



PROCEEDINGS
OF THE
Liverpool Botanical Society

ELEVENTH TO THIRTEENTH SESSIONS.

For the Years 1916-1918 inclusive.

ARBROATH :
PRINTED BY T. BUNCLE & CO., MARKET PLACE.

February 1921.



W. G. TRAVIS,

President 1916-1918.

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Liverpool Botanical Society

HEADQUARTERS:
COMMON HALL, HACKINS HEY.

Eleventh to Thirteenth Sessions.
For the Years 1916-1918 inclusive.

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GENERAL MEETINGS.

TUESDAY, 15th JANUARY 1918.

The Annual Meeting was held in the Common Hall, the President in the chair.

The Council's report and that of the South Lancashire Flora Committee were read and accepted unanimously.

The Treasurer's statement was approved, subject to acceptance by the auditors.

The appointments of Officers and Council for the year 1918 were as follows :—

President :—A. A. Dallman, F.C.S.

Vice-Presidents :—W. Cheshier, M.A., J. A. Wheldon, F.L.S.

Hon. Treasurer :—Wm. A. Lee, M.A., Ph.D.

Hon. Secretaries :—Miss A. Lee, L.L.A., Miss E. Warhurst, L.L.A.
Council :—Mrs Bangham, Miss L. R. Cooke, Mrs Dallman, Miss A. B. Gleave, B.Sc., Miss F. Hamilton, Miss S. J. Shoobridge, Mr E. Horton, Mr G. Loftus, Mr H. S. Marsh, Mr E. F. Payne, Mr W. G. Travis.

Miss Olive Bangham was appointed recorder and Mrs Dallman, Librarian.

A vote of thanks was passed to Mr Loftus for his services as Treasurer.

Mr DALLMAN showed *Woodwardia radicans*, a fern growing to the height of 6 or 7 feet in its native habitat. New plants grow from gemmae developed on the fronds.

An Oak Lectern, provided with reflector, plug, and lamp-holder, subscribed for by a number of friends as a memorial to the late Mrs Wheldon, was formally presented by Dr Lee, who spoke of Mrs Wheldon's delightful personality. The gift was accepted by the President on behalf of the Society. The Secretary and Mr Dallman spoke of the life and influence of Mrs Wheldon. It was in her drawing-room that the idea of a Liverpool Botanical Society was first discussed and from that time Mrs Wheldon took an active interest in its welfare and had done a great deal to promote its success. A plate on the Lectern bears the following inscription:—

“ In memory of Mrs J. A. Wheldon, whose life and work were highly esteemed by friends associated with her in the Liverpool Botanical Society.

‘ Let her own works praise her in the gates ’—Proverbs xxxi. 31.’

MONDAY, 25th FEBRUARY 1918.

In the Common Hall, Mr A. A. Dallman, F.C.S., President, in the chair.

Mr J. A. WHELDON, F.L.S., showed two *Sphagna* new to Britain:—*Sphagnum obesum* Warnst., var. *brachycladum* and var. *teretramosa*, f. *magnifolia* Warnst., the former collected by W. R. Sherin at Esher, Surrey, and the latter by Sherrin and Jones at Harlech, Merionethshire. Mr Wheldon stated that *Helleborus viridis* L. was in flower on the 20th and *Cochlearia danica* Mill. on the 25th inst., in a garden at Walton, the latter six weeks earlier than last year.

Mr DALLMAN showed specimens sent from the Grosvenor Park, Chester, of *Andromeda floribunda* Lyon, *Forsythia suspensa* Vahl and *Euphorbia amygdaloides* L.

A paper was read by Dr W. A. LEE, M.A., on “ The Scope and Functions of a Botanical Society.” The lecturer referred to the valuable work done by Lancashire botanists, many of whom were working-men. The societies formed by these botanists achieved something substantial for science for they developed systematists and patient investigators.

The President, Mr Wheldon, and Mr Travis, in their words of appreciation, remarked that the work of scientists should be carefully recorded and published so that it might not be lost to future workers.

THURSDAY, 21st MARCH 1918.

In the Common Hall, Mr A. A. Dallman, F.C.S., in the chair.

Mr J. A. WHELDON, F.L.S., exhibited *Brachythecium albicans*, var. *julaceum* Warnst., new to Britain, *Bryum uliginosum* B. & S.

in fruit and *Hypnum Sendtneri* Schimp., all found at Freshfield, in March. 1918, by Mr W. G. Travis and himself, also *Sphagnum plumulosum*, var. *purpureum* Warnst., found in March by W. R. Sherrin in South Devon.

