

PROCEEDINGS
OF THE
Liverpool Botanical Society
(Fourth Session, 1909).

REPORT FOR THE YEAR 1909.

A consideration of the activities of the Society during the late session shews that progress in this period has been well sustained, comparing favourably with that of previous years, and the close of 1909 again finds the Society in a satisfactory condition. There is, however, still need, as indicated in the previous session's report, of more general co-operation on the part of many Members if this position is to be maintained.

The membership shows a decrease on that of the previous session, the number of Members on the roll at the close of the year being 177, including 18 Corresponding Members. While an increase of this number is desirable, it must be remembered that the actual work of the Society is of far greater moment than mere numerical strength, although the latter aspect is by no means unimportant. Two Members have been called away during the year, and there have been thirteen resignations.

Miss E. Harlin, a St. Helens Member since 1907, and who died at Clonmore, Dunleer, Co. Louth, on June 13th, was a true student of Nature. Although rarely able to attend the meetings she always displayed considerable interest in the Society, and contributed exhibits on several occasions.

The Society has also sustained a deep loss by the death of Mr. John Joseph Ogle, which occurred on December 19th, after a painful and severe illness borne with unfaltering courage and exemplary patience. Mr. Ogle joined the Society very shortly after its inception, and always took a deep interest in its working, and there are probably very few who are aware of the various ways in which he unostentatiously aided in the Society's development.

Mr. Ogle was a genuine and life-long botanist, and as late as April last communicated a paper to this Society on the vegetation of Old Colwyn. In this his characteristic thoroughness might even be regarded as almost too extreme. Although essentially a systematist, Mr. Ogle was especially interested in the study of pollination, and devoted considerable attention to this subject, in which he made a number of original observations. He contributed a paper entitled, "Observations on the Fertilisation of Certain Species of *Saxifraga*," to the *Midland Naturalist* in 1883 (VI, pp. 73-75), which is referred to by Knuth in his classic *Handbook of Flower Pollination*.

Your Council regret to record the resignation of Miss H. Roberts of the Honorary Librarianship, consequent on her leaving the country. This position was filled by Miss Roberts with marked ability, and the initiation and successful development of the Library are almost entirely due to her devoted efforts.

With the close of the session Mr. F. J. Routledge resigns the Honorary Treasurership, which important position he has occupied with conspicuous ability since the foundation of the Society. During this period Mr. Routledge has freely and zealously devoted himself to the Society's welfare. Your Council in recording their appreciation of his generous efforts, do so with diminished regret in the knowledge that the Society will still be able to profit by Mr. Routledge's valued co-operation and services in the future.

Twelve indoor meetings were held during the session as follows :—

January 11th—	Annual Meeting.
February 8th—	Annual Soirée and Conversazione. Reception by the President and Mrs. Wheldon. Concert. Exhibition of open-air "February Flowers."
March 8th—	Lantern Lecture, "A Résumé of the Field Meetings of 1908," by A. A. Dallman, F.C.S.
April 19th—	Paper, "Botanical Notes of Holiday Stays in Old Colwyn," by J. J. Ogle.
May 10th—	Lantern Lecture, "Wirral Toadstools at Home," by Dr. C. Theodore Green, F.L.S.
June 14th—	Discussion on the teaching of Botany and Nature Study, introduced by a paper, "Some Suggestions on School Nature Study," by Miss E. M. Coates, LL.A.
July 12th—	Paper, "Christopher Johnson: A Bygone Lancashire Botanist," by A. A. Dallman, F.C.S.
August 9th—	Exhibition and Discussion of Specimens.
September 12th—	Paper, "Notes on the Flora of Ben Lawers," by Dr. J. W. Ellis. Exhibition and Discussion of Specimens.
October 11th—	Papers, "Notes on the Flora of the Higher Grampians," by J. A. Wheldon, F.L.S. "A Curious Abnormal Fruit of <i>Lycopersicum esculentum</i> ," by A. A. Dallman, F.C.S. "Some Observations on the Flora of Killarney," by W. G. Travis.
November 8th—	Presidential Address, "The Position of Systematic Botany at the Present Day," by J. A. Wheldon, F.L.S.
December 13th—	Lantern Lecture, "A Résumé of the Field Meetings of 1909," by A. A. Dallman, F.C.S.

Field and outdoor meetings have been held as follows :—

	LOCALITY.	ATTENDANCE.
May 10th	Rhydymwyn and the Leet	30
June 19th	Thelwell Roughs and Warrington Museum	46
June 30th	Birkenhead Docks	14
July 3rd	Cwm	13
July 14th	Kirkby	12
July 24th	Wilpshire and Lougho	13
August 10th	Mrs. Stevenson's Roof Garden	29
August 14th	Silverdale	13
August 21st	Hele and Dungeon Marsh	14
September 25th	Knowsley	38
	Average Attendance ...	<u>22.2</u>

More meetings have been held than in previous years, and this is, no doubt, accountable for a slight decrease on the average attendance, compared with that of 1908. Lectures, papers or field talks were delivered on several of these occasions as follows :—

- "Limestone Vegetation," by A. A. DALLMAN; Rhydymwyn.
- "Warrington Botanical Notabilia," by CHARLES MADELEY; Warrington.
- "Botany at Warrington Museum," by G. A. DUNLOP; Warrington.
- "On the occurrence near Warrington of a Phalloid (*Lysurus*) new to Europe," by HAROLD MURRAY (comm. G. A. DUNLOP), Warrington.

Eight Council meetings have been held in the period under review. Your Council again desire to express their appreciation of the kindness of the Senate of the University and of Professor Harvey Gibson more especially, to whom the best thanks of the Society are due for the use of the Hartley Botanical Laboratories and accompanying facilities.

Four hundred and thirty-three specimens—exclusive of a large number dealt with by the Flora Committee—have been submitted for examination and identification, and a considerable number of queries have been answered.

SOUTH LANCASHIRE FLORA.

The Committee appointed by your Council for the purpose of compiling a Flora of South Lancashire have presented the following report as to the progress of the work entrusted to them :—

The Flora Committee have pleasure in presenting their Annual Report (the third) on the work accomplished during the year 1909.

Four Committee meetings have been held. Mr. H. J. Wheldon was appointed recorder for the Fungi, and a Member of the Committee. Dr. J. W. Ellis was also elected a Member of the Committee. Owing to the removal of E. Drabble, D.Sc., to London, the Rev. W. W. Mason, B.A., was appointed to receive and act as referee for flowering plants, and the Hon. Secretary was appointed recorder therefor. Professor R. J. Harvey Gibson, F.L.S., resigned his office as recorder and referee for the Algae.

A Sub-Committee, consisting of Mr. J. A. Wheldon, F.L.S., the Rev. W. W. Mason, and the Hon. Secretary, was appointed to revise the floral divisions, and the five divisions proposed by them were adopted as the ones to be used in the published work.

Field work has actively proceeded during the year, and in addition to private excursions of Members of the Flora Committee, four field meetings of the Society were held in furtherance of the scheme as follows :—Kirkby, July 14 ; Wilpshire, July 24 ; Hale, August 21 ; and Knowsley Park (fungus foray).

The Committee desire to acknowledge their deep obligation to numerous workers in various parts of South Lancashire for the assistance they continue to receive. They desire to express their cordial thanks to the following ladies and gentlemen for the records, specimens, or information contributed by them :—Mrs. S. S. Alston, Mr. B. Belfield, Rev. C. E. Fynes-Clinton, Dr. J. W. Ellis, Miss H. Gerrard, Mr. J. W. Hartley, Miss Madge Hartley, Mr. G. H. Hopley, Mr. J. C. Healey, Mrs. F. P. Lorsmore, Mr. H. Murray, Mr. J. F. Pickard, Mr. C. R. Ritchings, Mr. H. Robinson, Rev. M. Toohey, S.J., Mr. W. Watson, Mr. W. H. Western, Miss White, and Mr. W. Whitwell. They must also express their indebtedness to Mr. Arthur Bennett, F.L.S., Mr. C. Crossland, F.L.S., and Mr. E. Drabble, D.Sc., F.L.S., for examining plants submitted. By the recent death of Mr. P. Yates, of Tyldesley, the Flora Committee have lost a valuable co-worker, who contributed much useful information regarding the flora of the district where he lived.

Phanerogamia.—We have now very complete lists of the flowering plants for all divisions. During the year good progress has been made with the critical genera, which now require most attention. Three native species of flowering plants new to South Lancashire, and several interesting varieties, have been discovered, and recent records have also been obtained for some of the rarer species not reported for many years.

Cryptogamia.—As regards mosses, the principal progress made has been in extending our knowledge of the range and distribution of the species. Very few additions have been made to the list of mosses. It is considered unlikely that the list can be increased to any great extent, but work still remains to be done in ascertaining the distribution of the species in the divisions. The same remarks apply almost equally well to Hepaticae. It is worthy of note that seven species of lichens new to South Lancashire have been recorded during the year. In regard to Fungi, a considerable number of species has been added to the list, the total recorded for South Lancashire now standing at 531, distributed as follows: Basidiomycetes, 377; Uredineae and Ustilagineae, 36; Ascomycetes, 47; Phycomycetes, 10; Deuteromycetes, 3; Hyphomycetes, 19; Myxomycetes, 39. Among the additions was a number of interesting and rare species, including one new to science, and a variety new to Britain. One hundred and sixty-two species are also on record for West Lancashire (V.C. 60), thus making a total of 693 for the county. A notable contribution was made by Mr. H. Murray, of Manchester University, who supplied us with a valuable list of Myxomycetes observed by him in the Manchester district. The fungus foray held by the Society in Knowsley Park, and a visit to the sandhills at Freshfield by a small party of mycologists under the leadership of Mr. C. Crossland, F.L.S., resulted in substantial additions to the fungus flora of the vice-county.

As to other branches of the work, we may mention that good progress has been made with the bibliography, but nothing has yet been done in connection with the examination of herbaria.

HONORARY LIBRARIAN'S REPORT.

During the past year the first "Transactions" of the Society were published, and the consequent establishment of an exchange list has resulted in a number of valuable and interesting additions to our Library. Many societies and institutions who have not yet responded have expressed their willingness to consider the proposal for exchange of publications. America, France, Germany, Italy, Scotland, and many English towns and cities are, however, now in touch.

The thanks of the Society are due to Miss Johnson and Dr. Henry C. Lamport, of Lancaster, who have considerably enriched the Society by presenting the very valuable books collected by Dr. Christopher Johnson. These works alone, not to speak of others already in our possession, hallmark the Library at once. It is a matter of regret that more Members do not realise that the Library of a scientific society must keep up with the times, and there are many necessary works lacking. If a little more enthusiasm and interest were shewn by the majority of Members, the Library would rapidly become worthy of the Society.

LIVERPOOL BOTANICAL SOCIETY.

Dr.

BALANCE SHEET, 1909.

Cr.

	£	s.	d.		£	s.	d.
To Balance in hand from 1908	3	6	8	By Honoraria (University, &c.)	2	2	6
„ 117 Subscriptions at 5/-	29	5	0	„ Printing, Stationery, &c.	11	13	5
„ 4 „ 10/-	2	0	0	„ Cost of "Transactions"	25	0	0
„ 2 „ 2/6	0	5	0	„ Cost of Soirée	8	9	0
„ Sale of "Proceedings"	0	4	6	„ Rent of Room (Hackin's Hey)	0	12	6
„ Refunded Postages for "Transactions"	0	11	2	„ Expenses of Secretary	5	5	6
„ Cash per Miss McMillan for Soirée (Competitions)	0	10	8	„ „ Assistant Secretary	3	10	1
„ Sale of 114 tickets for Soirée @ 1/6	8	11	0	„ „ Treasurer	1	13	1
„ Sale of 82 Copies of "Transactions" @ 4/-	16	8	0	„ „ Secretary, South Lancs. Flora Committee	1	1	3
„ Donation from "Friend"	0	3	6	„ „ Mr. H. J. Wheldon (Fungus Flora)	0	11	11
				„ Balance in hand	1	6	3
	<u>£61</u>	<u>5</u>	<u>6</u>		<u>£61</u>	<u>5</u>	<u>6</u>

LIBRARY ACCOUNT.

	£	s.	d.		£	s.	d.
Balance in hand December 31st, 1909	3	9	0	By Purchase of Books	1	19	0
Donations received during 1909	0	7	0	„ Postage of "Transactions," &c., for exchange	0	10	2
				„ Balance in hand	1	6	10
	<u>£3</u>	<u>16</u>	<u>0</u>		<u>£3</u>	<u>16</u>	<u>0</u>

Audited and found correct—Vouchers produced.

FRED J. ROUTLEDGE, *Hon. Treasurer.*

January, 1910.

JOHN W. ELLIS. }
C. B. TRAVIS } *Auditors.*

GENERAL MEETINGS.

MONDAY, JANUARY 11th, 1909.

ANNUAL MEETING.

The Annual Meeting was held at the Hartley Botanical Laboratories, Liverpool University, on Monday, January 11th, 1909, at 7-30 p.m., the Rev. S. Gasking, B.A., F.L.S., Vice-President, in the Chair.

A letter was read from the President, regretting inability to be present.

The Hon. Librarian announced the receipt of a number of donations to the Society's Library.

