Burges, Dr R. C. L., 133 Soho Hill, Birmingham 19.
Burnett, J. H., Merton College, Oxford.
Butcher, R. W., B.Sc., Ph.D., F.L.S., Culford House, Ewe Lamb Lane, Bramcote, Notts.

L Cadbury, Miss Dorothy A., 40 Edgbaston Park Road, Birmingham 15.
Cambridge, The Botany School, The University.
†Campbell, Miss M. S., F.L.S., 83 Chatsworth Court, London, W.8.
Cardew, Major J. W., 44 Putnoe Lane, Bedford.
*Carlisle Public Library, Museum and Art Gallery (T. Gray, Librarian and Curator).
Carrothers, E. N., L.M.S. Railway, York Road, Belfast.
†Cator, Miss Diana, St Anne's, Happisburgh, near Norwich, Norfolk.

Centre National de la Recherche Scientifique, Service Documentation, 45 Rue D'Ulm, Paris 5, France.
Chapman, Hon. Mrs D. B., Prees House, Prees, Salop.
Chapple, J. F. G., Yardley Lodge, 9 Crick Road, Oxford.
Charteris, Hon. G., Bishopstone, Bridge-Sollars, Herefordshire.
Chase, Capt. C. D., Campbell College, Belfast, N.I.
Chesham, F. L., 7 Thornhill Road, Luton, Beds.
Chesher, W., M.A., 24 Rutherford Road, Liverpool 18.
Clapham, Prof. A. R., Dept. of Botany, The University, Sheffield 10.
Clark, Dr William A., Dept. of Botany, King's College, Newcastle-upon-Tyne 2.
Coales, W. D., B.Sc., 77 Gt. Northern Road, Dunstable, Beds.
Cobbe, Miss A. B., Lingworth, Sea Road, Felpham, Bognor Regis.
Collenette, C. L., 15 Warren Avenue, Richmond, Surrey.
Colville, Hon. Margaret, The White House, Woolacombe, N. Devon.
Conder, P. J., 21 Emerson Court, Wimbledon Hill Road, London, S.W.19.
†Congreve, Lt.-Col. C. R., 6 De Vaux Place, Salisbury, Wilts.
Cooke, R. B., Kilbryde, Corbridge, Northumberland.
Cornell, New York State College of Agriculture, Cornell Univ., Ithaca, N.Y., U.S.A.
Cory, Miss A. M., Fullerton Manor, Andover, Hants.
*Cory, Mrs C. M., The Grange, St Brides-super-Ely, near Cardiff, Glamorgan.
Coxhead, G. W., 5 Rochester Avenue, Bromley, Kent.
Creed, Dr R. S., M.A., New College, Oxford.
Crerar Library, John, 86 East Randolph Street, Chicago, Ill., U.S.A.
Crichton-Stuart, Lady Colum, c/o Coutts & Co., 440 Strand, W.C.2.
Crisp, Wm. C., Schoolhouse, Stewkley, Leighton Buzzard, Beds.
Cross, Edward R., 12 Filey Road, Scarborough.
Cross, Hon. Marjorie, Ash House, Broughton-in-Furness.
Crundwell, A. C., Loadhams, Farnham, Surrey.
†Cruttwell, Rev. N. E. G., Dogurla, via Samarai, British New Guinea.
Cumming, Richard, 63 George Street, Edinburgh 2.

Daly, Mrs Bowes, Drumlanrig Castle, Thornhill, Dumfries-shire.
Dandy, J. E., M.A., F.L.S., British Museum (Nat. Hist.), Zoological Museum, Tring, Herts.
Darlington and Teesdale Naturalists' Field Club, J. B. Nicholson, Secretary, 22 Bracken Road, Darlington.
Davey, T. R., M.R.C.S., L.R.C.P., Bampton, Oxford.
David, Miss Aileen M., Hillside, Llandaff, Cardiff.
Davie, Dr J. H., Clifton College, Bristol 8.
Davies, Mrs H. R., 147 Coleherne Court, Redcliffe Gardens, S.W.5.
Davy, Lady, Green End, Keyhaven, Lymington, Hants.
Day, Miss E., 32a St Peter Street, Sandwich, Kent.
Day, Francis M., The Downs School, Colwall, Malvern.
Day, Miss Gwendoline Helen, Harrold, Bedford.
Dent, G., Speedwell, Wych Cross, Forest Row, Sussex.
Dent, Mrs R. W., O.B.E., Flass, Maulds Meaburn, Penrith.
Devonshire, The Duke of, Chatsworth, Buxton, Derbyshire.
†Dony, John G., B.Sc., Ph.D., 41 Somerset Avenue, Luton, Beds.
L†Duncan, Miss Ursula K., Parkhill, Arbroath, Angus.
*Dunston, Capt. Ambrose E. A., Burltons, Donhead St Mary, Wilts. (via Shaftesbury, Dorset).
Durham University, (Miss K. M. Chalklin, M.Sc.) Dept. of Botany, University Science Laboratories, South Road, Durham.

*†Edees, E. S., M.A., 19 Dartmouth Avenue, Westlands, Newcastle, Staffs.
Eire, National Museum, The Acting Director, Kildare Street, Dublin, Eire.
Ekins, Miss Gillian M., 17 Croyland Road, Wellingborough, Northants.
Eliot. Lady Alethea, Newtimber Place, Hassocks, Sussex.

Ellen, Miss D. M., Waterside, The Bartons, Fordingbridge, Hants.
Ellis, A. E., M.A., F.L.S., Epsom College, Surrey.
Ellis, E. A., Castle Museum, Norwich.
Ellis, Edgar W., Gedham, Ossett, Yorks.
†Evetts, Mrs E. F., J.P., Wood House, Tackley, Oxford.
Eyre, Mrs R. S. K., Woodside, Crowborough, Sussex.

Fanshawe, D. B., Mazaruni Station, British Guiana.
Farmer, A. J., 45 Prince Alfred Road, Wavertree, Liverpool 15.
Findeisen, K. D., Yonder Fowdon, Churston Ferrers, South Devon.
Fleming, Dr G. W. T. H., F.L.S., Barnwood House, Gloucester.
Foggitt, Mrs T. J., Boundway Top, Sway, Hants.
Foster, M., Leconfield House, College Road, Cheltenham.
Fox, Mrs Croker, Corfe Farm, Corfe, near Taunton, Somerset.
Frankland, J. N., 59 Otley Road, Skipton, Yorks.
Frost, Miss L. Winifred, 98 Bolton Road, Salford 6, Lancs.
Frowde, Miss Dora M., Elmsleigh, Colerne, Chippenham, Wilts.

Genève, Conservatoire et Jardin Botanique, Route de Lausanne 192, Genève (Directeur, Prof. Dr Charles Baehni).
German, Mrs P., Newlands, The Plantation, Durrington, Worthing, Sussex.
Gibbons, Miss E. J., The Hall, Holton Le Moor, Lincoln.
Gilbert, John L., "Riverside," Wansford, Peterborough.
Gilmour, J. S. L., M.A., F.L.S., Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey.
Gladstone, Viscountess, 27 Chester Terrace, S.W.1.
Glasnevin Botanic Gardens, The Keeper, Dublin, Eire.
Glyn, Hon. Mrs Maurice, 14 Bickenhall Mansions, W.1.
Goddard, H. J., The Knap, Skew Bridge, Wilton Road, Salisbury, Wilts.
L Gordon, Seton, C.B.E., Upper Duntuilm, Isle of Skye.
Göteborgs Botaniska Trädgard, Göteborg, Sweden (Director, Dr C. Skottsberg).
Gough, Mrs H., Radford, Athenry, Co. Galway, Eire.
†Gough, J. W., M.A., 43 Sandfield Road, Headington, Oxford.
Graddon, W. D., The Brooms, Park Lane, Congleton, Cheshire.
†Graham, Mrs E., 9 Ralston Street, Tedworth Square, S.W.3.
†Graham, Rex, 3 Anderson Street, S.W.3.
Graham, Commander R. D., Stawell House, near Bridgwater, Somerset.
Graham, Prof. R. J. D., M.A., D.Sc., F.R.S.E., Dept. of Botany, The University, St Andrews.
Graveson, A. W., M.A., Tintagel, Stoke Road, Beaminster, Dorset.
Gray, Henry Yewtree, West Malling, Kent.
Gray Herbarium, The, Harvard University, Cambridge, Mass, U.S.A.
Gray, R. E. G., M.D., Whincroft, Hindhead, Surrey.
Green, Capt. P. S., Louches, Naphill, High Wycombe, Bucks.
Green, T. H., Sabinal, Weston, Bath.
Gregor, Rev. A. G., M.A., B.D., The Knoll, 13 Pevensey Road, West Worthing, Sussex.
Grigson, Geoffrey, Broad Town Farm, Broadtown, Swindon, Wilts.
*†Grose, J. D., 18 Regent Street, Swindon, Wilts.
Gurney, John, Walsingham Abbey, Norfolk.