Mr DALLMAN, F.C.S., exhibited *Aucuba japonica* Thunb., showing staminate and pistillate flowers, *Berberis buxifolia* Lam., *Erica carnea* L. and *Buxus sempervirens* L. in flower, from Grosvenor Park, Chester. He also showed mounted specimens of *Asarum europaeum* L., a rare British plant. This and *Aristolochia Clematidis* L. are the only two representatives of the order in British floras. The latter is an established species in Britain and its occurrence about old ruins recalls its employment in medicine. *Asarum europaeum* L. is regarded by some authorities as a native but by others as a relic of cultivation. It is mentioned by John Ray as occurring in Lancashire and was found by Mr A. A. Dallman near Kirkham in 1901, and at Rainow, near Macclesfield, by Dr Stolterfoth in 1875, but never recorded as a Cheshire plant. The curious and inconspicuous flowers appear to be trap-flowers probably visited by flies. More observations are needed with regard to its pollination and floral biology.

The Rev. M. TOOHEY, S.J., contributed a helpful study of a book by Professor Gaston Bonnier of Paris, on "The Identification of Plants." The lecturer referred to the difficulties experienced by persons in naming plants owing to the technical names, and he held that the book provided keys which simplified the task. By various tests he showed how the book should be used and the way in which it fulfilled its purpose.

A vote of thanks, moved by Dr Lee, was heartily accorded.

WEDNESDAY, 17th APRIL 1918.

In the Common Hall, Mr D. E. Connor in the chair.

Miss E. BRAY, Hailsham, sent an exhibit of oak apple showing how the insect had perforated the gauze with which the gall had been surrounded, a contrary instance to the Rev. J. G. Wood's statement that though insects make their way out of the gall they never bore through the gauze.

Mr DALLMAN, F.C.S., showed specimens of *Luzula vernalis* DC., *Taxus baccata* L. (with staminate flowers), *Fritillaria Meleagris* L., from Oxford, and the St George's mushroom, sent by Dr Thomas, Chester. Two books of photo-micrographs, the work of a crippled boy, were also shown.

A Lecture, with lantern illustrations, on "The Trees of Lancashire and Cheshire" was given by the President, Mr A. A. DALLMAN, F.C.S., who referred to the fact that at one time both the counties were thickly wooded, evidences being seen in the "submerged forest" at Leasowe, and on the Lancashire coast. Many slides from the lecturer's own photographs were shown illustrating the various kinds of trees found in the district. The lecture was much appreciated by the members present.

THURSDAY, 16th MAY 1918.

In the Common Hall, the President in the chair.

Dr LEE showed galls on leaves of *Pyrus Aucuparia* Gaertn., found in a plantation at Bidston, caused by the mite, *Eriophyes Pyri* Pagenst. He also mentioned that *Myosotis collina* Hoffm., recorded

in Dr Green's Flora as rare, was found by Miss F. Swift, B.Sc., on a sandy bank at Leasowe at the previous Field Meeting.

Mr J. A. WHELDON, F.L.S., showed *Sphagnum auriculatum* Schp., var. *tenellum* Warnst., new to Britain, from Robin Hood's Bay, sent by Mr W. Ingham.

Mr DALLMAN exhibited an acorn showing twin plants. Commonly only one ovule is fertilised, whether through pressure or insufficient food is uncertain. Mr Dudley stated that in *Caprifoliaceae* there are four nutlets but only one ovule is fertilised.

A paper was contributed by J. A. WHELDON, F.L.S. and W. G. TRAVIS, on "The Moss Flora of the Lancashire Sand-dunes." Although the sand-dunes had been frequently visited by botanists no complete record of the Bryophyta had been made. About half the very numerous species are local and only occur in small quantities. The characteristic features of the dune moss flora and the ecological conditions in which the species occurred were dealt with and a complete list of all mosses and hepatics known to grow on the sandhills had been prepared.

MONDAY, 17th JUNE 1918.

In the Common Hall, the President in the chair,

Mr W. CHESHER, M.A., showed *Astragalus glycyphyllos* L., *Verbascum Lychnitis* L. and *Lithospermum officinale* L., from Denbighshire.

Mr A. A. DALLMAN, F.C.S., showed *Staphylea pinnata* L., from Valle Crucis Abbey.

Mrs BANGHAM exhibited micro-fungi on mint, probably *Puccinia menthae* Pers., and galls caused by *Contarinia tiliarum* Kieffer, on lime twigs.

Mr E. F. PAYNE showed *Hierochloe borealis* Roem. et Sch., from Thurso.

Miss F. SWIFT, B.Sc., exhibited *Sisyrinchium angustifolium* Mill., from Formby.

Dr LEE showed the following galls:—*Cecidomyia veronicae* Bremi, on *Veronica Chaemaedrys* L.; *Phyllocoptes acericola* Nal., on *Acer Pseudo-platanus* L.; *Cecidomyia urticae* Perris, on *Urtica dioica* L.; *Aulax Glechoma* L., on *Nepeta Glechoma* Benth. and *Schizoneura ulmi* L., on *Ulmus montana* Stokes, all from the Wirral.

Mr TRAVIS showed *Philonotis caespitosa* Wils., from Walton, new to Lancashire.