The following proposed addition to the Rules of the Society—of which due notice and particulars had been sent to all Members, in accordance with Rule XIV—was submitted to the meeting, and unanimously carried :—

Mr. F. J. Routledge. Additions to Rule VI.—The Council shall consist of **Honorary Curator*, and twelve other Members. The appointments of Honorary Librarian and *Honorary Curator* shall be determined by the Council.

The Hon. Secretary submitted the Council's Annual Report for the past year. On the proposition of Mr. C. B. Travis, seconded by Mr. W. A. Lee, the Report was unanimously adopted.

The Hon. Treasurer then communicated his Financial Statement for the past year, as shewn on page 9. Mr. Routledge remarked that he had only been able to secure the audit of the accounts by one of the two auditors—Miss C. E. Delaney—appointed by the Society.

After some discussion and remarks by the Chairman, the Rev. S. Gasking moved, and Mr. J. Rylance seconded, "That the Honorary Treasurer's Financial Statement be adopted, subject to its being submitted to the remaining auditor, Mr. W. W. Wilson, and approved by him," which was carried.

The Hon. Librarian then presented her Report, which was adopted on the proposition of Mr. F. Summers, seconded by Mr. W. Chesher. Mr. W. G. Travis thought it desirable that all additions to the Library should be laid on the table for Members' inspection at the time such are announced. The Hon. Librarian thought the suggestion worthy of adoption, and promised to put it into effect.

Miss A. A. Barr and Mr. J. Rylance having been appointed Scrutineers, the ballot was then taken with the following result :—

President : J. A. Wheldon, F.L.S.

Vice-Presidents : Rev. S. Gasking, B.A., F.L.S. ; Rev. W. Wright Mason, B.A.

Hon. Treasurer : F. J. Routledge.

Hon. Secretary : A. A. Dallman, F.C.S.

Council : W. Chesher, M.A., Miss E. M. Coates, LL.A., Miss D. Delaney, W. O. Delaney, Professor R. J. Harvey Gibson, M.A., F.L.S., W. T. Haydon, F.L.S., W. A. Lee, M.A., Miss S. J. Shoobridge, W. G. Travis, Rev. T. J. Walshe, B.A., Miss M. H. Wood, Dr. T. F. Young.

*The additions are shown in italics.

Mr. J. RYLANCE shewed a large example of the "Jew's Ear Fungus" (*Hirneola auricula-judae*), from Oxton, Cheshire.

Mr. HAROLD J. WHELDON announced the following recent additions to the Lancashire fungus list:—

Clitocybe fragrans, Sow. Freshfield, December, 1908. W. G. TRAVIS and J. A. WHELDON.

Tricholoma terreum, Schaeff. Freshfield, December, 1908. W. G. TRAVIS and J. A. WHELDON.

Russula drimeia, Cooke (*R. expallens*, Gillet). Clougha, December, 1908. A. WILSON.

Helotium lutescens, Fries. On stems of *Salix repens*. Formby, December, 1908. A. A. DALLMAN,

Fomes igniarius, Huds. Aintree, December, 1908. H. J. WHELDON.

Corticium lactescens, Berk. Stump (of elm?). Walton, January, 1909. H. J. WHELDON.

MONDAY, FEBRUARY 8th, 1909.

ANNUAL SOIRÉE AND CONVERSAZIONE.

The Annual Soirée was held at the Gainsborough Café, Liverpool, on Monday, February 8th, 1909. Amongst many interesting exhibits were a collection of photographs of eminent contemporary British botanists, lent by Mr. Charles Bailey; a collection of Cryptogamia shown by the President, and a number of dried plants brought by Mr. W. G. Travis. Mr. W. Hackett contributed living examples of various plants of economic interest from the Liverpool Botanic Gardens, including *Vanilla planifolia* (Vanilla), *Piper nigrum* (Black Pepper), *Erythroxylon Coca*, *Coffea arabica* and *C. liberica*, and *Theobroma Cacao* (Cocoa).

An interesting feature due to the collaboration of various Members was a large and unique exhibit of "February Flowers." Fresh flowering examples of outdoor plants only, British and cultivated, were shown, greenhouse productions being excluded. Altogether sixty-four different species were on view and in flower, a very creditable total, having regard to the time of year. These were contributed by Miss E. Bray, Miss E. G. G. Hill, Miss N. L. Peacock, Mr. R. H. Day, Mr. W. Hackett, and the Hon. Secretary.

The following is a complete list of the species represented:—*Helleborus viridis*, *H. niger*, *H. fœtidus*, *H. odoratus*, *Ranunculus Ficaria*, *Clematis balearica*, *Eranthis hiemalis*, *Anemone Hepatica*, *A. sp.*, *Berberis Mahonia*, *B. nervosa*, *B. japonica*, *B. aquifolia*, *Capsella Bursa-pastoris*, *Cardamine hirsuta*, *Mathiola incana*, *Arabis albidula*, *Cheiranthus Cheiri*, *Geranium molle*, *Lychnis diurna*, *Stellaria media*, *Chimonanthus fragrans*, *Pyrus japonica*, *Prunus Lauro-Cerasus*, *Crataegus Oxyacantha* var. *praecox*, *Potentilla Fragariastrum*, *Viburnum Tinus*, *Cornus mascula*, *Garrya elliptica*, *Skimmia japonica*, *Lonicera fragrantissima*, *Chrysosplenium oppositifolium*, *Viola odorata*, *Daphne Laureola*, *D. Mezereon*, *Jasminum nudiflorum*, *Forsythia suspensa*, *Bellis perennis*, *Senecio vulgaris*, *Diplopappus chrysophyllus*, *Petasites fragrans*, *Tussilago Farfara*, *Erica carnea*, *Vinca major*, *Primula vulgaris*, *Veronica agrestis*, *Nepeta Glechoma*, *Lamium purpureum*, *Euphorbia Peplus*, *Buxus sempervirens*, *Hedera Helix*, *Poa annua*, *Betula alba*, *Corylus Avellana*, *Alnus glutinosa*,

Hamamelis virginica, *H. arborea*, *Taxus baccata*, *Crocus vernus*, *C. sp.*, *Ruscus aculeatus*, *R. racemosus*, *R. Hypoglossum*, *Galanthus nivalis*.

Communications were read regretting inability to be present from Mr. Charles Bailey, Messrs. R. H. Day, W. T. Haydon, and J. G. Legge.

After a reception by the President and Mrs. Wheldon, and a short address by Mr. Wheldon, a concert was contributed by various Members and friends. The various items of this programme were excellently rendered by Miss Mabel Cave Browne Cave, Miss Alice M. Evans, Miss Annie Hall, Miss McEvoy, Mrs. Adela Porter, Miss M. Ryan, Miss Ethel Warhurst, Miss Ada Whitehead, Mr. J. A. Kennison (accompanist), and Messrs. F. J. Routledge and J. Ryan, to whom the thanks of the Society are due.

For the nonce the scientific aspect of the Society's operations was unobtrusive, the only suggestion of it being in the attractive exhibits aforementioned, and in certain "botanical" competitions. The best thanks of the Society are due to the members of the Soirée Committee—The President and Mrs. Wheldon, Mr. and Mrs. Routledge, Miss E. E. Appleton, Miss E. M. Coates, Miss E. McMillan, Miss H. Roberts, and Miss M. H. Wood—who were responsible for the arrangements, and to whom the success of this meeting was very largely due.

MONDAY, MARCH 8th, 1909.

Mr. J. A. Wheldon, F.L.S., President, in the Chair.

Miss E. Howlett, B.Sc., Mr. T. Appleby, Mr. J. Hunter, and Mr. H. Rigby were elected Members.

The PRESIDENT referred to the loss the Society had sustained by the resignation of Miss H. Roberts of the post of Honorary Librarian on account of her removal from the district. The Council had passed a special resolution, placing on record the Society's keen appreciation of Miss Roberts' valued services as Honorary Librarian and their deep regret that circumstances should necessitate severance of her official connection in this capacity.

The valuable collection of books presented to the Society by Dr. H. C. Lamport, of Lancaster, was on view. These were formerly the property of Dr. Christopher Johnson (senr.), of Lancaster, and include several scarce and valuable works on Diatomaceae. The Society is largely indebted for this gift to Miss Alice Johnson, of Lancaster, a granddaughter of Dr. Johnson.

Miss E. BRAY contributed a small collection of zoophytes from the Sussex coast.

Mr. A. A. DALLMAN, F.C.S., exhibited fruiting examples of the epiphytic orchid *Vanilla planifolia*, which had been grown at the Liverpool Botanic Gardens. This is a West Indies species, and the source of the vanilla of commerce.

Mr. W. G. TRAVIS called attention to the occurrence of *Tortula intermedia* on the South Lancashire sand dunes. This calciphilous moss, of which examples were shown, does not appear to have been previously noted in South Lancashire.

The HON. SECRETARY delivered *"A Résumé of the Field Meetings of 1908," which was illustrated by numerous slides and specimens.

*See page 21.

MONDAY, APRIL 19th, 1909.

In the absence of the President and Vice-Presidents, Mr. W. Chesher, M.A., was elected to the Chair.

The Rev. C. E. Fynes Clinton, M.A., was elected a Member.

Miss E. BRAY contributed fresh specimens of Violaceae from the border of a plantation near Glynde, on the Sussex Downs, about three miles from Lewes. These included examples of the hybrid *Viola permixta*, Jord. The parent species, *Viola hirta* and *V. odorata*, of which examples were also sent, occurred in abundance in the same locality.

Mr. W. CHESHER, M.A., shewed examples of juniper infected with the fungus *Gymnosporangium juniperi*.

Mr. W. WHITWELL, F.L.S., sent a number of herbarium sheets of forms of *Sonchus*, including South Lancashire specimens, on which Mr. W. G. Travis offered a few remarks.

Mr. A. A. DALLMAN, F.C.S., exhibited autograph letters of Hewett Cottrell Watson and William Wilson (of Warrington).

Other exhibits were contributed by Miss K. White and Mr. W. H. Halfpenny.

The Hon. Librarian announced the receipt of a number of donations to the Library.

Mr. J. J. OGLE read a paper entitled "Botanical Notes of Holiday Stays in Old Colwyn," which was followed by a short discussion.

MONDAY, MAY 10th, 1909.

In the absence of the President and Vice-Presidents, Mr. W. A. Lee, M.A., was elected to the Chair.

Miss E. BRAY sent a number of fresh specimens of Sussex plants, the more noteworthy being *Ranunculus tripartitus*, *Euphorbia amygdaloides*, *Luzula multiflora*, and examples of Garlic (*Allium ursinum*), the leaves of the latter being infected with the fungus *Peronospora Schleideni*, Ung.

Miss N. L. PEACOCK contributed fresh specimens of the Snake's Head (*Fritillaria Meleagris*) from Oxfordshire, and also examples of the Hautbois Strawberry (*Fragaria elatior*) from St. Vincent's Rocks, Bristol.

Dr. C. T. GREEN, F.L.S., exhibited some coloured illustrations of fungi by the late Miss E. M. Wood.

The PRESIDENT sent an interesting collection of living plants from Naddle Forest, Westmoreland, including examples of *Lobelia Dortmanna* (from adjoining lake), *Lathræa Squamaria* (Toothwort), *Bartramia pomiformis*, *Zygodon Mougeottii*, *Cephalozia curvifolia*, and *Breutelia arcuata*.

Mr. W. G. TRAVIS called attention to the recent discovery by Professor F. E. Weiss and Mr. H. Murray, of Manchester University, of a fresh-water species of Florideae (*Compsopogon leptocladus*) in a canal near Reddish. This alga is not only an addition to the Lancashire and British alga flora, but is also new to Europe. The plant thrives in a portion of the canal which is kept continually heated by warm drainage from adjoining works. It is supposed that it has been introduced from

*This paper will appear in the "Transactions."

Egypt along with cotton, and so become established here. Support is afforded to this view by the fact of the occurrence here of certain other alien plants.

Mr. HAROLD J. WHELDON announced the discovery of a fungus, *Omphalia sphagnicola*, Berk., new to the Lancashire list. This had been obtained a few days previously on peat in Yealand Moss by Mr. J. W. Hartley, of Carnforth.

A lantern lecture was delivered by Dr. C. Theodore Green, F.L.S., entitled "Wirral Toadstools at Home." This was illustrated by excellent coloured slides from the lecturer's photographs. Many of these slides were remarkable for their beauty and fidelity to Nature, and in this connection certain *Hygrophori* are deserving of special note.

MONDAY, JUNE 14th, 1909.

Mr. J. A. Wheldon, F.L.S., President, in the Chair.

Miss M. McMillan, Miss E. M. Porter, and Mr. L. Caldecott, B.A., B.Sc., were elected Members.

Miss E. BRAY sent a number of fresh specimens of Sussex Phanerogamia, the more noteworthy being:—*Ranunculus hirsutus*, from Shingles, Eastbourne; *Hippocrepis comosa* (Horseshoe Vetch), from the Downs near Warnrock; and *Medicago denticulata*, from Pevensey.

Miss E. G. G. HILL contributed a list of plants, chiefly aliens, obtained by Miss N. L. Peacock and herself during May and June about Portishead Docks and Granary, Somerset.