†Haines, John W., Midhurst, Green Lane, Hucclecote, Gloucester.
Haines, Mrs J. W., Midhurst, Green Lane, Hucclecote, Gloucester.
Hall, Fredk. T., 2 Hartington Terrace, West Road, Buxton, Derbyshire.
Hall, R. H., 2 Hartington Terrace, West Road, Buxton, Derbyshire.
Hardaker, W. H., 451 City Road, Edgbaston, Birmingham 17.
Hardinge of Penshurst, The Hon. Lady, Crichel, Wimborne, Dorset.

Harrison, Prof. J. W. Heslop, D.Sc., F.R.S., King's College, Newcastle-upon-Tyne 2.
Harrison-Church, Mrs D. V., B.Sc., Bedford College for Women, Regent's Park, N.W.1.
Hartley, J. W., Irene, Marple Road, Stockport.
Harvey, Rev. H. H., Clawton Vicarage, Holsworthy, Devon.
Harvey, F./O. J. W., Foxbrake, Higher Bebington Rd., Bebington, Wirral, Cheshire.
Hassall, Mrs B., The Manor House, Wheatley, Oxford.
Haynes, Gerald, 96 Southmoor Road, Oxford.
*Hayward, Miss Ida M., F.L.S., 7 Abbotsford Road, Galashiels, Selkirkshire.
*Hensler, Major E., B.Sc. (Eng.), "Gilead Balm," 12 Knighton Close, Woodford Green, Essex.
Heron, Miss May, Erclands, Ercall Lane, Wellington, Salop.
Hill, S. Ashton, Carnaby, 19 Jordan Road, Four Oaks, Warwickshire.
Holder, F. W., 17 Balmoral Drive, Southport, Lancs.
L Holland, J. S., c/o Central Mining and Investment Corporation Ltd., 1 London Wall Buildings, E.C.2.
Hollick, Miss K. M., The Old House, Ashbourne, Derbyshire.
Horsfall, Miss Anne, Stapley Mill, Church Stanton, near Chard, Somerset.
Horticultural Society, The Royal, Vincent Square, Westminster, S.W.1.
*Howarth, W. O., D.Sc., F.L.S., Botany Dept., The University, Manchester 13.
Howell, William, 13 Balgowan Road, Beckenham, Kent.
Hughes, Dr Marguerita, Broad Meadows, Dundry, near Bristol.
Hull, University College, The Librarian, Hull.
Hurst, Miss Barbara, Rusper Nunnery, Horsham, Sussex.
Hurst, C. P., F.L.S., Landulph Rectory, Saltash, Cornwall.
Hutchinson, R. R., 11 Fryston Avenue, Croydon, Surrey.

Innes, Rev. M. B., Downside Abbey, nr. Bath, Somerset.

[Jackson, A. Bruce, A.L.S., 3 The Avenue, Kew Gardens, Surrey. (Deceased).]
Jekyll, Francis, Munstead Wood, Heath Lane, Godalming, Surrey.
Jones, Arthur, 5 Chestnut Avenue, Leigh, Lancs.
*Jones, Miss Pamela Ann, 9 Uppingham Road, West Derby, Liverpool 13.
Jowett, Miss Edith B., Oreton Mount, Grange-over-Sands, Lancs.

Kennedy, Mrs C. Moore, c/o Westminster Bank Ltd., Bromley, Kent.
Kent, D. H., 75 Adelaide Road, West Ealing, W.13.
Kew, H. Wallis, Penmoil, Cock Lane, High Wycombe, Bucks.
Kew, Royal Botanic Gardens (The Herbarium), Kew, Surrey.
Kirby, Mrs G. E., Sankey House, Brook, near Ashford, Kent.
Kitson, Miss Barbara, Appleton House, near Abingdon, Berks.
Knox, Miss Margaret, 45 Esplanade, Burnham-on-Sea, Somerset.

†Lambert, Miss Joyce M., Botany Dept., Westfield College, Kidderpore Avenue, Hampstead, N.W.3.
Langridge, C., 1 St Joseph's Cottages, Upper Froyle, Alton, Hants.
Lawn, Dr J. G., 6 Lothbury, London, E.C.2.
†Leadbitter, Sir Eric, C.V.O., 160 Addiscombe Road, Croydon.
Leake, Miss P., 17 Westmorland Road, Bromley, Kent.
Leather, Miss Vivien M., c/o Mrs C. Berens, Heath Hill, Ewshott, Farnham, Surrey.
Lee, John R., 96 Finlay Drive, Dennistoun, Glasgow, E.1.
Leeds Central Library, The City Librarian, Central Library, Leeds 1.
Legard, Lady Edith, Maes Court, Tenbury, Worcester.
Leicester Museum and Art Gallery, Leicester.
L Lewis, J. Spedan, Leckford Abbas, Stockbridge, Hants.
*Lewis, R., Electric House, Queen Street, Withernsea, E. Yorks.

†Libbey, R. P., Prospect Cottage, Eldwick, Bingley, Yorks.
Linnean Society of London, The, Burlington House, Piccadilly, W.1.
Little, Miss K. D., 19 The Avenue, Hitchin, Herts.
London Natural History Society (Botanical Section), G. R. A. Short (Secretary), 36 Parkside Drive, Edgware. Middlesex.
†Long, Miss D. A. C., Little Madekin, Denton, near Canterbury.
*Long, Jas. W., Hillside, St John's Road, Newport, Isle of Wight.
L Longfield, Miss C. E., 20 Pont Street, S.W.1.
†Lousley, J. E., 7 Penistone Road, Streatham Common, S.W.16.
*Lowne, B. T., 41 Ladywell Road, Worthing, Sussex.
Lucas, R. L., 20 Clapham Road, Bedford.
L Lyon, A. G., B.Sc., Braco Lodge, Rubislaw Den North, Aberdeen.