A Résumé of the Field Meetings for 1917 was given by the Secretary, Miss E. WARHURST, L.L.A. The members cordially signified their hearty appreciation of her paper which brought vividly to mind the excursions of the season.

WEDNESDAY, 3rd JULY 1918.

In the Common Hall, the President in the chair.

Dr W. A. LEE exhibited a teratological specimen of *Linaria purpurea* Mill., grown from seed supplied by Miss E. Bray, Hailsham, in which the raceme had broadened into a wide spike, also one of *Digitalis purpurea* L., in which the terminal flower had assumed a campanulate form, the other flowers in the spike being normal. He also showed specimens of *Digitalis lutea* L., from a garden at Rock Ferry. In one 83 flowers, and in another 72, had opened.

Miss A. C. GRIFFITHS exhibited a specimen of a young oak in which three ovules had been fertilised and three plants were growing.

Mr E. F. PAYNE showed *Habenaria viridis* Br., *Habenaria bifolia* Br., *Habenaria conopsea* L., *Orchis maculata* L., *Listera ovata* Br., *Thalictrum minus* L., *Dianthus deltoides* L. and *Atropa Belladonna* L.

Mr W. G. TRAVIS brought a specimen of *Teesdalia nudicaulis* Br., from Freshfield.

Dr THOMAS, of Chester, sent specimens of *Polypogon monspeliensis* Desf. and *Silene nutans* L. Mr W. Chesher, M.A., said that *Silene nutans* L. could be grown in peat soil, though it is a limestone plant.

A paper on "Parasitism in the Plant World" was given by Dr W. A. LEE, M.A. The special group of parasites dealt with included animal and plant parasites living on vegetable organisms. It was supposed in early days that insects deposited their ova in the ground and that these were carried by sap through the plant until progress was arrested and gall formation began. The environment suitable to galls was discussed, absence of wind being apparently essential. Parasitism was a form of disease and parasites could be grouped either according to the natural order of the insects or the botanical order of their hosts.

TUESDAY, 20th AUGUST 1918.

In the Common Hall, the President in the chair.

Miss E. BRAY, Hailsham, sent *Populus nigra* L., galled by *Pemphigus spirothecae* Pass. and *Pemphigus bursarius* L., also *Polygonum amphibium* L., galled by *Cecidomyia persicaria* L. She offered specimens of *Sison Amomum* L. to any member, as it is almost a southern plant.

Mr E. F. PAYNE showed *Aster Tripolium* L., the ordinary and the rayless form, *Statice Limonium* L., *Statice rariflora* Drejer, *Senecio saracenicus* L., *Geranium sanguineum* L., *Campanula rapunculoides* L., all from the banks of the Dee.

Mr J. A. WHELDON said that Miss D. M. Bate had found a new sphagnum, *Sphagnum tenerum* Sull., in the south of England, and that Mr J. Archer had found *Sphagnum medium*, f. *immersum* Warnst., at Penicuik, Scotland; also that *Hypnum intermedium* Lindb. and *Hypnum lycopodioides* Schwaeg. had been found by him in peaty deposits, apparently old dune "slacks" under blown sand at Wallasey.

Mr DALLMAN showed fruit of *Mespilus germanica* L. and *Morus alba* L., gathered at Halsnead. He also showed *Lepidium latifolium* L., from a garden where it had been planted from a Wirral station. There appear to be no recorded observations in regard to the floral biology of this plant, but these specimens had been visited by diptera which he suggested are the chief pollinating agents. One of the hover flies (Syrphidae), a frequent visitor, had been identified by Mr H. Bury as *Syrpitta pipiens* L.

A paper was given by Miss A. LEE, L.L.A., on "Old Botanising Haunts of Birkenhead." She showed that the growth of Birkenhead had been extremely rapid and that where there were now streets of houses and a dense population, a few years ago there were valleys and ditches with a wealth of flowers and mosses. A description was given of the hills and dales and the habitats of numerous species were mentioned. Some parts were heath-land and others marsh, but these had been drained and now many of the species were locally extinct. The thanks of the members were cordially voted.

MONDAY, 16th SEPTEMBER 1918.

In the Common Hall, the President in the chair.

Miss E. BRAY sent specimens of *Andricus pilotus* Adler, and a burdock leaf from Pevensey showing operations of a leaf-miner, also a series of seven examples of *Stachys sylvatica* L. and *Stachys palustris* L., showing marked variations, probably due to hybridising or oecological influences.

Mr DALLMAN showed a gall on *Fagus sylvatica* L., caused by *Oligotrophus annulipes* Hartig, from Pensarn, Abergele; an example of malformation of inflorescence of *Fraxinus excelsior* L., from Tregeiriog, Denbighshire, due to infection by one of the Gall-mites, *Eriophyes fraxini* Karp., causing deformation of the flowers, which assume conspicuous cauliflower-like growths, and a specimen of *Holcus mollis* L., galled by the Homopterid, *Brachycolus stellariae* Hardy. This creature, which also affects *Stellaria Holostea*, gives the leaves a distinctive erect and tufted arrangement. He also showed a specimen of *Phleum pratense* L., in which the inflorescence had a curious bushy appearance due to vivipary. All the specimens were from Tregeiriog.