Miss N. L. PEACOCK sent examples of *Lycopodium clavatum*, from Somersetshire, a rare plant in that county, and specimens of *Saponaria Vaccaria* and *Vicia villosa*, found as aliens in the vicinity of Portishead Docks, Somerset.

The PRESIDENT contributed the following notes on South Lancashire plants:—"In company with Mr. W. G. Travis I visited the sea embankment between Crossens and Hesketh Bank on May 22nd. The flora was somewhat uninteresting, there being little variety of situation, and the natural condition of the ground destroyed by the throwing up of the embankment and cultivation of the enclosed land. In one patch of sandy ground near Hundred End we found a little oasis which yielded nine species of *Bryum*, including the somewhat rare species in the Liverpool district, *Bryum atropurpureum*. Accompanying this was a fair quantity of *Leptobryum minus*, described as a species by Philibert, but regarded by Mr. Dixon as a well-marked variety of *Leptobryum pyriforme*. This moss, hitherto unrecorded for Lancashire, is distinguished from *Leptobryum pyriforme* by its small size, more ample inner peristome and larger spores.

"Several lichens were found on piles driven into the sand to protect the sea bank from the force of the tide, these including *Lecanora symmictera* and *Physcia polycarpa*, new to the district flora.

"In April last, whilst collecting mosses with Mr. Travis at Freshfield, we observed in many tufts of *Bryum Warneum* and *B. calophyllum* that whilst last year's old capsules were mostly withered and empty a few were still plump-looking, and were yet provided with the operculum.

Closer examination revealed the fact that these latter were all infected by a fungus which caused minute black spots on the wall of the capsule, and especially around the junction of the lid with the capsule mouth. The fungus proved to be a Pyrenomycete of the genus *Phoma*, but seemed to differ from all our known species. Specimens and drawings were sent to Mr. Gibbs, of Derby, and he succeeded in germinating the spores, but was unable to find any species whose description tallied with my specimens. He, therefore, forwarded the material to Miss Annie Lorraine-Smith, of the British Museum, who has kindly informed us that it is a species of *Phoma* new to science. This will be described in the paper on new micro-fungi which she contributes annually to the *Journal of the Mycological Society*."

Dr. J. W. ELLIS remarked that he had lately observed *Lamium amplexicaule*, a local plant in the Liverpool area, growing in quantity by the lane below Childwall Church, this being a new station for it.

Mr. A. A. DALLMAN showed a simple model which he had devised for illustrating the opening and closing of the capitula of a dandelion or similar Composite. This consists of a thistle funnel, the mouth of which is covered by a fairly taut piece of thin sheet rubber. On this "receptacle" a number of thin paper strips, 2 to 3 cms. in length are arranged horizontally in several concentric "whorls," these being attached to the "receptacle" by Seccotine at their tips, while the remainder projects. These strips represent the bracts which surround the capitulum, and the florets may also be indicated.

The closing of the capitulum, due to cellular contraction in the scape, and resultant concavity of the receptacle, is readily illustrated on sucking air from the open end of the funnel, when the "receptacle" becomes markedly concave, causing the "bracts" to close inwards. The reverse effect, illustrating the opening of the capitulum, due to elongation of the cells of the scape, and consequent convexity of the receptacle, is readily demonstrated on readmitting air into the partial vacuum in the funnel.

The PRESIDENT exhibited specimens of *Ophioglossum vulgatum* (Adder's Tongue Fern) from a colony which he had discovered on May 15th at Walton; also examples of *Myrrhis odorata* (Sweet Cicely) from a new station on the bank of the River Alt, near the Fazakerley Homes. Although some distance from the old, well-known station near Kirkby, the Alt bank plants may have been brought down by the stream from the former situation. With it occurred *Fedia Olitoria* (Lamb's Lettuce), another species not at all common on the north side of Liverpool away from the sandhills.

Mr. J. RYLANCE remarked that he had observed *Myrrhis* growing near Lydiate.

The feature of the evening was a discussion on the teaching of Botany and Nature Study, which was introduced by a paper by Miss E. M. Coates, LL.A., entitled, "Some Suggestions on School Nature Study." An interesting discussion elicited a diversity of opinions on the subject.

Miss A. LEE spoke on Nature Study work in town schools, and was somewhat pessimistic as to its practicability and utility in schools situated in the centre of large towns and cities, a view which was shared by Mr. F. J. Routledge.

*This will appear in the "Transactions."

Miss E. McMILLAN dealt with Nature Study in the infant school, and considered that the children should be encouraged to bring lessons to the teacher and not *vice versa*, as is generally the case.

Dr. J. W. ELLIS spoke on the teaching of Botany and Nature Study in evening and technical schools. Examination syllabuses had many disadvantages, and there was need for allowing the teacher greater latitude.

Mr. A. A. DALLMAN made some remarks on Botany in secondary schools, and held that there was no insuperable difficulty in the teaching of Natural Science in town or city schools. With a little care a scheme of work based almost entirely on topical material obtainable from parks or nurserymen and the florist's and greengrocer's may be readily evolved.

After other Members had touched upon other phases of the subject a cordial vote of thanks was passed to Miss Coates for a very suggestive paper.

MONDAY, JULY 12th, 1909.

The Rev. W. Wright Mason, B.A., Vice-President, in the Chair.

Miss F. M. Thomas and Dr. J. W. Ellis were elected Members.

Miss E. BRAY contributed fresh specimens of *Medicago denticulata* and *M. maculata* and *Trifolium maritimum*, from Sussex.

Miss E. G. G. HILL sent some interesting plants from Somersetshire, including the Broomrape (*Orobanche minor*) parasitic upon clover and *Astragalus glycyphyllos*. Some fine examples of the large Aroid *Arum Dracunculius*, a cultivated species and native of Southern Europe, also call for note.

Miss A. JOHNSON forwarded a quantity of flowering examples of *Asarum europaeum* (Asarabacca).

The HON. SECRETARY showed an example of *Rhus Toxicodendron*, the so-called "Poison Ivy" or "Poison Oak," a North American species of Anacardiaceae, occasionally grown in shrubberies in this country, and remarkable for the dangerously irritant and toxic effects it produces on being handled.

The following paper was read:—

*"Christopher Johnson, a Bygone Lancashire Botanist," by A. A. Dallman.

This was illustrated by a number of relics of Dr. Johnson, including correspondence, diaries and photographs, most of which had been kindly loaned by Miss Alice Johnson, a grand-daughter, of Lancaster. The Hon. Secretary was requested to convey to Miss Johnson the thanks of the meeting for her kindness in lending these valuable relics.

MONDAY, AUGUST 9th, 1909.

In the absence of the President and Vice-Presidents, Mr. W. G. Travis was elected to the Chair.

This meeting was mainly devoted to the exhibition and discussion of specimens.

*This will appear in the "Transactions."

Mr. G. H. HOPLEY sent some fruiting examples of the moss *Splachnum ampullaceum*, which he recently found in a boggy situation near "Lowe Fold," Heapey, at an elevation of 500 feet. This moss is rarely encountered in South Lancashire at the present day, and this new station is an acceptable addition to the sparse list of South Lancashire records.

Mr. W. O. DELANEY gave a brief review of a lately-published account of recent botanical investigations in the Island of Krakatoa, in the Sunda Straits. This island was partly destroyed by a violent volcanic eruption in May, 1883, and the plant and animal life was overwhelmed by the enormous deposits of volcanic dust. Mr. Delaney indicated how the effects of the great catastrophe had been repaired by Nature, and the various stages of development attained by the new flora since that time.

MONDAY, SEPTEMBER 12th, 1909.

In the absence of the President and Vice-Presidents, Dr. J. W. Ellis was elected to the Chair.

This meeting was mainly devoted to the exhibition and discussion of specimens.

Dr. ELLIS gave an interesting *account of a botanical holiday at Ben Lawers, illustrating his remarks with a fine collection of dried specimens of plants collected at the time.

Mr. H. J. WHELDON intimated the finding of *Sphaerospora trechispora*, Sacc., variety *paludicola*, Boudier, on damp flats in the sandhills between Churchtown and Freshfield, South Lancashire. This is the first British record for this variety. Mention was also made of the occurrence of *Thelephora caryophyllea*, Pers., and *Russula nitida*, Fr., on the sandhills at Freshfield, and *Craterium leucocephalum*, Ditm., on a twig at Formby.

MONDAY, OCTOBER 11th, 1909.

Mr. J. A. Wheldon, F.L.S., President, in the Chair.

The Hon. Librarian announced the receipt of a number of additions to the Library, which were laid on the table.

Miss E. BRAY sent a number of pressed specimens of *Medicago minima*, *M. denticulata*, *Lathyrus Nissolia*, and *Vicia lutea* for distribution.

Miss E. G. G. HILL contributed some living examples of the Blue Pimpernel (*Anagallis cœrulea*), Sea Wormwood (*Artemisia maritima*), and *Centaurea Calcitrapa*, all from the neighbourhood of Portbury, Somerset.

Miss E. BRAY also forwarded specimens of the Roman Nettle (*Urtica pilulifera*) and the Chili Nettle (*Loasa Placei*). The last-named is a native of South America and a member of the small natural order Loaseae, which is in no way related to the Nettles proper (Urticaceae).

The PRESIDENT shewed examples of two Rubi which had been obtained at two of the Society's field meetings. These had been submitted to and named by the Rev. W. Moyle Rogers, the British authority on Rubi. A bramble collected at the meeting at Mossbridge (Lancs.) proved to be *Rubus Borreri*, Bell-Salt., and a plant obtained at the recent meeting

*This will appear in the "Transactions."

on Dungeon Marsh (Lancs.) was identified as *Rubus pyramidalis*, Kalt. Both these represent additions to the flora of the Liverpool district. The President also exhibited examples of *Sagittaria heterophylla*, Pursh, a recent addition to the British Flora, and first noticed in this country by Mr. G. Claridge Druce, of Oxford, who found it growing on the muddy margin of the River Exe, at Exeter, in 1908. This North American plant may have been introduced with American wood pulp, which is largely used at a paper mill in the vicinity, or perhaps American logs, which had been brought to the river at Exeter, may have served as a vehicle for the introduction of seed.

Mr. HAROLD J. WHELDON gave some account of recent work by Members of the Society in connection with the systematic investigation of the Fungus Flora of Lancashire. In a recent excursion to the South Lancashire sandhills, made in company with Mr. C. Crossland, F.L.S., and several Members of the Society, the following fungi obtained at Freshfield represent additions to the county list:—*Dasyscypha hyalina*, Mass, *Belonidium pruinosum*, Mass, *Lycoperdon Cookei*, Mass, *Gomphidius viscidus*, L., and *G. gracilis*, Berk., *Mitrella cucullata*, Fr., *Typhula gracilis*, Berk., *Mollisia fallax*, Gillet, *Armillaria ramentacea*, Bull, *Mycena sanguinolenta*, A. and S., *Cortinarius limonius*, Fr., and *Mucor Mucedo*, L., var. *caninus*, Pers. Mr. Wheldon also gave a brief report on the mycological results of the recent Fungus Foray at Knowsley. Altogether sixty-one different species of fungi were obtained, and of these ten are new county records.

The following papers were then read:—

1. *"Notes on the Flora of the Higher Grampians," by J. A. Wheldon, F.L.S.
2. *"A Curious Abnormal Fruit of *Lycopersicum esculentum*," by A. A. Dallman, F.C.S.
3. "Some Observations on the Flora of Killarney," by W. G. Travis.

Mr. Wheldon's paper was illustrated by a profusion of rare and interesting specimens, and the second paper was also illustrated by living specimens and photographs.

MONDAY, NOVEMBER 8th, 1909.

Mr. J. A. Wheldon, F.L.S., President, in the Chair.

Miss E. BRAY contributed examples of various micro-fungi.

Dr. J. W. ELLIS showed a drawing of a teratological form of *Clitocybe dealbata*, from Burton Marsh, Cheshire. In this example new plants were developed on the pileus of the main plant.

The PRESIDENT remarked that in company with Mr. A. Wilson, F.L.S., and Mr. W. G. Travis, he had lately paid a visit to Foulshaw Moss, in Westmoreland, in the hope of finding *Anthoceros Stableri*, for which hepatic this is the only known station in the world. The quest was, however, unsuccessful. Mr. Wheldon also showed examples of a curious form of the moss *Trichostomum tortuosum*, from Whitcombe Wood, Gloucestershire.

The feature of the evening was the *Presidential Address. This dealt essentially with the position occupied by systematic botany at the present day.

*Will appear in the "Transactions."

MONDAY, DECEMBER 13th, 1909.

Mr. J. A. Wheldon, F.L.S., President, in the Chair.

An application for membership from Mr. G. Pryce, 75, Seymour Street, Birkenhead, was submitted to the meeting. The Chairman explained that as there had been no previous meeting of Council it had not been possible to first submit the nomination to the Council according to rule. As the next and first general meeting at which it would be possible to submit nominations would not be held until March, it was suggested that the meeting should take the unusual course of considering this nomination, and if in favour of its acceptance, the applicant should be considered a Member of the Society, subject to such nomination being approved at the next meeting of Council. This was agreed to.

Dr. J. W. Ellis and Mr. C. B. Travis were appointed auditors.

Dr. ELLIS showed a specimen of the myxomycete *Arcyria ferruginea*, Sauter, from Prenton Wood, Cheshire. According to Lister this is a very uncommon species.