L McClintock, D., M.A., Bracken Hill, Platt, Kent.
McCrea, Mrs M. A., 4 Springfield Terrace, King's Road, Guernsey.
Mackechnie, Robert, B.Sc., 9 Skirving Street, Shawlands, Glasgow, S.1.
Mackenzie, Major Roderick, Fawley Court, Henley-on-Thames.
McLean, Prof. R. C., University College, Newport Road, Cardiff.
L MacLeay, Kenneth N. G., Botany Dept., Gordon Memorial College, Khartoum, Sudan.
*Makins, F. K., F.L.S., Great Down Cottage, Bruton, Somerset.
*Manchester Museum, The, The University, Manchester 13.
Marks, C. E., Islington Cemetery, East Finchley, N.2.
Marriott, Miss Mildred M., The Flat, 23 Lathbury Road, Oxford.
Marsden-Jones, E., F.L.S., Close Cottage, Littleton Panell, Devizes, Wilts.
Marsh, Miss F. H. B., J.P., F.L.S., Thelwell, Overbury Road, Hereford.
Martin, Rev. W. Keble, M.A., F.L.S., The Rectory, Combe in Teignhead, Newton Abbot, Devon.
Matthews, Prof. J. R., Botany Department, The University, Old Aberdeen.
Mayne, W. Erskine, Ltd., 25 Queen's Arcade, Belfast.
Megaw, Rev. W. R., B.A., M.R.I.A., 376 Ormeau Road, Belfast, N. Ireland.
Melville, R., B.Sc., Ph.D., F.L.S., Royal Botanic Gardens, Kew, Surrey.
Mills, J. N., M.D., 13 Park Terrace, Cambridge.
Mills, Dr W. H., F.R.S., 23 Storey's Way, Cambridge.
Milne, James Fairweather, M.A., M.B., Ch.B., Rocksley House, Boddam, Peterhead, Aberdeenshire.
†Milne-Redhead, E., M.A., F.L.S., Royal Botanic Gardens, Kew, Surrey.
Milne-Redhead, Dr H., 26 Derby Road, Blackpool.
Milvain, Mrs M., Green Close, Snowshill, near Broadway, Worcs.
Montgomery, Mrs R., Strone, Cairndow, Argyll.
Moon, John McK., "Finglush," Station Road, Greenisland, Co. Antrim, N. Ireland.
†Morgan, Miss Beryl M. C., Braeside, Horley, Surrey.
Morgan, Miss M. C., Lowood, Bourne End, Bucks.
Morley, Earl of, Saltram, Plympton, Plymouth, Devon.
Moss, Rev. W. H. O., R.N., Monkton Wyld Rectory, Charmouth, Dorset.
Mugridge, H. E. R., 80 St Michael's Road, Aldershot.

Nannfeldt, Dr J. A., Uppsala Universitets Institution för Systematisk Botanik, Uppsala, Sweden.
†Nelmes, E., Royal Botanic Gardens, Kew, Surrey.
Nelson, George A., Ph.C., F.L.S., 37 The Crescent, Adel, Leeds 6.
New York Botanical Garden (W. J. Robbins, Director), Bronx Park, New York, N.Y., U.S.A.
Northamptonshire Natural History Society, c/o H. G. Allen, B.Sc. (Hon. Sec., Bot. Sec.), Ivydale, Wootton, Northampton.
Norton, F., "Westward Ho," 3 Pencisely Rise, Cardiff.
Nottingham Public Natural History Museum, Wollatton Hall, Nottingham.

Oslo, Universitetets Botaniske Museum, Trondhjemsvegen 23, Oslo 45, Norway.
Oxford University, Dept. of Botany, The Librarian, Oxford.
Oxford University, Dept. of Forestry, The Librarian, Oxford.

Paget, Lady, Achnashellach, Ross-shire.
Palmer, Hon. W. J. L., The Old House, Wonston, Sutton Scotney, Hants.
Park, K. J F., Rydal Cottage, Station Road, Allendale, Northumberland.
Parkin, J., M.A., F.L.S., Blaithwaite, Wigton, Cumberland.
Partridge, Mrs Francis, Ham Spray House, near Marlborough, Wilts.
Patton, Dr Donald, M.A., B.Sc., Ph.D., F.R.S.E., 15 Jordanhill Drive, Glasgow, W.3.
Pearson, Cyril, 21 Richmond Avenue, Monkstown, Co. Dublin.
Penson, J. H., 11 Well Walk, Hampstead, N.W.3.
Pharmacie, Bibliotheque de la Faculté de, 4 Avenue de la Observatoire, Paris, France.
Phelp, S., 33 Aubert Park, Highgate, N.4.
Phelps, Mrs J. V., Woodbury, East Avenue, Bournemouth, Hants.
Phillips, Edwin Masson, 26 Cheltenham Place, Plymouth, Devon.
Pigott, C. D., Clevedon, Harestone Hill, Caterham, Surrey.
L Polunin, Nicholas, M.S. (Yale), M.A., D.Phil., D.Sc. (Oxon.), The Herbarium, Botanic Garden, Oxford.
Polunin, O. V., M.A., Charterhouse. Godalming, Surrey.
Pope, C. N., 256 Hythe Road, Ashford, Kent.
Pownall, Rev. G. C., Glenroy, Windmill Road, Minchinhampton, Glos.
†Price, W. R., 64 Elsworthy Road, N.W.3.
Prime, C. T. M.A., F.L.S., 147 Upper Selsdon Road, Croydon, Surrey.
†Pugsley, H. W., B.A., 81 Alexandra Road, Wimbledon, S.W.19.

Raison, C. E., Barnet Cottage, Westcott, Dorking, Surrey.
Ramsbottom, J., O.B.E., M.A., Dr.Sc., P.P.L.S., Keeper, Dept. of Botany, British Museum (Natural History), Cromwell Road, S.W.7.
Raven, Rev. Prof. C. E., The Lodge, Christ's College, Cambridge.
†Raven, John E., Trinity College, Cambridge.
Rawlins, Miss E., Hubbards Hall, Harlow, Essex.
†Rees, Mrs F. L., 5 Hill Park, Tenby, Pembrokeshire.
Rees, John, B.A., M.Sc., Y Faerdref, Rhyd-y-blewyn Road, Cardiff.
L Richards, Mrs H. M., Caerynwch, Dolgelley, N. Wales.
Richards, Dr P. W., The Botany School, Cambridge.
Ridley, H. N.. C.M.G., F.R.S., 7 Cumberland Road, Kew Gardens, Surrey.
Ridley, Hon. Mrs J., Mockbeggars Hall, Claydon, Suffolk.
*†Rilstone, F., A.L.S., Lambourne Hill, Penhallow, Truro, Cornwall.
*Rob, Miss C. M., F.L.S., Catton Hall, Thirsk, Yorks.
Roberts, G. A., 53 Broadway, Fulford, Yorks.
L Roberts, T. V., 21 Lower Park, Putney Hill, S.W.15.
Roche, The Lady, Chadlington, Oxford.
*Rose, Mrs Eric, Leweston Manor, Sherborne, Dorset.
†Rose, Francis, B.Sc., Boxtree House, East Malling, Kent.
Russell, Lady Victoria, The Ridgeway, Shere, Guildford, Surrey.

Salisbury, Sir Edward J., C.B.E., D.Sc., Sec.R.S., F.L.S., Royal Botanic Gardens, Kew, Surrey.
†Salmon, Miss Hilda M., The Yews, Broughton, Hants.
Sandwith, Mrs Cecil, 26 Canynge Square, Clifton, Bristol. 8.
†Sandwith, N. Y., M.A., F.L.S., The Herbarium, Royal Botanic Gardens, Kew, Surrey.
Saunders, E. Arthur, M.A., M.B., F.R.C.P., The Lawn, Barcombe Mills, Nr. Lewes, Sussex.
Saunders, Miss E. F., Ortler, Bouncers Lane, Prestbury, Cheltenham, Glos.
Severn, Lady, Winterbrook Lodge, Wallingford, Berks.