Miss A. C. GRIFFITHS showed a specimen of the gall caused by *Eriophyes rudis* Can., on *Betula alba* L., from Oxtun.

Mr W. G. TRAVIS exhibited the following galls found by him on Speke shore:—*Neuroterus lenticularis* Oliv., *Neuroterus numismatis* Oliv. and *Aphis atriplicis* L.

Dr W. A. LEE drew attention to an interesting plant association observed in and near a pond at Barnston Station and suggested that it would be profitable to study such associations rather than individual occurrences: *Alisma ranunculoides* L., *Elodea canadensis* Michx., *Blackstonia perfoliata* Huds., *Erythraea Centaurium* Pers., *Solidago Virgaurea* L., *Pulicaria dysenterica* Gaertn., *Silau pratensis* Bess. and *Potamogeton natans* L., in fruit. The occurrence of *Silau pratensis* had apparently not been recorded from this precise station previously.

A paper on "The Regional Survey of the Wirral," in its Botanical aspect was given by Miss E. M. BLACKWELL, M.Sc. She showed that the method to be followed should include:—The present vegetation to be mapped in colours, records of old trees, examination of peat for traces of previous vegetation and comparison of vegetation on similar soils in other parts of the country. A vote of thanks, moved by Mr W. G. Travis, was heartily accorded.

TUESDAY, 8th OCTOBER 1918.

In the Common Hall, Mr J. A. Wheldon, F.L.S., in the chair.

The Chairman showed the following fungi from Freshfield sand-dunes:—*Inocybe rimosa* (Bull.) Fr., *I. dulcamara* A. & S., *Cortinarius anomalus* Fr., *C. leucorum* Fr., *Paxillus orcelloides* Cke. & Mass. (new to Lancashire and to the list of sand-dune fungi). From Ormskirk Rough Wood, collected by J. A. Wheldon and W. G. Travis and named by H. J. Wheldon:—*Lepiota metulaespora* B. and Br., *Tricholoma rutilans* (Schaeff.) Fr., *Clitocybe ditopa* Fr., *Collybia tuberosa* (Bull.) Fr., *Mycena flavoalba* Fr., *M. adonis* Bull., *M. rubromarginata* Fr., *M. metata* Fr., *Lactarius pubescens* Fr., *L. chrysorrhoeus* Fr., *L. helvus* Fr., *Russula lepida* Fr., *R. atropurpurea* Krombh., *Pluteus salicinus* (Pers.) Fr., *Leptonia lampropus* Fr., *Eccilia griseo-rubella* (Lasch.) Fr., *Flammula sapinea* Fr., *F. flavida* (Schaeff.) Fr., *Naucoria cucumis* Pers., *Tubaria iniquilina* (Fr.) W.

G. Sm., *Hypholoma capnoides* Fr., *Calocera viscosa* (Pers.) Fr., *C. cornea* (Batsch) Fr., *Stemonitis flavogenita* Gled. From Aughton:—*Collybia psathyroides* Cooke, *Mycena tenuis* (Bolton) Fr., *M. cruenta* Fr., *Nolanea papillata* Fr., *Galera minuta* Quelet, *Paxillus panuoides* Fr., *Hirneola auricula-julæ* Berk., all gathered September 16th. In Ince Woods, on September 18th were found *Hypholoma fasciculare* (Huds.) Fr., *Russula heterophylla* Fr., *R. nigricans* (Bull.) Fr., *R. adusta* (Pers.) Fr., *Collybia radicata* (Relk.) Fr., *C. platyphylla* Fr., *C. confluens* (Pers.) Fr., *Lepiota cristata* (A. & S.) Fr., *L. procera* (Scop.) Pers., *Mycena pura* (Pers.) Fr., *Boletus luridus* Schaeff., *B. chrysenteron* Bull., *Polyporus squamosus* (Huds.) Fr., *Poria obducens* Pers., *Stereum hirsutum* (Willd.) Pers., *Soppittiella sebacea* (Pers.) Mass., *Peniophora setigera* (Fr.) Bres., *Merulius lachrymans* (Wulf.) Fr., *Phlebia merismoides* Fr., *Corticium sulphureum* Pers., *Scleroderma vulgare* Fl. Dan., *Stegia ilicis* Fr., *Orbilbia xanthostigma* Fr., *O. coccinella* (Sommerf.) Karst., *Nectria cinnabarina* (Tode) Fr., *N. episphearia* (Tode) Fr., *N. racodium*, v. *hirsutum* Fr., *Xylaria hypoxylon* (Linn.) Grev., *Ustilago violacea* (Pers.) Tul., on *Lychnis*, *Stemonitis fusca* Roth, *Didymium difforme* (Pers.) Duby.