Mr. W. G. TRAVIS exhibited some living specimens of hepaticae, which included *Fossombronia angulosa*, from Kerry, and the variety *minima* of *Riccia glauca* from Foulshaw Moss, Westmoreland. Examples of the plant which has been named *Anthoceros crispulus* were also shown from Barmouth. This "recent addition to the British Flora" is perhaps at most merely a form of *Anthoceros punctatus*.

The HON. SECRETARY delivered "A Résumé of the Field Meetings of 1909," which was illustrated by specimens and original slides.

A RÉSUMÉ OF THE FIELD MEETINGS OF 1909.

BY THE HONORARY SECRETARY.

As the seasons glide by with seeming ever-increasing rapidity the meditative pilgrim occasionally looks back with strange feelings on that mystic ocean we call the Past. The intensely silent and gradually-deepening waters are enveloped in ever-increasing mist, and as the wayfarer endeavours to pierce this vague retrospect, an islet or landmark stands out here and there with varying degrees of definition. And so as we linger in the gloaming casting a backward glance over the rising fairy mists of the fast fading year, there emerges the shadowy profile of an occasional pinnacle, and as the eye wanders from peak to peak the mind throbs with successive alternations of pain and pleasure; and while one stands and gazes thereon, mystic figures seem to pass in far-off pageant before the eye of imagination, like the weird and tragic magnificence of a dream.

When the glare of the summer sunshine is over, and the falling of the autumnal leaves has ceased, there comes that strange funereal period when Nature seems asleep. To most of us this is a season of sadness. Out of doors all is dismal and damp, and strangely silent, save for the song of the wind cutting its way through the leafless trees

or rustling over the rigid stems and pedicels of some lifeless flower. Yet, pervading all there is a subtle, sweet melancholy, that lingers like an old and nameless fragrance, while Nature is left lonely to her own still spirit of reflection.

At this season it is pleasant to sojourn for a time on certain delightful isles which stand out in the sea of memories of the past, and so once again I am called upon to act as historiographer, and to collect and weave together some of the results and reminiscences of the field meetings of the past year.

The first field meeting was held on May 10th, an ideal day, when thirty Members journeyed to Rhydymwyn. Although this locality had been visited by a few Members of the Society two years previously, yet on the present occasion it proved new ground to many. At this season it would certainly be difficult to find a more interesting spot—to a naturalist at least—within a similar radius of Liverpool. Concerning certain of the plants observed on this occasion I need say little or nothing, as they have already been noticed in a previous *Résumé*.

Just outside the station the Butterbur, whose leaves were commencing to smother surrounding vegetation, was still largely in evidence, but the much elongated inflorescences had by no means as pleasing an aspect as the short, compact, pink clusters of capitula of a month or so earlier. The spring flora—always, I think, most luxuriant in limestone districts such as this—was almost at its best, and the woodland glades, hedge banks, and lane sides were studded with colour. In places swaying Anemones kept company with ivory-hued primroses; elsewhere the banks of white Stitchwort blossoms were dotted with flowers of the scentless violet and Lesser Celandine, which stood out as blue and golden islets in the gleaming white sea. Occasionally there emerged the quaint spathes of the semi-sinister Arum, while overhead rose the Hedge Parsley with creamy umbels of tiny flowers, which were frequented by numerous insect promenaders of various kinds.

Owing to some reason or causes not yet understood, the Lesser Celandine appears to rarely or never set its seed in many localities, and this is a point which some of our Members might well investigate locally. In a test which I made with some apparently mature achenes from plants growing near Hawarden a considerable number germinated. On the other hand, in an experiment made with fruits obtained near Burton Point (Cheshire), only a few miles from the former place, I was unable to obtain a single plant. This might be due perhaps to lack of cross pollination; the flowers, it must be remembered, are protandrous, but then the nectariferous petals would appear to indicate cross pollination. In any case the Lesser Celandine is at no disadvantage, as it is more or less independent of this mode of increase, for vegetative reproduction is well provided for by the tubers, each of which contains a winter bud.

Attached to stones in the bed of the Alyn and quite submerged we found numerous conspicuous and more or less ovate, dark-green, gelatinous masses of an alga which we suspected to be some species of *Nostoc*. This was later identified by Mr. W. T. Haydon as *Nostoc verrucosum*, the appropriate specific name referring to its wart-like appearance. Like most Chlorophyceae, this alga is of simple structure, and when examined

microscopically is found to consist of numerous multicellular, necklace-like filaments of about $\frac{1}{200}$ of a millimetre in thickness. Further on *Paris quadrifolia* was seen in fair amount, but no flowering examples were encountered. As on a previous occasion, plants showing three and five leaflets were found, and one specimen had developed six. I am inclined to think that individuals growing in a chalk or limestone neighbourhood are more prone to this variation than those occurring on other formations.

The picturesque wooded valley of the Alyn, or the Leet, as it is known locally, yielded some interesting plants, but it was too early for many of the typical limestone-haunting species of the locality. The scar limestone afforded a number of calciphilous Cryptogamia. A conspicuous lichen was *Solorina saccata*, a plant with a thin, papery bright-green thallus dotted here and there with the apothecia which formed dark brown patches. Another characteristic and equally frequent calciphilous lichen was *Lecidea caeruleo-nigricans*, which grew in little granular glaucous or bluish-black masses.

The Dwarf Elder or Danewort (*Sambucus Ebulus*), of which the shoots were just showing, was seen in its old station, where it has grown for at least forty years. The small clump of this uncommon plant is not without its associations, and is an interesting link with the past. It was well known to several prominent bygone botanists, including Miss E. M. Wood, the Rev. H. H. Higgins, and Robert Brown. A lady friend, who was well acquainted with Charles Kingsley, tells me that she well remembers the pleasure of the Canon at finding this same patch many years ago. This plant is said to have been introduced to this country by the Danes. It is much rarer than the Common Elder, from which it is readily distinguished by its herbaceous habit, quite apart from other well-marked characters. After carefully watching the flowers of the Leet plants for an afternoon I found that they were persistently, and apparently intentionally, avoided by bees. This fact was the more marked, as the flowers of some interspersed, and adjoining brambles were frequently visited by both humble and hive bees during this time. A hairy brownish fly (*Mydæa urbana*, L.) was a constant visitor, and pollination may also sometimes be effected through the agency of certain minute hemipterous creatures which commonly frequent the flowers. It is noteworthy that in the Alps, according to Müller, bees are common visitors to this species, but this perhaps only serves to illustrate the need for detailed observations, and the fact that the biological factors of a plant are prone to vary considerably with local conditions.

Perhaps the most interesting find of the afternoon was made near the "Loggerheads." The Toothwort (*Lathræa Squamaria*) was seen sparingly in its old habitat on a sycamore by the stream, and while several Members were investigating the adjoining woodland this strange parasite was found in great quantity in a new station not far away. It was growing here in delightful profusion amongst a thick layer of spruce needles in the deep shade of the horizontal branches of the overhanging sombre conifers, on the roots of which it was parasitic. The large masses of thousands of the curious inflorescences extending over a considerable area, formed a weird and impressive picture as seen in the dim light. It

was instructive to observe that owing to the gloomy nature of the spot the ground was almost untenanted by other plants, and there was scarcely a chlorophyllose species to be seen. The lack of light was evidently of little import to the Toothwort, as, consequent on the absence of chlorophyll and the parasitic habit it can, if needs be, as in this instance, be more or less independent of daylight. In one plant found by Mr. Haydon, one of the fleshy scales was distinctly green owing to the development of chlorophyll, a fact not without significance, having regard to the usually accepted view as to the nature and origin of these structures.

The following meeting of June 19th was of a twofold and varied nature, part of the time being spent in field work in Cheshire, and the remainder indoors in Lancashire. Travelling to Warrington, Arpley Station was reached after a few minutes' walk, and the journey was resumed to Thelwall under the guidance of Mr. G. A. Dunlop, of the Warrington Museum, who kindly acted as leader on this occasion. To most of us this was quite new ground, and additional interest was added to this meeting from the fact that so little is known concerning the flora of this neighbourhood. On the whole, the vegetation of Cheshire has been carefully and extensively investigated, but there yet remain, here and there, districts of which very little is known regarding the flora. The present area is a case in point, as Lord de Tabley acknowledges in his *Flora of Cheshire*.

Notwithstanding its proximity to the Manchester Ship Canal, the locality is far from lacking in scenic and botanical interest. Leaving the station, we turned eastward until a marshy little valley was encountered and through which a streamlet meandered. This was Thelwall Roughs, the chief venue of the Cheshire portion of the excursion. I had almost omitted to mention a noteworthy find which was made in a hedgerow between Thelwall Station and the Roughs. This was a solitary example of the true Hawthorn, *Crataegus oxyacanthoides*, Thuill., a rare shrub in Cheshire and South Lancashire. From the prevailing form, *C. monogyna*, Jacq., it differs and is readily distinguished by the glabrous peduncle and calyx-tube, and two to three styles and carpels. In the common form the peduncles and calyx lobes are pubescent, there is only one style, and the fruit is monocarpellary. The flower of the true Hawthorn is also larger and handsomer. According to the *London Catalogue* this last is only recorded for thirty out of the 112 comital areas into which Britain is divided for biological purposes. *Crataegus monogyna* is recorded for 111. Doubtless the former is more frequent than this fact would seem to indicate, as it is one of those plants often overlooked owing to very many observers being unacquainted with the two shrubs, or perhaps unaware of the very obvious distinctions, or not troubling to differentiate.

The Hornbeam, rarely seen about Liverpool, was not uncommon in the hedges hereabouts. The Roughs, which rather reminded one of a Lancashire clough, yielded an interesting flora. A special search was made for *Saxifraga granulata* (Meadow Saxifrage), which Mr. Dunlop had formerly observed here in fair quantity. To anyone who has seen the profusion in which this pretty species occurs along some of the Derbyshire dales and elsewhere, its rarity and complete absence from

many districts in this neighbourhood is surprising. Only a solitary example was found, however, and the plant appears all but extinct owing to the continual trampling of grazing animals on the soft ground where it occurs.

Individuality in a plant does not by itself constitute beauty, but a species possessing strongly marked characteristics is always interesting. The Guelder Rose, some bushes of which afforded a fine show of bloom, offers at all times certain noteworthy features. For each season of the year it reserves some distinctive development. The opening flowers and buds are particularly decorative in character: florets of two distinct types and shades of colour compose the inflorescence, while the foliage is unlike that of any other forest tree. The shape of the stipules and of the leaf petioles, and an unusually constant mode of ramification mark it out from all other species. It can, I think, however, claim its measure of beauty as well as of distinction. Its cymes are whiter and more shapely than the loose clusters of the Elder growing beside it, and its leaves, large and clear-cut, make fine patterns against the indefinite undergrowth of the hedgerow. The flowers give place to the fruit, and in autumn, when the glory of its purple foliage has faded, clusters of scarlet berries still hang about the stems of mealy-gray, and linger on to lighten the sombreness of the copse in winter.

The leaf of the Guelder Rose presents many points of interest. At the base are two pairs of stipules of a form not found in any other forest tree. These are thread-like processes terminating in a glandular knob, which is often basin-like. Higher up the petiole, towards the base of the blade there are larger basin-like glands or nectaries supported on very short stalks. Both kinds of glands are stated to secrete sugar, but their utility to the plant is entirely unknown. Lord Avebury ingeniously suggests that these glands serve as an attraction to ants and wasps, which in appreciation of the plant's hospitality act as a bodyguard to protect the tender young leaves from caterpillars and insects!

Cardamine amara was seen in fair amount, and *Equisetum maximum*, a species with a decided liking for clayey situations such as this, was not uncommon. For the list of flowerless plants obtained on this occasion I am indebted to Mr. Wheldon who kindly acted as Cryptogamic recorder. Most of the Cryptogamia observed were more or less commonplace species, but I have thought it as well to place such on record, as this aspect of the vegetation of this part of Cheshire has received very scant attention. I should also add that the identifications of these plants are mainly due to Mr. Wheldon. A tiny object found on decaying sticks at the head of the Roughts by Dr. Ellis proved to be *Ceratiomyxa mucida*, a member of that curious borderland group of plants, Myxomycetes. This is probably the first Cheshire record. The aniseed-scented Sweet Cicely (*Myrrhis odorata*), the largest-fruited of British Umbelliferae, was seen near Grappenhall, and Mr. Dunlop pointed out *Claytonia perfoliata* and *C. sibirica*, two aliens which were growing in the vicinity of Thelwall Station. The former American species, like many more Transatlantic plants, is of a very "go-a-head" nature, and is now more or less naturalised in many parts of the country. In the Liverpool area it is well established near Leasowe, on the Cheshire coast, and also almost opposite at Formby, on the Lancashire side of

the estuary. While waiting at Thelwall Station an abundance of *Marchantia polymorpha* was seen growing among cinders in the railway track at one end of the station. Unlike the familiar *Pellia*, the reproductive organs in *Marchantia* are borne on special branches, and these are of two kinds, antheridiophores bearing antheridia only, and arche-goniphores to which the archegonia are confined. As these two types of reproductive branches are restricted to separate plants, *Marchantia* is dioecious. Both kinds of plant were seen, and were covered with a profusion of these umbrella-like specialised branches. It was easy to distinguish the two forms at this season, as the receptacles of the arche-goniphores were deeply divided into some eight or ten spreading rays like the ribs of an umbrella. In the case of the male plants the receptacles were more or less button-like, with wavy and practically undivided margins. Although this liverwort is usually regarded as a plant of common occurrence, this is far from the case in our area, where it is decidedly uncommon. In many cases the common and very similar *Conocephalus conicus* is frequently mistaken for it. A rough but simple and fairly constant distinction is afforded by the fact that the thallus of the latter species exhales a characteristic bergamot-like scent when bruised; the thallus of *Marchantia*, when similarly tested, is practically odourless.