Seward, Mrs O. G., Weston House, near Petersfield, Hants.
Shaw, G. A., 18 Leyburn Grove, Shipley, Yorks.
†Shaw, H. K. A., B.A., F.L.S., Royal Botanic Gardens, Kew, Surrey.
Short, G. R. A., 36 Parkside Drive, Edgware, Middlesex.
Sidwell, R. W., Knowle Hill, Badsey Lane, Evesham, Worcs.
†Simpson, N. Douglas, M.A., F.L.S., F.R.M.S., Maesbury, 3 Cavendish Road, Bournemouth.
Skene, Prof. Macgregor, D.Sc., University, Bristol, 8.
Sladen, W. J. L., M.B., B.S., 28 Grove Way, Esher, Surrey.
Slater, Dan C., 30 Pembroke Road, Sevenoaks, Kent.
*†Sledge, Dr W. A., 9 St Chad's Drive, Headingley, Leeds, 6.
Small, Prof. J., D.Sc., Dept. of Botany, Queen's University, Belfast, N.I.
Smith, Dr H. B. Willoughby, M.B., F.R.C.S., St Clements, 9 Carson Road, Gainsborough, Lincs.
Smith, R. L., 24 Grand Avenue, Ely, Cardiff, Glam.
Smith, Prof. Sir Wm. Wright, D.Sc., Royal Botanic Garden, Edinburgh, 4.
South London Botanical Institute, 323 Norwood Road, London, S.E.24.
L Southall, A. W., Clifford's Mesne, Newent, Glos.
Southport, Botanic Gardens Museum, The Curator, Southport.
†Sowter, F. A., Ashstead, 9 North Avenue, Leicester.
Stationery Office, H.M., Princes Street, Westminster, S.W.1.
Stephenson, Rev. Dr T., D.D., The Museum, Torquay, Devon.
Stern, Colonel F. C., O.B.E., M.C., Highdown, Goring-by-Sea, Sussex.
Stevenson, Miss E. H., 28 Foxcombe Road, Weston, Bath, Somerset.
Stuart-Edwards, J. J., Imperial Hotel, Exmouth, S. Devon.
Swaine, Miss A. K., Pisang Cottage, Nailsea, Somerset.
*Swann, Eric L., 282 Wootton Road, King's Lynn, Norfolk.

L Taylor, Dr G., British Museum (Nat. History), Cromwell Road, S.W.7.
Taylor, Miss M., 6 Kent Gardens, Ealing, W.13.
†Taylor, Peter, 12 Manton Drive, Luton, Beds.
Taylor, S. A., 34 Nelson Street, Leicester.
Temperley, Geo. W., Restharrow, Apperley Road, Stocksfield, Northumberland.
Thomas, Charles, Arden, 48 Manor Road, North Edgbaston, Birmingham 16.
Thomas, Miss E. Mary, Moorfield, Nottage, Porthcawl, Glam.
Thorold, C. A., Hele, Bradninch, Devon.
Tindall, Mrs K. B., West Downs, Winchester, Hants.
Todd, Miss E. S., Aldbourne, Marlborough, Wilts.
Toke, Chas. Hugh, The Haven, Green Lane, Crowborough, Sussex.
Townsend, C. C., 68 Gloucester Road, Cheltenham, Glos.
Travis, W. G., 9 Barton Road, Liverpool 9.
Tunbridge Wells Municipal Museum, 6 Upper Grosvenor Road, Tunbridge Wells, Kent.
Turnbull, Miss E., Stone Lodge, Vines Lane, Hildenborough, Kent.
Turner, A., 140 Pine Street, Nelson, Lancs.
Turrill, W. B., D.Sc., F.L.S., Keeper, The Herbarium, Royal Botanic Gardens, Kew, Surrey.
Tutin, T. G., University College, Leicester.
*Twist, A. F., Tarrant Gunville, Blandford, Dorset.

Ullman, Lt.-Col. R. B., Trove, New Road, Esher, Surrey.

†Vachell, Miss Eleanor, F.L.S., Fairfield, Ely Road, Llandaff, Cardiff.
Valentine, D. H., M.A., Ph.D., F.L.S., Dept. of Botany, University Science Laboratories, South Road, Durham.
Vaughan, John Griffith, B.Sc., 8 Grawen, Brecon Road, Merthyr Tydfil, Glam.
†Verdcourt, B., 86 Claremont Road, Luton, Beds.
Victoria, The Public Library of, Melbourne, c/o Henry Sotheran Ltd., 2 Sackville Street, Piccadilly, W.1.
Vivian, Miss C., 37 Wilton Crescent, London, S.W.1.

†Wade, A. E., F.L.S.. Dept. of Botany, National Museum of Wales, Cardiff.
Waldy, Hon. Mrs H. P., Sonameg, Higher Sea Lane, Charmouth, Dorset.
*Wales, National Museum of, Dept. of Botany (Keeper, H. A. Hyde, M.A., F.L.S.), Cardiff.
*†Wallace, E. C., 2 Strathearn Road, Sutton, Surrey.
Walters, S. M., St John's College, Cambridge.
†Warburg, Dr E. F., Bedford College, Regent's Park, N.W.1.
Warner, S. Allen, M.P.S., Whitelea, Broadway, Didcot, Berks.
L†Warren, W. E., Selborne, Horsell Rise, Horsell, Woking, Surrey.
Washington, U.S. Dept. of Agriculture, The Librarian, Washington, D.C., U.S.A.
Watchorn, Dr Elsie, 25 Luard Road, Cambridge.
Watson, Wm., 245 Southlands Road, Bickley, Kent.
*LWatt, Mrs H. Boyd, M.B.O.U., F.Z.S., Cintra Lodge, 7 Knole Road, Bournemouth.
Watts, Lt.-Col. G. A. R., Highbury, Victoria Road, Fleet, Hants.
Webster, Miss M. McCallum, c/o Bank of Scotland, Macduff, Banff.
L Wedgwood, Mrs, The Leaze, Barnfield, Marlborough, Wilts.
Wedgwood Herbarium, The, Marlborough College, Wilts.
Welch, Mrs B., B.Sc., 49 Lichfield Court, Richmond, Surrey.
Wells, Mrs E. M., 4 Chellow Terrace, Chellow Dene, Bradford, Yorks.
West, Dr C., " The Cowl House," Holt Wood, Aylesford, Kent.
Wethered, Miss D. M., Byways, Cleeve, near Bristol.
Weyer, Major B. G. Van de, South Marston Manor, Swindon, Wilts.
†Whellan, J. A., 42 Stamford Street, Liverpool 7.
Whiting, Miss M. M., Rosemary Cottage, Blythburgh, Suffolk.
Whitwell, Mrs, Almond Trees, Abberbury Road, Iffley, Oxford.
Whyte, James S., 31 Hayswell Road, Arbroath, Angus.
Wickham, Miss C., Edington House, near Bridgwater, Somerset.
Wilkinson, J. S., 26 Golder's Rise, Hendon, N.W.14.
Willan, Mrs Hugh, Bridges, Teffont, Salisbury, Wilts.
Williams, E. G., M.A., F.R.I.C., 61 Earlsway, Curzon Park, Chester.
Williams, Mrs F. R., 234 Highland Avenue, Winchester, Mass., U.S.A.
Williams, I. A., West Hall, Kew Gardens, Surrey.
Williams, John E. Miles, High Street, Berkeley, Glos.
Williams, Rev. M. L., 8 Bedford Road, Horsham, Sussex.
†Wilmott, A. J., M.A., F.L.S., F.R.G.S., Dept. of Botany, British Museum (Natural History), Cromwell Road, S.W.7.
Wilson, Albert, F.L.S., Tir-y-Coed, Ro Wen, near Conway.
Wolley-Dod, Lt.-Col. A. H., Berkeley Cottage, Mayfield, Sussex.
Wood, Miss A. F., The Cottage, Hedsor Park, Bourne End, Bucks.
Woodhead, J. E., B.Sc., F.I.C., Ph.C., 325 Kennington Road, London, S.E.11.
L Wright, Dr F. R. Elliston, Braunton, N. Devon.

Yeoman, Miss Ruth, The Green, Brompton, Northallerton, Yorks.
York Public Library, City of, York.
Young, Rev. Andrew, Stonegate, Tunbridge Wells, Kent.
Young, Donald P., B.Sc., Ph.D., A.R.I.C., " Green Woods," 3 Essendon Road, Sanderstead, Surrey.
L Young, Miss Gertrude A., 5 Woodlands Terrace, Glasgow, C.3.