Mr WHELDON mentioned that he had gathered Alder galled by *Eriophyes brevitaris* Foch (teste Groves), at Ince. In his garden shallots were affected by a fungus which Mr Groves informed him was *Botrytis*.

Miss LEE showed *Rhus Cotinus* L. (the "Wig Tree"), grown at Oxtun. Some of the pedicels were flowerless and reduced to mere threads, giving the inflorescence a wig-like appearance.

A lecture was given by Mr A. H. DUDLEY on "*Adoxa Moschatellina* L.," illustrated by lantern slides. The lecturer, who had been examining this species and its development for a number of years, said that the flowers varied according to habitat, those growing in rich leaf mould in shaded situations being of normal form but when contending with other herbage in copse or hedgerows they showed considerable variation, heads of seven or nine flowers being common. He traced the changes taking place in the rhizomes and the processes leading to the first appearances of the flowers. No marked resting stage occurs in the plant's activity and observations taken in October, November and December showed important developments.

WEDNESDAY, 13th NOVEMBER 1918.

In the Common Hall, Mr W. G. Travis in the chair.

Mr J. A. WHELDON exhibited drawings by Mr H. J. Wheldon of the following lichens:—*Gyrophora proboscida*, form *fimbriata* Ach., one of the rarest lichens from Ben Macdhui, *G. spodochroa* Ach., *G. erosa* Ach., *Umbilicaria pustulata* Hoffm., from Wasdale Moor and *G. polyrhiza* Krb., from Inverness. He also showed *Sphagnum fimbriatum*, var. *robustum* Braith., gathered by Miss Armitage in Herefordshire, previously recorded from Yorkshire and Penzance only, *S. turgidulum*, f. *plumosum* Warnst., a variety new to Britain, gathered by Mr Sherrin in Devonshire, *S. obesum*, var. nov. *devoniense* Sherrin and Wheldon, gathered in Devonshire by T. B. Fry.

The Chairman spoke on the various species of cultivated *Brassicæ*, illustrating his remarks with a specimen of Kohl Rabi. In the discussion which followed, reference was made to the old Lancashire botanists who had gained celebrity from their success in cultivating bush fruit.

A paper prepared by R. H. DAY, of Cwm, on a "Descriptive Ac-

count of Limestone Flora," was read by Mr E. F. Payne in the absence of the writer. Observations were taken at a point where a limestone hill known as the "Foel" can be contrasted with another known as "Cwm Hill," composed of Wenlock shale, the latter being thickly covered with vegetation, while the former was almost bare. The main cause was held to be the tendency for the weather to affect one which easily dissolved forming a suitable soil and gradually acquired humus, so providing a habitat for deep-rooting plants which failed to secure a footing on the limestone. The lack of depth in the soil was associated with the absence of shade and lack of moisture and, in addition, the chemical element proved fatal to a number of species.

Mr J. A. Wheldon said that Mr Day's experience agreed in the main with observations taken in Lancashire, although it was evident that in such districts as Silverdale the flora was richer than in the one dealt with. Certain plants occurring in limestone were not calciphilous but grew in pockets of glacial drift. Mr A. H. Dudley said that microscopic work on the root system of plants showed that a selective process was carried on, controlled by the protoplasm. If the plant were lacking in certain constituents these obtained ready admission, but if deleterious ingredients appeared the protoplasm resisted their advance by contracting. The Chairman thought there was the still deeper question as to the cause for the selection and the variation in the chemical requirements of the different plants observed. Other factors entered in and these should also receive consideration. Mrs Bangham mentioned the occurrence of a number of species on the limestone in Shropshire where the flora appeared to be comparatively rich. A vote of thanks was heartily carried.

THURSDAY, 12th DECEMBER 1918.

In the Common Hall, the President in the chair.

Mr W. G. TRAVIS exhibited mounted specimens of *Naias graminea* Delile, var. *Delilei* (Magnus), collected by Mr Chas. Bailey, F.L.S., on 14th September 1883, in the tepid water of a canal at Reddish Green, near Manchester. This plant, believed to be introduced into this country with Egyptian cotton, was able to maintain itself because of the warm temperature of the canal, caused by the discharge of hot water from the cotton mills. A mounted specimen of *Naias flexilis* Rostk. & Sch., found in Esthwaite water on 27th July 1917, was also shown.

Mr A. H. DUDLEY gave a practical demonstration of "The Collecting and Preparation of Material: Cutting, Staining, and Mounting of Microscopical Sections." The lecturer showed the different processes necessary to produce a perfect section, the method of cutting and the various washes and acids to be used to obtain a clear object. A vote of thanks was heartily accorded.

FIELD MEETINGS.

SATURDAY, 27th APRIL 1918.