After tea at Warrington, a visit was paid to the Warrington Museum, where Members were received by Mr. Linnæus Greening, J.P., F.L.S., Chairman of the Museum Sub-Committee. The Warrington Museum is noteworthy for the prominence which it affords to botany, and amongst features of interest are the wild flower table, local herbarium and collections, Stone collection of timber, botanical object lessons for children, &c. By kind permission of the Museum Committee many of the botanical treasures for which the Museum is noted were specially exhibited in the Lecture Room. Of particular interest were the collections and relics of William Wilson, the greatest of bryologists, a native of Warrington, and whose *Bryologia Britannica* was long the standard—and yet remains a classic—work on mosses. The Wilson Collection of Mosses (being a selection from his Cryptogamic Herbarium in the British Museum) and the Wilson Herbarium of Flowering Plants were also on view. The original manuscript of the *Bryologia Britannica*, the author's microscope, and various other relics were also shewn.

Mr. Charles Madeley, the Curator, delivered an attractive address, in which he briefly sketched the history of Warrington botany. A collection of natural history works by Warrington authors and various noteworthy botanical books which Mr. Madeley had specially brought together for the occasion, was on exhibition, and contributed materially to the interest of the address. Mr. G. A. Dunlop (Botanical Curator) then contributed an account of the features of botanical interest presented by the Warrington Museum. The Museum authorities and local societies and botanists were in active sympathy and co-operation. A special effort was made to enlist the practical interest of the teachers and to encourage children and students, and in this they had been very successful. Teachers and local naturalists contributed largely towards the wild flower table, and at the time of the Society's visit no less than 184 species of Phanerogamia were represented, and all were in bloom. For a large

Lancashire town, and at this season, this is a very creditable number, and the excellent arrangement, quality of the specimens, and careful and informative labelling of this collection bore eloquent witness to the great amount of care and time which Mr. Dunlop and his local contributors expended thereon, and incidentally reflected the keen interest of the public. Mr. Dunlop also communicated a short paper, **“On the Occurrence near Warrington of a Phalloid (*Lysurus*) new to Europe,”* by Mr. Harold Murray, of the Manchester Museum.

In proposing a vote of thanks to the Museum authorities, and to Messrs. Dunlop and Madeley in particular, Mr. Wheldon remarked that the attitude of the Warrington Museum in fostering and promoting the study of botany and natural history was extremely gratifying, and it was much to be regretted that in this direction Liverpool was so much behind. Dr. Ellis, in seconding the vote, said that he always regarded the Warrington Museum—the botanical department in particular—as a model of what a museum should be, and the position of botany at the Liverpool Museum and the attitude between the Museum authorities and local naturalists and teachers at Liverpool were in comparison matters for regret.

An evening meeting was held at Birkenhead Docks on Wednesday, June 30th. There was only a small attendance of Members, doubtless due to the very short notice of this meeting. This may seem a curious and uninviting locality at which to hold a field meeting, but as we were specially concerned with alien vegetation on this occasion, the venue was by no means inappropriate. Many strange plants obtain entrance to this country by the seaports, and the waste ground in the vicinity of almost any port will generally yield a number of such “waifs and strays,” which so gladden the heart of some of us. These are often introduced with ballast, grain, wool, cotton, or other cargo. In many instances these introductions have a necessarily precarious existence, and usually soon die out, but occasionally such a plant may thrive and spread rapidly, so that in course of time it assumes quite a native aspect, and becomes to all intents and purposes a member of our British Flora. Accordingly, it is well that some attention should be paid to these plants, particularly in a district such as this. Quite apart from the purely systematic aspect of the subject, in which one may be readily engulfed, there is another point of view, perhaps much more attractive, which should not be overlooked, for, after all, plants—aliens or otherwise—are not merely objects to illustrate the utility of the Latin language. We have all met the type of person—by no means extinct even in this enlightened age—whose sole concern on encountering a plant is to know its scientific name, or perhaps its particular natural order. After obtaining this information the plant may be ticked off in a pocket flora as having been “found,” or perhaps the fact is duly advertised or “recorded,” the plant is cast aside, and henceforth that particular species is ignored. Or perhaps at some future date temporary interest may be again kindled if this innocent plant should happen to be seen in some other district or county, where it may not have chanced to have been previously noticed by anyone else.

*This will appear in the “Transactions.”

It is always interesting to study the behaviour of a plant when it happens to find itself in fresh or strange surroundings, and exposed to new conditions of life. In the case of many of these aliens there is a remarkable responsiveness and adaptability to change of environment which is well deserving of attention. In many instances marked changes may occur in the habits or structure of the plant, and so it is always well to endeavour to become acquainted with the mode of life of the plant in its native haunts. The behaviour and development of the same species should also be followed in different localities. It is interesting to note that while certain genera or natural orders commonly occur or predominate in our alien flora, others are rarely or never represented. The nature and structure of the seed or fruit suggests another branch of inquiry, and this will often be found to be closely correlated with the mode of introduction and distribution. Although these aliens are well represented locally, and constitute a feature of the flora which should not be overlooked, yet it is curious that no systematic effort has so far been made to investigate the subject, and so I would commend it to notice in the hope that some Member or Members of this Society might attempt to supply the deficiency. If treated sympathetically and rather from the standpoint I have briefly indicated than from a purely arid systematic aspect, the alien flora of the Liverpool district would repay attention, and the results of such work would be both valuable and interesting.

On this occasion the party was under the guidance of the President and Dr. C. T. Green. Altogether sixty-five species of Phanerogamia were observed, which may be regarded as a very satisfactory total, considering the locality and season. Amongst the aliens **Matricaria discoidea* was very much in evidence, and it was interesting to notice it lining the side of the road leading from the Docks to Flaybrick Hill, which it followed for a considerable distance inland. *Sisymbrium pannonicum*, Jacq., and *S. orientale* were also seen in fair amount. Several examples of a most unpleasantly strong smelling Umbelliferous plant were readily recognised as the Coriander (*Coriandrum sativum*), and close by was a near relative, the Caraway (*Carum Carui*). *Lepidium Draba* (Whitlow Pepperwort) was frequently seen. This alien, which is a native of Western Asia and South-east Europe, is now a common plant in many places, and is thoroughly naturalised. It was first introduced into England with the bedding-straw of invalid troops disembarked at Ramsgate from the Walcheren Expedition. It subsequently became distributed with manure into many parts of Kent and the south of England, where it is now abundant in certain places. In the Liverpool area this was first recorded growing by the Dee shore in Flintshire some sixty years ago. It is now quite a common plant in various places along the estuary from Saltney to Bagillt. On the Dee embankment, for a distance of half a mile or so north-west of the Bettisfield Colliery, it is quite the predominant plant. It grows here in large masses in the interstices of the stones of the embankment to practically the complete exclusion of everything else. Further on, where the bare stones are succeeded by a layer of turf, the *Lepidium* disappears.

**M. suaveolens*, D.C.

North Wales was again visited on July 3rd, when a whole day excursion was made to Cwm, which was reached *via* Prestatyn and Dyserth. This picturesque district is perhaps one of the most delightful corners of the county, and of supreme interest to the botanist. This locality has rarely if ever been previously visited by any scientific society, and so expectations on this occasion ran high. The weather, of course, was ideal, and we were fortunate in being under the guidance of Mr. R. H. Day, who joined us at Dyserth. Owing to the limestone formation hereabouts the flora is extremely rich and diversified, and calciphilous species are well represented.

Leaving Dyserth Station, the Ochr-y-Foel road was followed for some distance, and making a diversion, the plateau which caps Moel Hiraddug was reached by a gentle ascent. On the roadside shortly after leaving the station the alien *Sisymbrium pannonicum* was noticed in fair amount. This plant had not previously been seen in Flintshire, and doubtless, the railway was responsible for its introduction here. It is a native of Hungary, and appears to have been accidentally introduced to this country many years ago. It soon established itself about Crosby, near Liverpool, where it has now become quite naturalised and plentiful, and so has gained for itself a place in the British Flora. It appears to be spreading in this country, and it will be interesting to see if this alien maintains its footing at Dyserth, and makes any headway in North Wales. The imposing limestone escarpment and crags of Moel Hiraddug and the extensive plateau above support an attractive flora, which closely resembles the vegetation of the Orme's Head. It has not, however, received anything like the same amount of attention from naturalists, and the botanical possibilities of the locality are considerable and by no means exhausted.

Mr. Wheldon called attention to an interesting point in connection with the distribution of the graceful little Meadow Rue (*Thalictrum minus*) on this slope. The plant is constantly exposed to the depredations of grazing animals, which apparently evince a decided partiality towards its graceful foliage. It was instructive to notice the very simple mode of defence which had been acquired by the plant. The ground hereabouts is studded with clumps of furze, often of dwarf habit, and more or less rounded—partly owing to exposure, and to some extent also due to the constant attentions of sheep, &c., which nibble off the soft young growing points. These furze clumps form a kind of vegetable "*roches moutonnées*," and in the centre of most of them one is pretty certain of finding good examples of *Thalictrum* which have retreated here to take advantage of the effective protection afforded by the surrounding spinescence. In the intervening open ground it is almost impossible to find plants, or, at least, examples of any size.

The most unimaginative could scarcely fail to be impressed by the vivid luxuriance and charm of the limestone flowers which carpeted and wreathed the rocks in many places. The large, delicate blossoms of *Geranium sanguineum* formed great straggling masses of delicious colour, to which no adjectives or description of mine could do justice. The fugacious bright yellow orbs of the Rock Rose made a dazzling cloth of gold; nor must I forget to mention its rare relative, *Helianthemum canum* (Hoary Rock Rose). This uncommon species, confined to some

seven or eight British counties, was in places the predominant plant. From the common species it was readily distinguished by the smaller flowers, which were of a different shade of yellow, and the hoary exstipulate foliage. There are also several little differences in regard to the pollination of these two flowers. The blossoms of the Common Rock Rose are homogamous, and the stamens are sensitive. In the Hoary Rock Rose self-pollination can rarely or never occur, as the flowers—in North Wales at least, and probably elsewhere—are protogynous, and the stamens dehisce outwardly. The stamens are apparently not sensitive, as in the former case.

Amongst many noteworthy plants seen here were *Epipactis atrorubens*, *Carduus crispus* and *C. pycnocephalus*, *Kæleria cristata*, *Scabiosa Columbaria*, *Cornus sanguinea*, *Rosa spinosissima*, *Rubia peregrina*, and *Endocarpum rufescens*. From the summit a wonderful view was obtained, but the strong wind rendered it difficult to keep one's feet in this exposed situation. The vegetation was very stunted as a result. A curious effect was evident in the case of some bushes of blackthorn which had developed horizontally into a kind of mat, which spread along the ground, never rising more than six inches or so in height. Miss Cooke called attention to some apparently aberrant examples of Wild Thyme, which she obtained here. These proved to be *Thymus Chamaedrys*, new to the county. Close to a farm between here and Cwm we were fortunate in finding a fair-sized clump of Henbane, which was an acceptable addition to our list. I counted 127 small insects of various kinds adhering to the clammy stem of a single plant in this patch. Are the viscid hairs of *Hyoscyamus* merely a protection to the flowers from unwelcome honey stealers, as appears to be the case in *Silene nutans*, or do they indicate a possible insectivorous habit?

Descending to Cwm, a visit was paid to Bryn Goleu, where Members were received and kindly entertained by Mr. and Mrs. Day. After leaving here tea was obtained at the little farm of Plasse, when a cordial vote of thanks was accorded Mr., Mrs., and Miss Day, to whom the success of the most interesting field meeting of the year was almost entirely due. In Cwm Churchyard the Evergreen Alkanet (*Anchusa sempervirens*) had run wild amongst the graves, and the cheerful blue blossoms were new to some of us. Not far away a few examples of the rare *Erodium moschatum* were seen. Leaving this Arcadian spot, we returned to Dyserth, where a few Members walked along the railway to Talargoch in search of the Nottingham Catchfly (*Silene nutans*). This plant has flourished here for more than a century, and this *locus classicus* is mentioned by *Bingley as early as 1804. *Silene nutans* is an interesting plant for several reasons. The flowers are moth-pollinated, and like most blossoms of this kind they are white and unfold at night. They are more or less scentless during the daytime, but with the advent of dusk they become very fragrant. The life of the flower extends over three days, or rather three nights, and the behaviour and development of the blossom during this period is interesting. The ten stamens are arranged in two whorls, the outer five being inserted opposite the sepals, while the five inner are each opposite a petal. The first night that the flower opens, the five outer stamens grow rapidly until the length of the filaments

*North Wales, 1804 (2 vols.).

is such that the anthers soon project beyond the corolla. The pollen matures and is liberated. During this time the flower is being visited by moths for the sake of the honey which is secreted. About four o'clock (a.m.) the scent disappears, the five outer anthers drop off or the stamens shrivel up, and by the time daylight appears most of the flowers have completely closed, and present a faded and shrivelled aspect.