ADDENDUM (in printing) up to 20th February 1947.

Atkinson, Robert, Rocky Lane, Henley-on-Thames, Oxon.
Birkett, Lady, 41 Tite Street, Chelsea, S.W.3.
Butler, Miss K. I., 18 Morgan Road, Reading, Berks.
Clokie, Mrs H., The Herbarium, Dept. of Botany, Oxford University.
Copenhagen, Botanisk Centralbibliotek, Gothersgade 130, Copenhagen, Denmark.
Davies, Miss Elizabeth W., George's Plot, Abbots Leigh, nr. Bristol.
Dowdle, Miss D. A., 2 Cradock Avenue, Hebburn, Co. Durham.

Duffy, Thos. R., 18 Upper Beau Street, Everton, Liverpool 5.
Esplan, Mrs Ceres, 6 St Leonard's Road, Horsham, Sussex.
Farquharson, Mrs John, De Vaux, Harnham, Salisbury, Wilts.
Garratt, Mrs B. E. M., 42 Dunstable Road, Luton, Beds.
Isaac, Miss Margaret, 30 Pond Place, Chelsea, S.W.3.
Steuart, Mrs G. M., Down, Whimple, Devon.

SUMMARY OF THE ABOVE MEMBERSHIP LIST.

Non-Subscribing Members.			
Honorary Members	...	16	
Corresponding Members	...	4	
			— 20
Subscribing Members.			
Ordinary Members	...	368	
Life Ordinary Members	...	19	
Exchange Members	...	27	
Life Exchange Members	...	1	
			— 415
Total Membership	...		435

GEOGRAPHICAL LIST OF MEMBERS

(As at 20th February 1947)

Localities are as far as possible placed within the vice-counties in the following order :—S.W., S., S.E., W., C., E., N.W., N., N.E., smaller towns and villages being inset under the larger towns.

To make this list more useful to members it is intended, at a later date, to give the name of the Local Secretary and/or Recorder, and the best Local Flora or local list of smaller areas where no Flora is available, for each vice-county.

It is not possible to give this information at present as the existing list of Local Secretaries and Recorders is out of date and far from complete, and a good deal of work requires to be done to make it ready for publication.

S, Channel Is.
Jersey. Arséne, Bro. Louis.
Guernsey. McCrea, Mrs M. A.

1, W. Cornw.
S.W. Land's End;
St Ives. Drabble, Mrs E.
C. Truro;
Penhallow. Rilstone, F.

2, E. Cornw.
S.E. Saltash. Adams, Rev. J. H.; Hurst, C. P.

3, S. Devon.
S.W. Plymouth. Phillips, E. M.
Plympton. Morley, Earl of.
S.E. Dartmouth;
Churston Ferrers. Findeisen, K. D.
Torquay. Stephenson, Rev. Dr T.
Newton Abbot. Martin, Rev. W. Keble.
Exmouth. Stuart-Edwards, J. J.
Whimple. Steuart, Mrs G. M.
E. Bradninch. Thorold, C. A.

4, N. Devon.
W. Holsworthy. Harvey, Rev. H. H.
N. Barnstaple. Brokenshire, F. A.
Braunton. Wright, Dr F. R. E.
Woolacombe. Colville, Hon. Margaret.

5, S. Som.
S. Chard;
Church Stanton. Horsfall, Miss Anne.
C. Taunton;
Corfe. Fox, Mrs Croker.
N. Minehead;
Exford. Amherst, C. T.

6, N. Som.
S.W. Bridgwater;
Edington. Wickham, Miss C.
Stawell. Graham, Commander R. D.
S.E. Bruton. Makins, F. K.

W. Burham. Knox, Miss M.
Winscombe. Rawlins, Miss E.
N. (Bristol: see 34)
Downside. Innes, Rev. M. B.
Nailsea. Swaine, Miss A. K.
Cleeve. Wethered, Miss D. M.
Dundry. Hughes, Dr M.
N.E. Bath Barton, Miss F. M.
Weston. Green, T. H.; Stevenson, Miss E. H.

7. N. Wilts.
Harnham. Farquharson, Mrs John.
N. Devizes;
Littleton Panell. Marsden-Jones, E.
Wootton Bassett;
Broad Town. Grigson, G.
N.E. Swindon. Grose, J. D.
South Marston. Weyer, Major B. G. van de.

8. S. Wilts.
S.W. Donhead St Mary. Dunston, Capt. A. E. A.
S.E. Salisbury. Congreve, Lt.-Col. C. R.; Goddard H. J.; Willan, Mrs H.
W. Seagry. Barnes, Mrs E.
Colerne. Frowde, Miss D. M.
E. Marlborough. Marlborough College (Wedgwood Herb.), Mrs Wedgwood.
Aldbourne. Todd, Miss E. S.
N.E. Ham. Partridge, Mrs F.

9, Dorset.
S.E. Swanage. Bloomer, H. H.
W. Charmouth. Moss, Rev. W. H. O.; Waldy, Hon. Mrs H. P
Beaminster. Graveson, A. W.
Blandford, Twist, A. F.
E. Wimborne;
Crichel. Hardinge of Penshurst, Hon. Lady.
N. Sherborne. Rose, Mrs E.

10, Wight.
N. Newport. Long, J. W.

11, S. Hants.
S.W. Bournemouth. Phelps, Mrs J. V.; Simpson, N. Douglas; Watt, Mrs H. Boyd.
Fordingbridge. Ellen, Miss D. M.
Lymington;
Keyhaven. Davy, Lady.
Sway. Foggitt, Mrs.
S. Fareham. Walters, S. M.
N.W. Broughton. Salmon, Miss H.
N. Winchester (& see 12). Tindall, Mrs K. B.
Sparsholt. Baker, Rt. Hon. H. T.
N.E. Petersfield (& see 12). Seward, Mrs O. G.

12, N. Hants.
S. Winchester (& see 11).
Wonston. Palmer, Hon. W. J. L.
S.E. Petersfield (& see 11).
Alton. Langridge, C.
Liss. Baring, Hon. Mrs Guy.
W. Stockbridge;
Leckford. Lewis, J. Spedan.
Andover. Cory, Miss A. M.

N.E. Aldershot. Mugridge, H. E. R.
Fleet. Watts, Lt.-Col. G. A. R.

13, W. Suss.
S.W. Felpham. Cobbe, Miss A. B.
S.E. Worthing. Gregor, Rev. A. G.; Lowne, B. T.
Goring-by-Sea. Stern, Col. F. C.
Durrington. German, Mrs P.
Brighton (& see 14). Brighton Public Library.
Hassocks. Eliot, Lady Alethea.
C. Pulborough. Bull, Mrs H.
N.E. Horsham. Esplan, Mrs Ceres; Hurst, Miss B.; Williams, Rev. M. L.

14, E. Suss.
S.W. Lewes;
E. Chiltington. Burder, L. A. W.
Barcombe. Saunders, Dr E. A.
C. Uckfield;
Mayfield. Wolley-Dod, Lt.-Col. A. H.
N.W. E. Grinstead;
Wych Cross. Dent, G.
N. Crowborough. Eyre, Mrs R. S. K.; Toke, C. H.
(Tunbridge Wells, see 16).
N.E. Stonegate. Young, Rev. Andrew.

15, E. Kent.
C. Ashford. Pope, C. N.
Brook. Kirby, Mrs G. E.
E. Denton. Long, Miss D. A. C.
N.W. Maidstone (& see 16).
Aylesford. West, Dr C.
N. Whitstable. Bell, P. R.
N.E. Sandwich. Day, Miss E.