Mollington and Ledsham. *Leader*—Mr A. A. DALLMAN, F.C.S.
A good list of species was compiled, which included the following :
—*Saxifraga granulata* L., *Prunus Avium* L., *Lecidea canescens* Dicks., *Parmelia fuliginosa* Nyl., v. *laetevirens* Nyl., *Lecanora vitel-*

lina Ach., *Physcia tenella* Nyl., *Buellia myriocarpa* Mudd., and *Lecanora sulphurea* Ach.

SATURDAY, 11th MAY 1918.

Leasowe and Meols. *Leader*—Dr W. A. LEE.

The less common species noted were:—*Myosotis collina* Hoff., *Taraxacum erythrospermum* Andr., *Valerianella olitoria* Moench, *Saxifraga tridactylites* L., *Ornithogalum umbellatum* L., *Ophioglossum vulgatum* L., *Lepidium latifolium* L., *Lamium incisum* Willd., *Cochlearia danica* L., *C. anglica* L., *Pottia Heimii* Fühnr., *Trichostomum mutabile* Bruch, *Tortula ruraliformis* Dixon, *Grimmia pulvinata* Smith, and *Puccinia caricis* Reb.

SATURDAY, 15th JUNE 1918.

Willaston and Burton. *Leader*—E. F. PAYNE, B.Sc.

The records made comprised the following species:—*Lemna polyrrhiza* L., *Hydrocharis morsus-ranae* L., *Lycopus europaeus* L., *Listera ovata* Br., *Lepidium Smithii* Hook., *Sanicula europaea* L., *Geranium pyrenaicum* Burm., *Campanula latifolia* L., *Anchusa sempervirens* L., *Ruscus aculeatus* L., *Hyoscyamus niger* L., *Trifolium incarnatum* L., and *Genista anglica* L.

SATURDAY, 29th JUNE 1918.

Woolton Woods. *Leader*—Miss E. WARHURST, L.L.A.

A number of the species recorded were apparently introduced but had established themselves in some quantity. They included *Rubus laciniatus* W., *Campanula latifolia* L., *Cornus sanguinea* L., *Sambucus nigra*, b. *laciniata* Mill. and *Geranium sanguineum* L. Galls were noted on twigs of *Tilia grandiflora* Ehrh., caused by *Contarinia tiliarum* Kieff., and on leaves of *Acer pseudo-platanus* L., caused by larvae of *Phyllocoptes acericola* Nal.

SATURDAY, 13th JULY 1918.

Willaston, Burton, Puddington, and Capenhurst. *Leader*—Mr A. A. DALLMAN, F.C.S.

The meeting was held in conjunction with the Society of Natural Science, Chester. A large number of interesting species were recorded, including *Corydalis lutea* DC., *Fumaria Bastardi* Bor., *Sisymbrium pannonicum* Jacquin, *Reseda lutea* L., *Hypericum pulchrum* L., *Geranium pyrenaicum* Burm., *G. columbinum* L., *G. dissectum* L., *Galium uliginosum* L., *Lactuca muralis* Fresen., *Campanula latifolia* L., *C. rapunculoides* L., *Scleranthus annuus* L., *Genista anglica* L., *Vicia hirsuta* Gray, *V. angustifolia* Roth, *Rubus rusticanus* Merc., *Sedum anglicum* Huds., *Verbascum virgatum* With., *Galeopsis speciosa* Mill., *Ruscus aculeatus* L. and *Plantago media* L. (in a grass plot at Burton, probably an introduction).

SATURDAY, 17th AUGUST 1918.

Halsnead Park. *Leader*—Rev. M. TOOHEY, S.J.

Among the fine trees in the park were noticed *Liriodendron tulipifera* L., *Ginkgo biloba* L., *Carpinus Betulus* L., *Fagus sylvatica* L. and *Pyrus germanica* Hook, the latter having fruit of very large size. Although special attention was given to the search for plant galls only four were found, their absence being perhaps due to the smoky atmosphere caused by the adjacent collieries. The galls found