At dusk of the next evening the petals of the apparently faded flowers again unfold, the honey is once more exposed and its evidence indicated by the flowers again becoming fragrant. The five remaining stamens—the inner whorl—now develop in precisely the same way as the outer five did on the previous night. With the advent of daylight they have shrivelled up or lost their anthers, the flowers are again closed and apparently faded in most cases, and have lost their fragrance. On the third and last night the gynœcium grows rapidly, and the long, prominent stigmas become receptive, and now occupy the same position as that of the stamens on the two previous nights. *By this unusual type of protandry, no doubt, self-pollination is rendered practically impossible, save in rare cases, which I have occasionally observed, in which the anther does not happen to fall off, or may not be drawn into the corolla by the contraction consequent on the shrivelling of the filaments.

During anthesis the upper part of the stem and pedicels are markedly sticky, and small insects are often seen adhering to the viscid hairs which cover these parts, as in the Henbane. It is said that this exudation serves to protect the flowers from the depredations of ants and other undesirable honey stealers. Support seems to be afforded to this suggestion by the fact that the viscidities disappear after flowering.

A second evening excursion was held on Wednesday, July 14th, when a few Members visited Kirkby under the leadership of Mr. W. G. Travis. In the little stream below the Church a peculiar freshwater Sponge was found attached to a stone, and the field above yielded two small Bryophyta—a moss, *Pottia truncatula*, and the liverwort, *Fossombronia pusilla*. *Myrrhis odorata* grew along the banks, this being an old station for it. The Bramble, *Rubus rosaceus*, was growing by the weir by Kirkby Mill, and in the stream the aquatic moss, *Fontinalis antipyretica*, was fairly plentiful. The swampy margins of the pond above the mill were tenanted by a miniature forest of the Canary Reed (*Phalaris arundinacea*, and here we found many marsh plants such as *Carex acuta* and *C. vesicaria*, *Scirpus palustris*, the Marsh Bedstraw (*Galium palustre*), *Typha*, &c. A large patch of Bistort was noticed, but we were too late for the flowers. The little alien *Matricaria discoidea* was much in evidence along the road sides, and appeared to be rapidly spreading. A few plants of the Corn Marigold (*Chrysanthemum segetum*) were seen on some waste ground near a cottage. This is quite

* The foregoing account is mainly based upon Kerner's observations, which were made in the Tyrol. Possibly the behaviour of the flowers varies in different localities. My own imperfect observations on the flowers of *Silene nutans* in Flintshire are not entirely in agreement with Kerner. Schulz, working at Halle, and in Thuringia, the Tyrol, and North Italy, was unable to confirm Kerner's observations except in a few points.

a rarity about Liverpool, and seems absent from many districts. In most places it is quite a common species—too much so from the farmer's point of view, perhaps. In the same locality a patch of Rosebay (*Epilobium angustifolium*) was also found, but it is questionable as to whether it was really wild. On the mossland, not far away, it is truly native, however, and occurs in abundance.

As little appeared to be known regarding the flora of the district between Blackburn and the Ribble, it was decided to hold a field meeting in this area, and so on July 24th a small party journeyed to Wilpshire, a little village north of Blackburn. The Ribble valley hereabouts is remarkable for the number of old halls, several of which we encountered in the course of this excursion. Passing through Salesbury, we turned into some fields, and struck off towards the Ribble. Soon after leaving the station the weather broke, and it continued to rain briskly until a hostel not inappropriately named the "De Tabley Arms" was reached. On the way *Myrrhis odorata* was found near Bolton Hall, and several ponds in the fields between here and the Ribble bridge yielded a number of aquatic plants. To economise time, as it was still raining heavily on reaching Ribchester Bridge, it was decided to have tea at once. The wisdom of this policy was soon justified, for as soon as tea was over the rain had ceased, the clouds cleared, and we were favoured with excellent weather for the remainder of the day.

The Ribble banks were more or less submerged owing to the recent rain, and the swollen river prevented much investigation hereabouts. The Soapwort (*Saponaria officinalis*) occurred in plenty, but was not yet in bloom. *Geranium pratense* was also seen here. This is frequently found along the course of a river, and probably extends right along the Ribble valley. *Pimpinella major*, a species of curious distribution, was quite plentiful, and the thistle *Carduus crispus* was seen along the road between New Hall and Dinckley. The White Dead Nettle, a very local species in Lancashire, was noticed near Ribchester Bridge, and some examples of *Conium maculatum* grew near by. The return journey was made from Langho Station, and several noteworthy plants were observed on the way. The Guelder Rose was not uncommon, and a large patch of the Dyer's Green-weed (*Genista tinctoria*) was seen in a field skirting the road. The Bay Willow (*Salix pentandra*) was growing by a stream which crossed the road between Dinckley and Langho Station. The leaves appeared to have been attacked by a parasitic fungus of some kind which had left prominent brown patches on the blade. I was unable to identify this; nor were two mycologists to whom it was submitted able to help me beyond confirming my impression as to its fungoid character. There are only two other plants which I need mention. These are the Great Burnet (*Poterium officinale*), a somewhat exceptional member of the Rosaceæ in having definite stamens, and our little sandhill willow, *Salix repens*; the former is very rarely seen in the Liverpool area, and is very uncommon in many parts of South Lancashire also. A number of Fungi were obtained on this occasion by the President and Dr. Ellis, and for the list of these I have to thank Mr. Harold Wheldon.

At the kind invitation of Mrs. Stevenson, Members were accorded the privilege of inspecting her unique roof garden and greenhouses on August 10th. These collections are of interest in showing the possibilities of town gardening. Although situated practically in the heart of a great city, and in one of the main thoroughfares of Liverpool, Mrs. Stevenson had been extremely successful in the growth of Vines, Orchids, Chrysanthemums, and other plants which most horticulturists would regard as impossible of cultivation in such a locality. Our best thanks are due to Mr. and Mrs. Stevenson for their kindness in entertaining Members on this occasion, which proved an interesting and enjoyable meeting.

It had sometimes been asked why the Liverpool Botanical Society had never held a field meeting at Silverdale, the Mecca of the Lancashire botanist. Although such an attractive locality, which many of us have visited at one time or another, it has received so much attention from naturalists in general that the flora of the district has been fairly well investigated. A day excursion was arranged here on August 14th. In its natural features the country hereabouts very closely resembles the Warton Crag district, which we visited last year, and which lies merely two miles or so south of Silverdale. There is consequently a very similar flora, and many of the plants found at Warton the previous session were again noticed here. One sees the same limestone pavement with its attractive natural thicket, composed of such shrubs as Juniper, Spindle Tree, Dogwood, Yew, and Buckthorn, and the vegetation of the locality, as one would expect, is essentially of a calciphilous nature. The President was unable to be present, as anticipated, and so we were fortunate in again pressing Mr. J. W. Hartley, of Carnforth, into service as leader.

This meeting was characterised by the wealth of rare and interesting plants encountered. The margins of Hawes Water and the adjoining ground were specially prolific. The elegant Mealy Primrose (*Primula farinosa*) was growing in the swamp by the lake, but we were just too late for flowering examples. The flowers in this species are dimorphic, as in the Common Primrose and so many of the genus. A few bushes of the fragrant Bog Myrtle were also seen here, and near by was a tall, rush-like plant, which proved to be *Cladium Mariscus*.

Several lizards (*Lacerta vivipara*) were observed in this swampy ground. It would be difficult to find a more difficult creature to capture, and on this occasion these examples quite justified their reputation. One sees the lizard first here, then there, and then not at all, and it is a hundred to one against finding it unless it has sought the shelter of an isolated tuft of grass from which it may be dislodged. Even then it is very difficult to see the little creature amongst the roots, and just as it is exposed, and one is about to grasp it, like a flash it darts out and away to a more secure hiding place. Among short turf near the lake the little *Selaginella* was fruiting profusely, and on the dry hillside higher up we obtained the Squinancy Wort (*Asperula Cynanchica*). The peculiar name of the latter seems to refer to a former application of the plant on account of its fancied medicinal power. Among the many

Cryptogamia seen here were *Hylocomium rugosum*, *Squamaria crassa*, and *Metzgeria furcata*. The Lily of the Valley was growing abundantly in the wood adjoining Hawes Water, and further on were many bushy plants of the Gromwell (*Lithospermum officinale*). Coming to the Leighton Beck, which at this point separates Westmoreland and Lancashire, we found some trees of the rare and local *Tilia cordata*, a very distinctive species with flowers more or less erect, and not pendulous, as in the common Linden (*T. intermedia*). Much more might be said regarding the wealth of plant life encountered on this occasion, but as the area in question is so familiar to most botanists this seems quite unnecessary.

Two further field meetings were held at Hale (and Dungeon Marsh) and Knowsley, but as your Secretary was absent on both these occasions, I can say little concerning such. The Knowsley excursion yielded a number of fungi, some of which, I understand, are new to the county. For the list of these I am indebted to Mr. Harold Wheldon. An aquatic plant which was found in the large lake by Mr. H. J. Brocklehurst proved to be the Hornwort (*Ceratophyllum demersum*). As this is by no means a common plant in the Liverpool area, and as it does not appear to have been observed in this station previously, the fact seems worthy of note.

It would be well if more Members would make an effort to take up the study in the field of some of the more neglected aspects and by-paths of the subject, for there are many phases and problems of plant life, quite apart from the purely systematic side, which call for outdoor investigation. In a Society so catholic in scope it is desirable that these broader aspects should receive at least equal prominence and attention as the systematic side. As the last is so strongly represented, I have no hesitation in making a strong plea on behalf of the former. For the guidance of newer Members or any who may be in doubt as to what branch to take up I would refer such to my remarks in the "Proceedings" for 1908 (pp. 50-51).

This broader sphere offers ample scope for valuable and original work, and it is here well to recognise the fact, that on the other hand much so-called systematic work is only too apt to develop into mere more or less aimless and indiscriminate plant gathering and accumulation of collections. To those who regard botany (*sic*) in the latter light I would commend the claims of postage stamps, heraldic china, picture postcards, and names of railway engines, to consideration. The accumulation of any of these will afford equal scope to the collecting instinct, and is doubtless of equal educational value.

In Memoriam.

JOHN JOSEPH OGLE

(1857-1909)

(*With Portrait*).

It is with regret we record the death of Mr. J. J. Ogle, of Bootle, which took place somewhat suddenly on December 19th, 1909, after an apparently successful operation, the immediate cause of death being meningitis. He had suffered severely by a very sad bereavement in his family, and this, coupled with other anxieties, undoubtedly hastened the end. His manifold virtues, both public and private, had endeared him to a large circle of friends, as well as to the public generally.

He was born at Lincoln on February 4th, 1857, and had the honour of being a self-made man, for his early scholastic advantages were few. However, when he entered the Nottingham Free Public Libraries in 1881, he availed himself to the fullest of the opportunities afforded by the University College, adjoining the Library. His chief studies were in languages, English and foreign literature, and science. He was specially interested in botany and ornithology, but all branches of nature study appealed most strongly to him, and he was also a true lover of Art. He matriculated at the University of London, but such was the pressure of his work, coupled with many public duties, he was unable to proceed to a degree.

Mr. Ogle came to Bootle from Nottingham in 1887 as the first Librarian and Curator to the Bootle Public Library and Museum. As a public librarian he was never found wanting, and the high position now held by this Library must be attributed to his initial work.

He became a recognised authority on all matters connected with public libraries and museums, and was a frequent contributor to the Transactions of the Library Association of the United Kingdom, as well as those of the Museum Association, of which Associations he was a valued member; and last year the Library Association elected him as an Honorary Fellow, as a tribute to his most valuable services.

In 1897 he published, under the editorship of the late Dr. Richard Garnett, of the British Museum, "The Free Library: Its History and Present Condition," which is still regarded as the standard work upon this subject, and in the following year an important official document, the "Report of the Education Department on the connection between the Public Elementary School and the Public Library." In 1895 he was joint-author with Mr. H. W. Fovarque of the manual on "Public Library Legislation." In 1891 he received the additional appointment of Organising Secretary for Technical Instruction to those of Librarian and Curator, a position for which he was well fitted. He continued to hold this triple office until March, 1900, when he reluctantly severed his



JOHN JOSEPH OGLE.

connection with library and museum work, and took up the duties of Director of Higher Education at the opening of the new Technical School at Bootle, and for ten busy years discharged these more responsible duties with distinguished success.

His activities were displayed in many directions. In 1883 he communicated to the *Midland Naturalist* some "Observations on the Fertilisation of Certain Species of *Saxifraga*." He also contributed various papers on local floras at different times to our own and other kindred societies.

He was a man of deeply religious convictions, and well known in local Wesleyan circles, and highly esteemed in Municipal and Masonic circles, and it was characteristic of him to be Local Secretary of the National Society for the Prevention of Cruelty to Children, a cause he greatly assisted by his energy and natural kindness of heart. He was also Local Secretary to the British and Foreign Bible Society. To those who had the privilege of knowing him personally, his loss is irreparable—he made himself beloved by his unflinching personal integrity, his hatred of all injustice, and his readiness at all times to assist with kindly word and wise counsel, student or friend.