16, W. Kent.
S. Tunbridge Wells. Municipal Museum.
Tonbridge;
Hildenborough. Turnbull, Miss E.
E. Maidstone (& see 15).
West Malling. Gray, H.
East Malling. Rose, F.
C. Sevenoaks. Slater, D. C.
Platt. McClintock, D.
N.W. London;
Bromley. Coxhead, G. W.; Kennedy, Mrs C. M.; Leake, Miss P.
Bickley. Browning, F. R.; Watson, W.
Beckenham. Howell, W.
N. Gravesend;
Meopham. Baker, C. M.
Woolwich;
Welling. Ambrose, F. V.

17, Surrey.
S.W. Haslemere. Swanton, E. W.
Godalming. Allen, G. O.; Bishop, E. B.; Jekyll, F.
Witley. Ash, G. M.
Hindhead. Gray, Dr R. E. G.
Charterhouse. Polunin, O. V.

S.E. Redhill;
Horley. Morgan, Miss B. M.
W. Farnham. Crundwell, A. C.; Leather, Miss V. M.
Guildford. Russell, Lady Victoria.
C. Epsom. Ellis, A. E.
Dorking. Raison, C. E.
E. Caterham. Pigott, C. D.
N. Wisley. Gilmour, J. S. L.
Esher. Sladen, Dr W. J. L.; Ullman, Lt.-Col. R. B.
Woking. Warren, W. E.
N.E. London.
Kew Royal Botanic Gardens. Jackson, A. B.; Melville, Dr R.; Milne-Redhead, E.; Nelmes, E.; Salisbury, Sir Edward J.; Sandwith, N. Y.; Shaw, H. K. A.; Turrill, Dr W. B.
Baker, E. G.; Williams, I. A.
Richmond. Collenette, C. L.; Ramsbottom, Dr J. R.; Welch, Mrs B.
Putney. Roberts, T. V.
Wimbledon. Conder, P. J.; Pugsley, H. W.; Wilmott, A. J.
Kennington. Woodhead, J. E.
Streatham Common. Lousley, J. E.
Tulse Hill. Sherrin, W. R.; South London Bot. Inst.
Croydon. Hutchinson, R. R.; Leadbitter, Sir Eric; Prime, C. T.
Sanderstead. Young, Dr D. P.
Sutton. Wallace, E. C.

18, S. Essex.
S.W. Woodford Green. Hensler, Major E.

19, N. Essex.
S.W. Harlow. Rawlins, Miss E.
E. Colchester. Brown, G. C.
Layer Marney. Campbell, Miss M. S.

20, Herts.
S.W. Rickmansworth. Taylor, Dr G.
W. Tring. Dandy, J. E.
Hemel Hempstead. Bannister, H. E.
N. Hitchin. Little, Miss K. D.

21, Middx.
S.E. London (S.E., see 17).
London, S.W. British Museum (Nat. Hist.)—Alston, A. H. G.; Dandy, J. E.; Ramsbottom, Dr J. R.; Taylor, Dr G.; Wilmott, A. J.
Birkett, Lady; Davies, Mrs H. R.; Gladstone, Viscountess; Glyn, Hon. Mrs Maurice; Graham, Mrs E.; Graham, Rex.; Hardinge, Hon. Lady, of Penhurst; Horticultural Society, The Royal; Isaac, Miss M.; Longfield, Miss C. E.; H.M. Stationery Office; Trethewy, A. W.; Vivian, Miss C.
W. Campbell, Miss M. S.; Kent, D. H.; Linnean Society of London; Taylor, Miss M.
W.C. Crichton-Stuart, Lady Colum.
E.C. Holland, J. S.; Lawn, Dr J. G.
N.W. Harrison-Church, Mrs D. V.; Lambert, Miss J.; Penson, J. H.; Price, W. R.; Warburg, Dr E. F.; Wilkinson, J. S.
N. Marks, C. E.; Phelp, S.
C. Edgware. Short, G. R. A. (London Nat. Hist. Soc.).
N. Tottenham. Brooke, Miss W. M. A.

22, Berks.

C. Reading. Butler, Miss K. I.
N. Didcot. Warner, S. Allen.
Wallingford. Severn, Lady.
N.E. [Oxford, see 23].
Cumnor. Chapple, J. F. G.
Appleton. Kitson, Miss B.

23, Oxon.

S. Oxford. Beak, P. G.; B. H. Blackwell Ltd.; Brenan, J. P. M.; Burnett, J. H.; Chapple, J. F. G.; Clokie, Mrs H.; Creed, Dr R. S.; Haynes, G.; Marriott, Miss Mildred M.; Polunin, Dr N.; University Depts. of Botany and Forestry.
Headington. Gough, J. W.
Wheatley. Hassall, Mrs B.
Iffley. Whitwell, Mrs M.
S.E. Henley-on-Thames. Atkinson, R.
W. Bampton. Davey, Dr T. R.
C. Woodstock;
Tackley. Evetts, Mrs E. F.
N.W. Chadlington. Roche, The Lady.

24, Bucks.

S.W. Henley-on-Thames;
Fawley. Mackenzie, Major R.
Marlow;
Bourne End. Morgan, Miss M.; Wood, Miss A. F.
High Wycombe. Kew, H. Wallis.
Naphill. Green, Capt. P. S.
S.E. Slough. Basden, E. B.

25, E. Suff.

S. Ipswich;
Claydon. Ridley, Hon. Mrs J.
Woodbridge. Barrett, Miss Primrose.
N.E. Southwold;
Blytheburgh. Whiting, Miss M. M.

26, W. Suff.

N.W. Mildenhall;
Holywell Row. Bingley, F. J.

27, E. Norf.

C. Norwich. Ellis, E. A.
N.E. North Walsham;
Happisburgh. Cator, Miss Diana.

28, W. Norf.

S. Mundford. Adeane, Hon. Mrs H.
W. King's Lynn. Swann, E. L.
N.E. Walsingham. Gurney, J.

29, Cambs.

S. Cambridge. Adair, G. S.; Mills, Dr J. N.; Mills, Dr W. H.; Raven, Rev. Prof. C. E.; Raven, J. E.; Richards, Dr P. W.; University Botany School; Walters, S. M.; Watchorn, Dr Elsie.

30, Beds.
S.W. Leighton Buzzard. Crisp, W. C.
S. Dunstable. Coales, W. D.; Garratt, Mrs B. E. M.
S.E. Luton. Chesham, F. L.; Dony, Dr J. G.; Taylor, P.; Verdcourt, B.
C. Bedford. Cardew, Major J. W.; Lucas, R. L.
Sandy. Allison, Miss Jean.
N.W. Harrold. Day, Miss G. H.

32, Northants.
C. Northampton;
Wootton. Allen, H. G.; Northants Nat. Hist. Soc.
E. Wellingborough. Ekins, Miss Gillian M.
N.E. Wansford. Gilbert, John L.

33, E. Glos.
S.W. Stroud (& see 34).
Bussage. Abell, Rev. R. B.
Gloucester. Fleming, Dr G. W. T. H.
Hucclecote. Haines, J. W. and Mrs J. W.
C. Cheltenham. Foster, M.; Townsend, C. C.
Andoversford. Abell, Miss L.
Prestbury. Saunders, Miss E. F.

34, W. Glos.
S.W. Bristol (incl. Clifton: & see 6). Davie, Dr J. H.; Sandwith, Mrs Cecil; Skene, Prof. Macgregor.
S. Abbots Leigh. Davies, Miss E. W.
N.W. Berkeley. Williams, J. E. M.
N. Newent. Southall, A. W.
N.E. (Stroud, see 33).
Minchinhampton. Pownall, Rev. G. C.

36, Heref.
C. Hereford. Bland, Harold.
Mordiford. Marsh, Miss F. B. H.
Bridge-Sollars. Charteris, Hon. G.
E. (Near Malvern, see 37).
Colwall. Day, F. M.

37, Worcs.
S.E. Chipping Campden;
Broadway. Milvain, Mrs M.
Evesham. Sidwell, R. W.
W. Malvern (& see 36).
Malvern Wells. Boucher, W. W.
N.W. Tenbury. Legard, Lady Edith.