were due to *Perrisia fraxini* Kieffer, on leaves of *Fraxinus excelsior* L., *Perrisia marginem-torquens* Winn., on *Salix viminalis* L., *Dryophanta scutellaris* Hartig, on *Quercus Robur* L., and *Neuroterus fumipennis* Hartig, on *Q. Robur* L. The species of plants noticed were:—*Hypericum quadrangulum* L., *Oxalis acetosella* L., *Lysimachia nemorum* L., *Rubus Sprengellii* Weihe, *R. laciniatus* W., *Scrophularia nodosa* L., *Urtica dioica* L., var. *angustifolium* Blytt and *Athyrium filix-foemina* Roth. The following were found in the lake and pond:—*Lemna gibba* L., *Myriophyllum spicatum* L., *Potamogeton densus* L., *Scirpus setaceus* L., *Carex hirta* L., var. *hirtaeformis* (Pers.), *Juncus glaucus* Ehrh., *J. effusus* L., *J. bufonius* L., *Zannichellia palustris* L. and *Z. maritima* Nolte. Cryptogamia:—*Webera annotina* Schwaeg., abundant as sub-species *W. prolifera* Hedw., *Hypnum cordifolium* Hedw. and fruiting specimens of *Lecanora crenulata* Wahl. Although it was too early for a lengthy list of fungi the following were named by Mr H. J. Wheldon:—*Amanita rubescens* Fr., *A. phalloides* Fr., *Russula cyanozantha* Fr., *R. ochroleuca* Fr., *Mycena discopus* Lev., *Galera hypnorum* Fr., *Naucoria melinoides* Fr., *Hypholoma fasciculare* Fr., *Polyporus betulinus* Fr., *P. squamosus* Fr., *Thelephora terrestris* Fr., *Scleroderma vulgare* Hornem., *Sphaerobolus stellatus* Pers., *Trichoderma lignorum* Harz., *Stegia Illicis* Fr., *Hyaloscypha hyalina* Pers., *Diatrype disciformis* Hoffm., *Eutypa flavovirescens* Hoffm., *Melaconis stilbostoma* Fr., *Trichia varia* Pers., *Reticularia lycoperdon* Bull. and *Lycogala epidendrum* Fr.

SATURDAY, AUGUST 24th 1918.

Ince Blundell. *Leader*—Miss E. REID, L.L.A.

The following plants were noted:—*Salix daphnoides* Vill., *Lythrum Salicaria* L., *Thalictrum flavum* L., *Elodea canadensis* Michx., *Geum urbanum* L., *Cornus sanguinea* L., *Sparganium neglectum* Beeby, *Campanula latifolia* L., *Bromus giganteus* L., *Rubus pulcherrimus* Neum., *R. Lindleyanus* Lees, *R. dasyphyllus* Rogers and *R. Selmeri* Lindeb. The chief galls noticed were due to the parasites *Neuroterus lenticularis* Oliv., *N. fumipennis* Hartig, both on *Quercus Robur* L., *Perrisia ulmaria* Bremi, on *Spiraea Ulmaria* L., *Phyllocoptes acericola* Nalepa, on *Acer Pseudo-platanus* L., *Perrisia marginem-torquens* Winn., on *Salix viminalis* L., *P. persicariae* L., on *Polygonum Bistorta* L., *Eriophyes Nalepai* Foch, on *Alnus glutinosa* Gaert., *Tetraneura ulmi* De Geer, on *Ulmus campestris* L., *Nematus gallicola* Ste., on *Salix fragilis* L. and *Perrisia crataegi* Winn., on *Crataegus Oxyacantha* L.

21st SEPTEMBER 1918.

Oxton Heath and Bidston Moor. *Leader*—Miss A. C. GRIFFITHS.

This expedition was undertaken with the purpose of noting the changes occurring in former botanising grounds frequently referred to as stations in the older floras. The list of Phanerogams included *Solidago Virgaurea* L. and *Scabiosa succisa* L. MUSCI:—*Campylopus flexuosus* Brid., *Polytrichum juniperinum* Willd., *Trichostomum mutabile* Bruch, *Plagiothecium sylvaticum* B. & S., *Webera annotina* Schwaeg. and *Barbula convoluta* Hedw. HEPATICAE:—*Cephalozia byssacea* Heeg., *Lophozia excisa* (Dicks.) Dum., *L. ventricosa* Dicks. GALLS due to the following parasites:—*Eriophyes rudis* Canest., on *Betula alba* L., *Neuroterus lenticularis* Oliv., on *Quercus pedunculata* Ehrh., *N. fumipennis* Hartig, and *Cynips Kollari* Hartig, on

the same host; *Nematus gallicola* Ste., on *Salix fragilis* L., *Perrisia urticae* Perris, on *Urtica dioica* L., *P. crataegi* Winn., on *Crataegus Oxyacantha* L., *Puccinia Aegopodii* Schum., on *Aegopodium Podagraria* L.

26th OCTOBER 1918.

Raby Woods. *Leader*—Miss E. M. BLACKWELL, M.Sc.