The funeral took place on December 23rd, at Anfield Cemetery, and before the interment a service took place at the Balliol Road Wesleyan Church, Bootle, where there was a very large gathering of friends. His intimate friend the Rev. James Lewis, conducted the service, and also officiated at the final ceremony. He commenced his address by reading a letter from Vice-Chancellor Dale, of Liverpool University, expressing sympathy with the loss they had suffered, and also saying that among the men with whom he had worked during the last ten years, no one had impressed him more deeply by their enthusiasm, wisdom, sincerity, and unselfishness. The reverend gentleman then delivered a very high appreciation, remarking that Mr. Ogle was a man of the highest honour, he was a great Christian, and in him was exemplified in a marvellous degree the supreme Christian virtue, Charity, used in the sense of St. Paul: He was true, he was just, loyal, chivalrous, and these were linked with modesty and tenderness. Out of such men were great nations built.

R. H. DAY.

Donations and Additions to the Library, 1909.

BY PRESENTATION.

- Horwood (A. R.)*— The Cryptogamic Flora of Leicestershire.....AUTHOR
Lister (G.)— Guide to British Mycetozoa ... BRIT. MUSEUM, NAT. HIST.
Moss Exchange Club— Report, 1908-9J. A. WHELDON
Ray (John)— Catalogus plantarum Angliae et insularum adjacentium
J. J. OGLE
- Rendle (A. B.)*— History of Plant Classification.
 ——— and *Britten (J.)*—List of British Seed Plants and Ferns.....
BRITISH MUSEUM, NAT. HIST.
- Smith (W. G.)*— Guide to Sowerby's Models of British Fungi.....
BRITISH MUSEUM, NAT. HIST.
- Warming (J. E.)*— Flora of the Faroes.....AUTHOR
Wheldon (Harold J.)— A Contribution to the Manx Fungus Flora.....AUTHOR
- Books, formerly the property of Dr. Christopher Johnson, of Lancaster, presented to the Society by Dr. HENRY C. LAMPORT, of Lancaster.
- Collection of Drawings of Polycystins by Mrs. BURY, of Liverpool, from slides prepared by CHR. JOHNSON, Esq.
- Explication des Planches des Zoophytes Infusoiries.
 Nouveau Manuel complet de l'observateur au Microscope.
- Griffith (J. W.)* and *Henfrey (A.)*—The Micrographic Dictionary. 2 vols.
Kützing ()— Die Kieselschaligen Bacillarien oder Diatomeen.
 Tabulae Phycologicae. Parts I., II., III., IV., VI.
- Ralphs (John)*— The British Desmideae.
Smith (W.)— A Synopsis of the British Diatomaceae. 2 vols.

BY EXCHANGE.

- Abstracts of Papers read before the Brighton and Hove Natural History and Philosophical Society. For the years ending June 13th, 1900; June 12th, 1901; June 11th, 1902; June 10th, 1903; June 8th, 1904; June 14th, 1905; June 13th, 1906; June 6th, 1907; June 10th, 1908.
- Barrow Naturalists' Field Club*—Proceedings XVIII., for 29th and 30th years, ending March, 1906.
- Burton-on-Trent Natural History and Archaeological Society*—Transactions, V., Part 2, for 1902-1903, 1903-4, 1904-5, 1905-6.
- Chester Society of Natural Science*—Report and Proceedings, 1908-9.
- Schriften der Naturforschenden Gesellschaft in Danzig.*
- Eastbourne Natural History Society*—Transactions IV., Part 2, New Series.
- Edinburgh Field Naturalists' and Microscopical Society*—Transactions, VI., Part 1 (Session 1907-8).
- Bulletin de la Société Linnéenne du Nord de la France*, XVIII., 1906-7.
- Memoirs and Proceedings of the Manchester Literary and Philosophical Society* :—
- (i) On the Tent-building habits of the Ant *Lasius niger*, Linn., in Japan. From Vol. LIII., Part 3.
 - (ii) The Use of Wind by Migrating Birds. From Vol. LIII., Part 2.
 - (iii) The Geographical Distribution of Birds of the genus *Macronyx*, Swainson. From Vol. LIII., Part 3.
 - (iv) On the Occurrence and Distribution of some Alien Aquatic Plants in the Reddish Canal. From Vol. LIII., Part 2.
 - (v) The Davels of some Egyptian Coffins of the XIIth Dynasty. From Vol. LIII., Part 1.
 - (vi) A Preliminary Account of the Submerged Vegetation of Lake Windermere, as affecting the Feeding Ground of Fishes. From Vol. LIII., Part 2.
 - (vii) Notes on the Spawning of *Eledone* and on the Occurrence of *Eledone* with the Suckers in Double Rows. From Vol. LIII., Part 1.

New York Botanic Garden—Bulletins, Nos. 19, 20, 23.

North Staffordshire Field Club—Annual Report and Transactions, 1908-9.

Bericht der West Preussischen Botanisch-Zoologischen Vereins, 1908.

Contributions to the United States National Herbarium, Vol. XII. :—

Part I. Studies of Tropical American Ferns. A Catalogue of the Botanical Library of John Donnell Smith.

Part II. The Lecythydaceae of Costa Rica. By H. Pittier de Fabrega.
Tonduzia, a new genus of Apocynaceae from Central America.
By H. Pittier de Fabrega.

A Collection of Plants from the vicinity of La Guaira, Venezuela.
By J. R. Johnston.

Part III. Types of American Grasses.

Part IV.

Part V. New or Noteworthy Plants from California and Central America.

Part VI. A Catalogue of the Grasses of Cuba.

Part VII. Studies of Mexican and Central American Plants.

Part VIII. The Allioniaceae of the United States, with notes on Mexican Species.

Part IX. Miscellaneous Papers.

Vierteljahrsschrift der Naturforschenden Gesellschaft in Zurich, 1908.

Monetary Donations.

										s.	d.
Haydon, W. T.	...	...	...	...	...	...	...	...	...	5	0
Two Donations	...	...	...	...	...	...	...	...	...	2	0
										<hr/>	
										7	0
										<hr/> <hr/>	

Lists of Plants observed at certain Field Meetings.

WEPRE and EWLOE, May 2nd, 1908.

MOSES.

Polytrichum piliferum, Schreb.
 „ *formosum*, Hedw.
Fissidens taxifolius, Hedw.
 „ *viridulus*, Wahl.
 „ *bryoides*, Hedw.
Hypnum stellatum, Schreb.
 „ *cuspidatum*, L.
 „ *Sendtneri*, Schp.
 „ *resupinatum*, Wils.
 „ *palustre*, Huds.
 „ *cupressiforme*, L.
Brachythecium rutabulum, B. & S.
 „ „ var. *robustum*,
 B. & S.
 „ *populeum*, B. & S.
 „ *velutinum*, B. & S.
 „ *plumosum*, B. & S.
Amblystegium filicinum, De Not.
 „ *riparium*, B. & S.
 „ *serpens*, B. & S.
 „ *Juratzkanum*, Schp.
Eurhynchium praelongum, Hobk.
 „ *confertum*, Milde.
 „ *rusciforme*, Milde.
Plagiothecium denticulatum, B. & S.
 „ „ var. *majus*.
Hylacomium squarrosum, B. & S.
Homalia trichomanoides, B. & S.

Lophocolea cuspidata, Limpr.
 „ *bidentata*, Dum.
 „ *heterophylla*, Dum.
Frullania dilatata, Dum.
Metzgeria furcata, Dum.
Pellia epiphylla, Dum.

Pannaria nigra, Nyl. On limestone on
 summit of ruins of Ewloe Castle.
Verrucaria nigrescens, Pers. On lime-
 stone on summit of ruins of Ewloe
 Castle.
Parmelia saxatilis, Ach.
 „ *physodes*, Ach.
 „ *fuliginosa*, Nyl. var. *laetevirens*.

HEPATICAE.

Neckera complanata, Hübn.
Thamnum alopecurum, B. & S.
Thuidium tamariscinum, B. & S.
Pleuropus sericeus, Dixon.
Pterygophyllum lucens, Brid.
Bryum caespiticium, L.
 „ *capillare*, L.
 „ *pseudo-triquetrum*, Schwaeg.
Mnium punctatum, L.
 „ *hornum*, L.
Tortula subulata, Hedw.
 „ *muralis*, Hedw.
Barbula fallax, Hedw.
 „ *rubella*, Mitt.
 „ *cylindrica*, Schp.
 „ *convoluta*, Hedw.
Catherinea undulata, W. & M.
Ceratodon purpureus, Brid.
Dicranella heteromalla, Schp.
Dicranoweisia cirrata, Lindb.
Weisia crispata, C. M.
Funaria hygrometrica, Sibth.
 „ „ var. *calvescens*, B. & S.
Webera carnea, Schp.
 „ *nutans*, Hedw.
Aulacomnium androgynum, Schwaeg.
Tetraphis pellucida, Hedw.

LICHENS.

Kantia trichomanis, Gray.
Conocephalus conicus, L.
Lunularia cruciata, Dum.
Plagiochella asplenioides, Dum.
Lepidozia reptans, Dum.

Peltigera canina, Hoffm.
Graphis scripta, Ach.
Lecanora citrina, Ach.
Collema pulposum, Ach.
Lecidea lucida, Ach.
Pertusaria communis, D. C.
 „ *amara*, Nyl.
Ramalina farinacea, L.

THELWALL, June 19th, 1909.

MOSES.

Physcomitrium pyriforme, Brid.
Webera nutans, Hedw.
 „ *carnea*, Schp.
Mnium punctatum, L.
 „ *undulatum*, L.
Fissidens bryoides, Hedw.
Hypnum cuspidatum, L.
 „ *stellatum*, Schreb.
Funaria hygrometrica, Sibth.
Catherinea undulata, W. & M.
Pleuropus sericeus, Dixon.

Brachythecium rutabulum, B. & S.
 „ *plumosum*, B. & S. (By the
 Ship Canal).
 „ *velutinum*, B. & S.
Ceratodon purpureus, Brid.
Dicranella heteromalla, Schp.
 „ *cerviculata*, Schp.
Barbula convoluta, Hedw.
Tortula muralis, Hedw.
Bryum pendulum, Schp, c. frt.

LICHENS.

- Lecidea uliginosa*, var. *humosa*, Leight. *Squamaria saxicola*, Poll. With apothecia
With apothecia in Thelwall Roughs. in Thelwall Roughs.

BIRKENHEAD DOCKS, June 30th, 1909.

PHANEROGAMIA.

- | | |
|---|---------------------------------|
| <i>Ranunculus acris.</i> | <i>Artemesia vulgaris.</i> |
| <i>Raphanus Raphanistrum.</i> | " <i>Absinthium.</i> |
| <i>Sisymbrium officinale.</i> | <i>Ambrosia trifida.</i> |
| " <i>orientale.</i> | <i>Tussilago Farfara.</i> |
| " <i>pannonicum.</i> | <i>Hypochaeris radicata.</i> |
| <i>Lepidium Draba.</i> | <i>Taraxacum officinale.</i> |
| <i>Brassica Sinapis</i> , Visiani. | <i>Bellis perennis.</i> |
| <i>Cochlearia Armoracia.</i> | <i>Centaurea nigra.</i> |
| <i>Lychnis vespertina.</i> | " <i>aspera.</i> |
| " <i>dioica.</i> | <i>Cnicus arvensis.</i> |
| <i>Silene inflata.</i> | " <i>lanceolatus.</i> |
| <i>Stellaria graminea.</i> | <i>Linaria vulgaris.</i> |
| <i>Reseda Luteola.</i> | <i>Rumex obtusifolius.</i> |
| " <i>lutea.</i> | " <i>crispus.</i> |
| <i>Linum angustifolium.</i> | " <i>Acetosa.</i> |
| " <i>usitatissimum.</i> | " <i>Acetosella.</i> |
| <i>Geranium dissectum.</i> | * <i>Atriplex</i> sp. |
| <i>Medicago sativa.</i> | <i>Juncus conglomeratus.</i> |
| " <i>lupulina.</i> | <i>Phalaris minor.</i> |
| <i>Trifolium pratense.</i> | <i>Bromus sterilis.</i> |
| " <i>repens.</i> | " <i>mollis.</i> |
| " <i>resupinatum.</i> | <i>Festuca sciuroides.</i> |
| <i>Melilotus officinalis.</i> | " <i>ovina.</i> |
| <i>Carum Carui.</i> | <i>Lolium multiflorum.</i> |
| <i>Coriandrum sativum.</i> | <i>Agropyron repens.</i> |
| <i>Pastinaca sativa.</i> | " <i>caninum.</i> |
| <i>Anthriscus sylvestris.</i> | <i>Holcus mollis.</i> |
| <i>Heracleum Sphondylium.</i> | " <i>lanatus.</i> |
| <i>Rubus dumetorum</i> var. <i>ferox.</i> | <i>Dactylis glomerata.</i> |
| <i>Anthemis Cotula.</i> | <i>Arrhenatherum avenaceum.</i> |
| <i>Matricaria discoidea</i> (= <i>suaveolens</i>). | <i>Poa annua.</i> |
| " <i>inodora.</i> | " <i>compressa.</i> |
| <i>Tragopogon pratense.</i> | <i>Triticum vulgare.</i> |

* Too immature for specific identification.