38, Warw.
N.E. Birmingham. Birmingham Public Libraries; Burges, Dr R. C. L.; Cadbury, Miss D. A.; Hardaker, W. H.
Edgbaston. Thomas, C. A.
Shirley. Adams, L. T.
Sutton Coldfield;
Four Oaks. Hill, S. Ashton.

39, Staffs.
C. Stafford;
Penkridge. Bates, Dr G. H.
N. Newcastle-under-Lyme. Edees, E. S.
Hanley. Bemrose, G. J. V.

70, Cumb.
S.E. (Appleby, in 69).
Maulds Meaburn. Dent, Mrs R. W.
N. Carlisle. Carlisle Public Library, Museum and Art Gallery.
N.E. Wigton. Parkin, J.

72. Dumfr.
Thornhill. Daly, Mrs Bowes.

77, Lanark.
Glasgow. Braid, Prof. K. W.; Lee, J. R.; Mackechnie, R.; Patton, Dr D.; Young, Miss G. A.

79, Selk.
Galashiels. Hayward, Miss I. M.

83, Edinb.
Edinburgh. Cumming, R.; Smith, Prof. Sir William Wright.

85, Fife with Kinross.
St Andrews. Graham, Prof. R. J. D.

88, M. Perth.
Aberfeldy. Campbell, Miss M. S.

90, Forfar.
Arbroath. Duncan, Miss U.; Whyte, J. S.

92, S. Aberd.
Aberdeen. Matthews, Prof. J. R
Rubislaw Den North. Lyon, A. G.

93, N. Aberd.
Peterhead. Milne, Dr J. F.

94, Banff.
Macduff. Webster, Miss M. McCallum.

98. Argyll.
Strone. Montgomery, Mrs R.

104, M. Ebud.
Skye;

Duntuilm. Gordon, Seton

105, W. Ross.
Achnashellach. Paget, Lady.

H.17, N.E.Galw.
Athenry. Gough, Mrs H.

H.21, Dublin.
Dublin. National Museum of Ireland.
Rathgar. Brunker, J. P.
Monkstown. Pearson, C.
Glasnevin. Botanic Gardens.

H.38, Down.
Belfast. Carrothers, E. N.; Mayne, W. Erskine Ltd.; Megaw, Rev. W. R.; Small, Prof. J.

H.39, Antrim.
Portrush. Chase, C. D.
Greenisland. Moon, J. McK.

MEMBERS OVERSEAS.

EUROPE.
Germany. Coburg. Kükenthal, Dr G.
Austria. Vienna. Rechinger, Dr K. H.; Ronniger, Dr Karl.
Czechoslovakia. Brno. Masaryk University.
Norway. Oslo. Botanical Museum of the University.
Bergen. Bergens Museum.
Sweden. Göteborg. Botaniska Trädgard (Dr C. Skottsberg, Director).
Stockholm. Almquist, Dr E. B.; Swedish Academy of Sciences.
Uppsala. Nannfeldt, Dr J. A.
Holland. Amsterdam. Jansen, P.; Vermeulen, Dr P.
Switzerland. Basle. Aellen, Dr Paul.
Geneva. Conservatoire et Jardin Botanique.
France. Seine Marit.
Asnières. Senay, P.
Le Havre. Soc. Linn. de la Seine Maritime.
Seine et Oise.
Paris. Faculté de Pharmacie; Centre National de la Recherche Scientifique, Service Documentation.
Denmark. Copenhagen. Botanisk Centralbibliotek.

AFRICA.
Cape Province.
Cape Town. Adamson, Prof. R. S.
Sudan.
Khartoum. MacLeay, K. N. G.

N. AMERICA.
CANADA.
Montreal. Institute botanique de l'Université.
UNITED STATES.
Massachusetts.
Cambridge. Fernald, Prof. M. L.; Gray Herbarium.
Winchester. Williams, Mrs F. R.
New York State.
New York. New York Botanical Garden.
Brooklyn. Brooklyn Botanical Gardens.
Ithaca. N.Y. State Coll. of Agriculture, Cornell University.
D.C. Washington. U.S. Dept. of Agriculture.
Illinois.
Chicago. Crerar Library, John.
Missouri.
Baltimore. John Hopkins University.
St Louis. Missouri Botanical Gardens.
California.
Berkeley. University of California.

SOUTH AMERICA.
BRITISH GUIANA. Fanshawe, D. B.

AUSTRALIA.
Victoria.
Melbourne. Public Library of Victoria.

NEW GUINEA (BRITISH).
Dogurla. Cruttwell, Rev. N. E. G.

NOW IN THE PRESS—TO BE PUBLISHED SHORTLY

FLORA OF GLOUCESTERSHIRE

Flowering Plants, Ferns, and their Allies

EDITED BY

The Rev. H. J. RIDDELSDELL, M.A., A.L.S.
G. W. HEDLEY, M.A., F.C.S., and
W. R. PRICE, B.A., F.L.S.

On behalf of THE COTTESWOLD NATURALISTS' FIELD CLUB

Demy 8vo., about 750 pp., with Frontispiece in colours after a water-colour, many Half-Tone Illustrations of plants and typical scenery, and Maps of Botanical Districts, Geology, Rainfall, Grassland and Soil.

Introduction, comprising chapters on Physiography, Climate, Geology, Superficial Deposits, Vegetation, Botanical Districts and Botanical Statistics.

Recent classification of genera and species adopted. Botanical Names corrected according to the International Rules of Botanical Nomenclature. Adequate Synonymy. Generally accepted English Names given. Native or other status. Habitat. Records under 7 Botanical Districts, with recorders' names. First Records for Vice-counties 33 and 34. Gloucestershire dialect names and Notes.

History of Botany in Gloucestershire.

Lists of Recorders, Specialists, Herbaria consulted, little-known Place Names, Abbreviations and New Names and Combinations Published.

Bibliography and Index.

Dedicated to the memory of the many Contributors to the Flora who have not lived to see the results of their labours.

£2 2s 0d post free

Published by the COTTESWOLD NATURALISTS' FIELD CLUB, c/o Art Gallery and Museum, Cheltenham, from whom copies may be obtained.

Printed by T. BUNCLE & Co. LTD., Arbroath, Scotland.

B.E.C. PUBLICATIONS

To be obtained from the Hon. General Secretary, J. F. G. CHAPPLE, Yardley Lodge, 9 Crick Road, Oxford.

REPORTS:—Vols. I and II (1879-1910), years available, 2/6 each. Vols. III-VI, prices on application; a few parts not available. Vol. VII (1923-1925), 40/-. Vols. VIII-XI inclusive (1926-1937), 42/- each; Vol. XII (1938-1944), 47/-. Reduction to members: 25 per cent. on first purchase of part or volume.

BRITISH PLANT LIST, ed. 2. Druce (1928). Bound, 5/-; unbound and interleaved, 4/6; Paper Cover, 3/6; Postage, 8d.

THE COMITAL FLORA OF THE BRITISH ISLES. Druce (1932). Bound, 25/-; Bound and Interleaved, 30/-; Unbound, 17/6; Postage, 8d. (Prices increased to cover higher costs of binding and paper.)

THE FLORA OF NORTHAMPTONSHIRE. Druce (1930). Members are now given the opportunity of purchasing this book at half-price, i.e., 10/- (plus 8d postage). The price to non-members remains at 20/-.