The following were recorded:—*Amanita muscaria* Pers., *A. rubescens* Pers., *Armillaria mellea* Quel., *Claudopus variabilis* Gill., *Clitocybe cerusata* Quel., *C. infundibuliformis* Quel., *C. laccata* Quel., *Collybia butyracea* Quel., *C. dryophila* Quel., *C. maculata* Quel., *C. thelephora* Sacc., *Cortinarius hinnuleus* Fr., *Entoloma nigrocinnamomeum* Sacc., *Flammula alnicola* Quel., *Galera hypnorum* Quel., *Hypholoma fasciculare* Quel., *Hygrophorus cerasinus* Berk., *H. coccineus* Fr., *H. hypothejus* Fr., *Lactarius rufus* Fr., *L. turpis* Fr., *Lepiota cristata* Quel., *L. Friesii* Quel., *Leptonia formosa* Gill., var. *suavis* Sacc., *Mycena galopus* Quel., *Marasmius ramealis* Fr., *Nolanea pascua* Quel., *Omphalia hydrogramme* Quel., *Paxillus involutus* Fr., *Pleurotus ostreatus* Quel., *P. serotinus* Gill., *Pluteus cervinus* Quel., *Russula emetica* Fr., *R. vesca* Fr., *R. ochroleuca* Fr., *R. citrina* Gill., *R. lepida* Fr., *R. integra* Fr., *R. nigricans* Fr., *Stropharia aeruginosa* Quel., *Tricholoma nudum* Quel., *Boletus porphyrosporus* Fr., *B. subtomentosus* L., *Polystictus versicolor* Fr., *Stereum hirsutum* Pers., *Thelephora* sp., *Calocera viscosa* Fr., *Scleroderma vulgare* Horn., *Cordyceps militaris* Fr., *Leotia lubrica* Pers., *Rhytisma acerinum* Fr., *Xylaria hypoxylon* Grev. and *X. polymorpha* (Pers.) Grev.

OBITUARY.

On the 20th August 1916, there passed away with tragic suddenness one of the most ardent and enthusiastic naturalists connected with the Society—Dr John William Ellis. He had left home, apparently in ordinary good health, but had not proceeded far when he became the victim of heart failure and when taken to the hospital had ceased to breathe. Born at Doncaster in January, 1857, his connection with Liverpool began in the same year, and he was educated first at a private school and later at the Liverpool Institute and the Liverpool School of Medicine. His attention was first directed to the study of nature by Henry Ecroyd Smith of whom he always spoke with great respect and who, himself an ardent naturalist and archaeologist, took his young friend with him on excursions. In 1888 Dr Ellis was awarded the Queen's Jubilee Prize, consisting of a gold medal and fifty guineas, offered by the Royal Botanic Society for an essay on the economic aspect of the science. He was a former Vice-President of this Society, an active member of the Liverpool Naturalists' Field Club and the British Mycological Society, besides having a long connection with the Lancashire and Cheshire Entomological Society of which for some years he was honorary secretary. He was also a foundation member of the Liverpool Biological Society. As a speaker and lecturer he was much appreciated, his skill as a photographer proving a valuable auxiliary. At his funeral the sorrow of the members was betokened by a wreath and by the presence of Messrs W. G. Travis and J. A. Wheldon who were closely associated with him in his field work. His botanical and entomological collections are in the possession of the Liverpool Museum.

Additions to the Library.

- Principles of Teratology, by W. Worsdell, presented by the Ray Society.
- Reports of the British Association for the Advancement of Science, 1916 and 1917.
- Report of the Chester Society of Natural Science, 1916.
- Welsh Plant Folk-lore and Associations, by A. A. Dallman, F.C.S., presented by the Author.
- Christopher Johnson, a Bygone Lancashire Botanist, by A. A. Dallman, F.C.S. (two copies), presented by the Author.
- Transactions of the Cardiff Naturalists' Society, vol. 49.
- Contributions from the United States Herbarium, vol. 18, part 7.
- Pharmacographia—A History of the Principal Drugs of Vegetable Origin, by F. A. Flückiger, presented by J. A. Wheldon, F.L.S.
- Year Book of the United States Department of Agriculture, 1916.
- Reprints from the "Lancashire and Cheshire Naturalist," presented by W. H. Western.
- Proceedings of the Coventry Natural History and Scientific Society.
- Comptes Rendus des Séances de l'Académie des Sciences, Paris, presented by G. S. Turner.
- Proceedings of the Belfast Natural History and Scientific Society, 1913-1916.
- Name this Flower, by Professor Gaston Bonnier, translated by Professor Boulger (two copies), presented by Rev. M. Toohy, S.J.
- Report of the Corresponding Societies of the British Association.
- Dickinson's Flora of Liverpool, presented by A. A. Dallman, F.C.S.
- Notes on Flora of Derbyshire, presented by J. H. Rowse (Heywood).
- The Scope and Function of a Botanical Society, by Dr W. A. Lee, M.A. (two copies), presented by W. H. Western.
- Journal of the Linnaean Society, vol. 39, Nos. 273-4; vol. 40, Nos. 275-8; vol. 41, Nos. 279-284, presented by C. Waterfall, F.L.S.
- Correspondence of Linnaeus and other Botanists, two vols., presented by J. A. Wheldon, F.L.S.
- Notes on Manx Flora, by J. A. Wheldon, F.L.S., presented by the Author.
- Parasitism in the Plant World, by Dr W. A. Lee, M.A., presented by W. H. Western.
- Proceedings of the Liverpool Botanical Society, 1912-1915.

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