WILPSHIRE and LANGHO, July 24th, 1909.

FUNGI.

- | | |
|---|--|
| <i>Panus conchatus</i> , Fr. | <i>Polystictus hirsutus</i> , Fr. Near Wilpshire. |
| <i>Amanita muscarius</i> , Fr. (a brown variety). | " <i>versicolor</i> , Huds. " " |
| <i>Hygrophorus coccineus</i> , Schaeff. | <i>Stereum hirsutum</i> , Fr. " " |
| <i>Russula heterophylla</i> , Fr. | <i>Puccinia poarum</i> , Neils. Near Ribchester |
| <i>Entoloma helodes</i> , Fr. | Bridge. |
| <i>Nolanea pascua</i> , Pers. | <i>Uromyces alchemillae</i> , Pers. Near Rib- |
| <i>Stropharia stercoraria</i> , Fr. | chester Bridge. |
| " <i>semiglobata</i> , Batsch. | <i>Cystopus candidus</i> , Lév. On <i>Capsella</i> , |
| " <i>merdaria</i> , Fr. | Langho. |
| <i>Hypholoma appendiculata</i> , Bull. | <i>Oidium monolioides</i> , Link. On <i>Triticum</i> |
| All the above seen in fields between Wilp- | <i>repens</i> , Langho. |
| shire and Ribchester Bridge. | <i>Podospaera oxyacanthae</i> . On hawthorn, |
| <i>Coprinus domesticus</i> , Pers. Near Wilp- | at Langho. |
| shire. | <i>Cystopus tragopogonis</i> , Schael. Near Rib- |
| <i>Panaeolus campanulatus</i> , L. Near Langho. | chester. |
| <i>Psathyrella disseminata</i> , Pers. On a | |
| willow stump near Ribchester | |
| Bridge. | |

KNOWSLEY PARK, September 25th, 1909.

FUNGI.

- Amanita rubescens*, Fr., edible.
Lepiota cristata (Alb. & Sch.) Fr. Suspi-
 cious.
 „ *granulosa* (Batsch) Fr.
Tricholoma personatum, Fr. Edible.
 * „ *nudum*, Bull.
 „ *humile*, Fr.
Clitocybe metachroa, Fr.
Collybia maculata (As.) Fr.
 „ *radicata* (Bull).
 „ *butyracea* (Bull). Fr.
 * „ *dryophila* (Bull). Fr.
Mycena galericulata (Scop.) Fr. Suspected.
Hygrophorus virgineus (Wulf) Fr. Edible.
 „ *niveus* (Scop.) Fr. Edible.
 * „ *vitellinus*, Fr.
 * „ *obrusseus*, Fr.
 „ *conicus* (Scop.), Fr.
 Poisonous.
 „ *psittacinus* (Schaeff) Fr.
Laccaria Laccata, Scop. Several forms
 found.
Lactarius (Russ.) quietus, Fr.
 * *Russula depallens* (Pers.) Fr. Edible.
 „ *citrina*, Gillet.
 „ *emetica*, Fr. Poisonous.
 „ *ochroleuca* (Pers.) Fr.
Flammula conissans, Fr. On a tree root.
 „ *alnicola*, Fr. On dead branches.
Galera tenera (Schaeff) Fr.
 „ *ovalis*, Fr.
Cortinarius castaneus, Fr. Edible.
Stropharia aeruginosa (Curt.) Fr.
 Poisonous.
 „ *stercoraria*, Fr.
 „ *semiglobata* (Batsch) Fr.
 Poisonous.
- Hypholoma fasciculare* (Huds.) Fr.
 “The Bundle Stump.”
Psilocybe semilanceata, Fr. “Liberty Cap.”
Bolbitis titubans (Bull), Fr.
Pyathyrella disseminata, Pers. Covering
 an old stump.
Panaeolus campanulatus (Linn.) Fr.
Anellaria separata (Linn.) Karst.
Polyporus squamosus, Fr. On elm.
Polystictus versicolor, Fr.
Poria medulla-panis, Fr. On a dead
 branch.
 „ *vaporaria*, Fr. On a dead branch.
Stereum hirsutum, Fr. On a dead branch.
 „ *rugosum*, Fr. On a fallen branch.
Clavaria fusiformis, Sow. Amongst the
 grass.
 „ *inaequalis*, Fl. Dan. Amongst
 the grass.
Fistulina hepatica, Fr. On oak.
Scleroderma vulgare, Fr.
Cantherellus cibarius, Fr. Edible.
Marasmius oreades (Bolton) Fr. “The
 Champignon.” Edible.
 „ *ramealis* (Bull), Fr. On twigs.
 * *Pluteus nanus* (Pers.) Fr.
 * *Entoloma sericellum*, Fr.
Nolanea pascua (Pers.) Fr.
Inocybe geophylla (Sow.) Fr. The white
 form.
Naucoria temulenta (Bull.) Fr.
 * *Humaria granulata*, Sacc. On cow dung.
 * *Pilobolus crystallinus*, Tode. On dung.
 * *Sporodinia aspergillus*, Schüst. On decay-
 ing Agaric.
Trichoderma viride, Pers. Syn. On twig.
Cladosporium herbarum, Link. On decay-
 ing Agaric.

*New to the County List.

Mr. Harold J. Wheldon, who acted as mycological recorder at this meeting, writes:—“From a mycological point of view the Park is very disappointing, and the number of species met with, small as it is, exceeded my expectation. This paucity of material is, no doubt, due to the land being dry and well kept. The number of species noted was 61, out of which ten are new to the county list. Some doubtful specimens were referred to Mr. C. Crossland, F.L.S., of Halifax, and our thanks are due to him.”

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Number not to exceed Twenty-five.

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This list is corrected to the end of 1909, and includes only the names of Members during either or both the years to which this volume relates.

The Hon. Secretaries should be notified in cases of change of address.

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South Lancashire Flora Committee.

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Miss M. H. WOOD.

Hon. Secretary W. G. TRAVIS.

Liverpool Botanical Society.

Founded 21st May, 1906.

RULES.

Adopted at the General Meeting of the Society on Monday, 21st May, 1906.

I.—AIMS AND OBJECTS.

The object and aims of the Liverpool Botanical Society shall be :—To stimulate and promote the study of the various branches of Botany.

To bring local workers, students, and those interested in the subject into contact and for mutual assistance.

To encourage original work and research, especially in connection with local Botany. These objects are cultivated :—

- (1) By holding meetings for mutual assistance and for the interchange of botanical information; for the exhibition, study and identification of specimens; for the reading of original papers or translations, abstracts or reviews of botanical works, regarding any branch of botanical knowledge—practical, physiological, histological, geographical, systematic and palæontological.
- (2) By making excursions to places of botanical interest.
- (3) By publishing annually Proceedings, including a List of Members and Donations.
- (4) By appointing Committees of Research for the more effective investigation of definite branches of work.

II.—MEMBERSHIP.

(1) **ORDINARY**—Every applicant for membership must be proposed and seconded by two Members of the Society. The names and addresses of all such applicants, together with their proposers and seconders, shall be submitted to the Members on the Circular calling the next Meeting. Applications shall be first submitted to the Council and balloted for; no application shall be brought before the General Meeting except by the unanimous consent of the Members at the preceding Council Meeting. The election shall be determined by show of hands unless a request be made to the Chairman of the Meeting for the vote to be taken by ballot; if the nomination be supported by a majority of the Members present, the applicant shall be declared elected, and on payment of the subscription shall be entitled to all the privileges of membership. All persons accepting membership must be prepared to comply with the Rules of the Society.

(2) **LIFE**—Donors of five guineas and upwards to the Society shall be entitled to Life membership and shall have all the privileges of ordinary Members.

(3) **HONORARY**—Persons distinguished by their attainments in the study of Botany, or who have rendered valuable service to the Society, shall be eligible for Honorary Membership. Such Honorary Members, who shall not exceed ten in number, shall be nominated by the Council and elected by a majority of votes at a General Meeting, and have all the privileges of ordinary Members.

(4) **CORRESPONDING**—Certain prominent botanists, representative as far as possible of the great countries of the world, shall be permitted to become Corresponding Members of the Society. The number of such Corresponding Members shall be limited to twenty-five. Nominations for Corresponding Membership shall be made by the Council.

III.—SUBSCRIPTION.

Every ordinary Member shall pay an annual subscription of five shillings, payable in advance on the first day of January. The subscription in the case of a new Member shall be paid within one month of his or her election, otherwise such election shall be void. If, however, a candidate be elected during the months of October, November or December, he or she shall not be called upon to pay any annual subscription for the current year, and shall not be entitled to receive the publications of the Society for that year. The annual subscription for persons under twenty-one years of age shall be half-a-crown. Such Members shall not have the right to vote in the proceedings of the Society.

IV.—ARREARS.

No member shall be entitled to take part in the proceedings of the Society whose subscription is unpaid. Any member whose subscription is not paid by the thirty-first day of October in any year is liable to be excluded from the membership of the Society by the vote of the Council.

V.—RESIGNATION.

A Member desirous of resigning shall give written notice to the Honorary Secretary prior to the first day of December. If such notice of resignation of membership shall not have been received prior to the first day of December in any year, such Member shall be liable for the payment of the subscription for the following year.

VI.—MANAGEMENT.

The government of the Society shall be vested in a Council elected annually from amongst its Members. The Council shall consist of a President, two Vice-Presidents, Honorary Treasurer, Honorary Secretary, Honorary Librarian, Honorary Curator, and twelve other Members. Five to form a quorum. The President, or in his absence, one of the Vice-Presidents, shall take the Chair at all Meetings, but if both should be absent, the Members present shall elect a Chairman from among themselves. The Honorary Treasurer shall be responsible for the disbursements, receipts, and funds of the Society. The Honorary Secretary shall keep Minutes of all Meetings and send all notices and publications of the Society to the Members, and conduct the general correspondence of the Society under the direction of the Council. The Honorary Secretary may after consultation with a Vice-President, call Meetings of Council for the transaction of business; but he shall call a Meeting of Council at the desire of the President, or of two Vice-Presidents, or of any three Members of Council. The appointments of Honorary Librarian and Honorary Curator shall be determined by the Council. The Council is empowered to fill up all vacancies which may occur in its number during the year. The Council has the power of appointing Committees and defining the scope of their investigations, and of including in them such Members as are most capable of organising and carrying on such investigations.

VII.—NOMINATION AND ELECTION OF COUNCIL.

Nomination forms shall be sent by the Honorary Secretary to each Member of the Society whose subscription is not in arrear (as provided by Rule IV.) not later than the first week in December in each year. Each Member proposed for election to the Council must be nominated by two duly qualified Members. Retiring officers shall be eligible for re-election. All nominations must be sent in to the Honorary Secretary by the twenty-fourth day of December. A list of such nominations shall be sent to each duly qualified Member not later than the first week in January. The election of the Council shall be by ballot. In the event of a sufficient number not having been nominated, any duly qualified Member present at the Annual Meeting may propose or second any other duly qualified Member for the vacant office or offices.

VIII.—ANNUAL MEETING.

The Annual Meeting of the Society shall be held in the second week of January. At this Meeting the Annual Report and the Honorary Treasurer's Financial Statement for the past year shall be presented; the election of the Council for the year shall then take place, together with the consideration of such other business as may be contained in the notice summoning the Meeting.

IX.—ACCOUNTS.

The Accounts of the Society shall be made up from the first day of January to the last day of December of each year, and, before presentation to the Annual Meeting shall have been duly audited by two auditors nominated for the purpose by the Members from amongst their number at the last Meeting of the Session.

X.—MEETINGS.

The Meetings shall be held on the second Monday in each month, and also on such other occasions as may be arranged.

XI.—SPECIAL MEETINGS.

A special Meeting of the Members may be called at any time by the Council; and they shall be bound to call such a Meeting upon receipt of a requisition specifying the business to be submitted to such Meeting and signed by not less than twelve Members of the Society. The Meeting shall be held within twenty-one days of the receipt of the requisition by the Honorary Secretary, and seven days' notice shall be given to each Member of the time and place of Meeting, and of the business to be considered. No business shall be transacted at a Special Meeting except that for which it has been called.

XII.—VISITORS.

Any Member whose subscription is not in arrear may have the privilege of introducing not more than two friends at any Meeting of the Society.

XIII.—RE PAPERS.

The Manuscript or copy of every paper read or a clear and legible duplicate thereof on foolscap, shall become the property of the Society.

XIV.—ALTERATION OF RULES.

No alteration in, or addition to, any of these Rules shall be made except by a majority of votes of the Members qualified at an Annual Meeting. Notice and full particulars regarding all such proposed alterations shall be sent to the Honorary Secretary prior to the second week of October, and to each Member not later than the last week of December.

XV.—COPY OF RULES.

A copy of these Rules shall be furnished by the Honorary Secretary to each Member, together with the intimation of election to Membership.

XVI.—UNDETERMINED MATTERS.

The Council shall have power to decide any matters or difficulties that may arise, not specifically provided for in these Rules.