REPRINTS FROM THE SOCIETY'S REPORTS

(Year of Report in parentheses. In paper covers unless otherwise indicated).

	s.	d.
HISTORICAL		
Annals of the B.E.C. Foggitt (1932)	2	0
Samuel Brewer's Diary (N. Wales). Hyde (1930)	1	6
Oxford Botanical Garden. Druce. (1923)	2	6
Du Bois Herb., British Plants in. Druce (1927)	2	0
Herbaria. Druce (1922)	1	0
Druce, Presentation to (1925)	1	0
Druce, Eightieth Birthday (1930)	1	0
Druce, Publications of (1931)	1	0
OBITUARIES		
Bonaparte, Prince Roland; Corstorphine, R. H.; Riddelsdell, Rev. H. J.; Rothschild, Hon. N. C.; Wheldon, J. A. ... ... each	1	0
NOMENCLATURE		
Duplicated Binomials. Druce (1924)	1	0
Note on Nomenclature. Druce (1926)	1	0
Notes . . . and Corrections to Br. Pl. List, ed. 2. Druce (1928)	1	6
Plant Nomenclature. Sprague (1932)	2	0
Nomenclature and Corrections to British Plant List. Wilmott (1939-40; 1941-2; 1943-4; 1945) ... each	1	0
TOPOGRAPHICAL		
Local Floras. Druce (1932)	2	0
Vice-counties. Wilmott (1941-2)	1	0
Adaptation in Braunton Burrows. Wright (1932)	2	6
A List of Plants from the Isle of Wight. Drabble & Long (1931)	1	6

PUBLICATIONS FOR SALE (Continued).

Flora of Surrey [Notes on]. Druce (1931)	1	6
Ivel District of Hertfordshire. Little (1932)	1	0
Ivel District of Beds. Little (1935)	1	6
Berks and Oxon. Brenan (1943-4)	1	6
Emendations to C.F. for Beds. Dony (1943-4)	1	6
Additions to the Flora of Northamptonshire. Bishop (1933)	1	6
A List of Glamorgan Plants. Vachell (1933)	2	0
Notes on the Flora of Buxton and district. Hall (1939-40).	1	0
Staffs, additions to C.F. Edees (1941-2)	1	0
The Flora of West Ross. Druce (1929)	4	6
W. Sutherland. Wilmott and Campbell (1943-4) (Lochinver)	1	0
A Visit to Scalpay (v.c. 110). Campbell (1941-2)	1	0
Three Weeks' Botanising in Outer Hebrides. Campbell (1936)	2	0
From John o' Groats to Lands End. Davy (1925)	1	0
Flora Zetlandica. Druce (1922)	2	6
Notes on the Vegetation of Zetland. Price (1928)	1	0
Flora of Foula. Turrill (1928)	1	6
Problems of Plant Distribution. Temperley (1934)	0	6
Botanising in Norway. Druce (1922)	1	0
Norway and Sweden. Druce (1925)	1	0
Egypt and Palestine. Druce (1925)	1	0
Le Lautaret. Druce (1926)	1	0
A Visit to the Canaries. Druce (1927)	1	0
Botanising in Algeria. Chase (1930)	1	0
Plants new to the Cyprus Flora. Druce (1930)	1	0

ALIENS

Adventive Flora of the Port of Bristol. Sandwith (1932)	2	6
Southampton Docks. Brenan (1945)	1	0
Adventive Flora of the Port of Cardiff and additions. Wade & Smith (1925 and 1926)	2	0
Adventive Flora of Burton-upon-Trent. Curtis (1930) ...	1	6
Adventive Flora of Burton-upon-Trent. Burges (1943-44)	1	0

SYSTEMATIC

Extinct and Dubious Plants of Britain. Druce (1919) ...	3	0
The British Forms of Ranunculus acer L. Drabble (1930)	1	6
Ranunculus bulbosus L. and its Varieties in Great Britain. Drabble (1932)	1	0
Notes on the British Batrachia. Pearsall (1921)	1	6
The British Batrachia. Pearsall (1928)	2	6
The British White Waterlily, Nymphaea alba L. Dalgleish (1930)	1	0
Cardamine pratensis. Scott-Elliot (1932)	1	0
The British Erophila. Druce (1929)	2	0
Viola odorata. Walters (1943-44)	1	0
Distribution of Pansies in England and Wales. Drabble (1926)	1	6
Pansy Records. Drabble (1928)	0	6
Floral Variation in Stellaria Holostea. Brenan and Lousley (1943-4)	1	0
Variation and Cerastium vulgatum. Turrill (1933) ...	1	6
Prunus domestica L. Druce (1919)	1	0
Rubus, stability in. Rilstone (1945)	1	0
Some English Alchemillas. Jaquet (1927)	1	0
Crataegus. Batko: Dandy (1943-4)	3	0

REPRINTS FOR SALE (continued).

British Brambles. Trower (1928)	3	6
Bramble Notes. Watson (1930)	1	6
Some British Rubi. Watson (1931)	1	0
Corrected names of Roses distributed through the B.E.C. Wolley-Dod (1924)	1	0
Phuopsis stylosa. Polunin (1939-40)	0	6
Valeriana officinalis L. and its Allies in Great Britain. Drabble (1932)	1	0
Scabiosa arvensis. Brenan (1943-44)	0	6
Schkuhria in B.P.L. Sandwith (1939-40)	0	6
× Senecio londinensis. Lousley (1943-4)	1	0
× Cirsium sabaudum. Brenan (1943-44)	0	6
British Centaureas of the nigra group. Britton (1921) ...	1	0
Centaurea Scabiosa L. Britton (1922)	1	0
Taraxacum vulgare (Lam.) Schrank. Druce (1919) ...	1	0
Solanum Dulcamara. Turrill (1935)	1	0
Solanum nigrum. Britton (1935)	1	0
Solanum chenopodioides. Wilmott (1943-44)	0	6
Qu'est ce que le Solanum Dillenii? Thellung (1926) ...	0	6
Myosotis, Notes on. Wade (1932)	1	0
Cuscuta europaea var. nefrens. Verdcourt (1945) ...	0	6
Euphrasia. Pearsall (1925)	1	0
Euphrasia atroviolacea and E. variabilis. Druce and Lumb (1923)	1	0
Rhinanthus. Wilmott (1939-40)	2	0
Melampyrum pratense. Britton (1935)	1	0
Melampyrum pratense in Druce Herb. Britton (1934) ...	1	0
Some native Primula hybrids. Melville (1932)	2	0
Menthae Briquetianae. Fraser (1924)	1	6
Menthae Britannicae. Fraser (1926)	2	6
Notes on Mentha. Fraser (1930)	1	0
Mints in Gower. Still (1934)	0	6
The Distribution of Thymus in Britain. Ronniger (1927) ...	1	0
Hedge Woundwort. Elliot (1933)	1	0
Teratological Forms of Plantago lanceolata. Flintoff (1930)	1	6
Rumex arifolius. Druce (1924 Interim Rep.)	1	0
Rumex II. Lousley (1941-2)	2	0
Two varieties of Ulmus glabra. Lindquist (1931)	1	6
Myrica Gale. Brenan (1943-44)	0	6
Salix List in L.C. Fraser (1925)	1	0
Listera cordata, Southern Distribution. Miller (1932) ...	0	6
British Marsh Orchids. Druce (1919)	0	6
British Orchids in 1930. Hall (1930)	1	6
Orchis maculata and O. Fuchsii. Druce (1923)	1	0
Orchis pardalina. Wilmott (1943-44)	0	6
Orchis latifolia, Vermeulen, Pugsley, Wilmott (1945) ...	1	6
Ornithogalum umbellatum. Britton (1941-2)	1	0
N.W. European Juncus alpinus forms. Lindquist (1930) ...	2	6
Potamogeton. I. Pearsall (1929). II. Pearsall (1930) Two Parts	2	6
Potamogeton Drucei Fryer in Fryer's correspondence. Druce (1919)	0	6
Notes on the Variation of the British Species of Zostera. Butcher (1933)	1	0
Carex microglochin. Druce (1923; also Tr. B.S. Edinb.) ...	1	0
Carex flava and C. muricata. Nelmes (1945)	1	0
Avena strigosa. Marquand (1921)	1	0
Koeleria, Notes on. Howarth (1932)	1	0