



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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HEADQUARTERS:
COMMON HALL, HACKINS HEY.

Eleventh to Thirteenth Sessions.
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GENERAL MEETINGS.

MONDAY, 26th FEBRUARY 1917.

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

The reports of the Council and of the South Lancashire Flora Committee for the year 1916 were read and accepted.

The Hon. Treasurer's report was accepted subject to approval by the auditors.

Miss Griffiths and Miss Hamilton were appointed auditors.

The election of Officers and Council for 1917 resulted as follows:—

President:—W. G. Travis.

Vice-Presidents:—W. Chesher, M.A., and W. A. Lee, M.A., Ph.D.

Hon. Treasurer:—G. Loftus.

Hon. Secretaries:—Miss A. Lee, L.L.A. and Miss E. Warhurst, L.L.A.

Council:—Mrs Bangham, the Misses L. R. Cooke, A. B. Gleave, B.Sc., E. L. Gleave, M.Sc., M. B. Barr, S. J. Shoobridge, N. Speakman, Mrs Dallman, Messrs A. A. Dallman, F.C.S., H. S. Marsh, W. R. Sibbald and J. A. Wheldon, F.L.S.

Miss Olive Bangham was appointed recorder for 1917.

Dr W. A. LEE showed specimens of *Selaginella Kraussiana* A. Br., which he had discovered in an apparently indigenous habitat, near Bundoran, on the coast of Leitrim.

THURSDAY, 15th MARCH 1917.

In the Common Hall, the President in the chair.

Mr A. A. DALLMAN, F.C.S., suggested that local observations should be made on the pollination of flowers of the alder. Continental records of pollination should not be accepted as applying to Britain without confirmation, which was not yet forthcoming.

Mr J. A. WHELDON read a paper on "The Hybridisation of Mosses." He said that plants had been met with so intermediate in morphological characters between two species as to suggest the probability of their being hybrids. In this connection he was of opinion that *Hypnum Wilsoni* Schp. was probably *H. lycopodioides* Schwaeg. \times *H. Sendtneri* Schp., these two species being usually associated with *H. Wilsoni* in its known stations. He also described certain putative species of *Weisia*, discovered by Mr W. E. Nicholson, in Sussex. The possibility of a hybrid sporophyte was not denied by critics of the theory of hybridisation, but it was alleged that fertile spores were not produced and, consequently, a hybrid gametophyte generation could not be produced. Against this contention the lecturer adduced evidence from published sources as to the occurrence of apospory in the Bryophyta, showing that the development of protonema from the capsule and seta had been observed. Although the hybridisation theory was not, perhaps, absolutely proved, yet as a working hypothesis all the evidence was in its favour.

THURSDAY, 26th APRIL 1917.

In the Common Hall, the President in the chair.

The gall produced by *Livia juncorum* Lat. on *Juncus articulatus* L., was sent by Miss E. BRAY of Hailsham.

Mr J. A. WHELDON brought the following exhibits:—(1) *Hypnum vernicosum* Lindb., from Skipton Moor, West Yorkshire, and *H. fluitans* L., from near Docker, West Lancs.; (2) The rare lichen, *Biatorina lutea* Arnold, found on trees at Portpatrick, Wigtonshire, by Mr Albert Wilson; (3) A new variety of the moss, *Campylopus setifolius* Wils., discovered by Mr D. A. Jones, at Llyn Eidden Mawr, near Harlech, which is to be described under the name of var. *intermedius*; (4) A curious teratological example of *Ranunculus Ficaria* L., sent by Mr Wilson from near Bentham, with double flowers, all the petals having become sepaloid and of a rich green colour. Mr WHELDON also showed a specimen of what was thought to be *Tolypella nidifica* (Wallr.), from the herbarium of H. Searle, and believed to have been gathered on the Lancashire or Cheshire coast. Mr Wheldon asked for further material to be sought for in order to verify the occurrence of the plant.

A lantern lecture was given by Mr A. H. DUDLEY on "Altruism in Plant Life: the Individual and the Race." The lecturer stated that the principle laid down by Spencer that "altruism has been no less essential than egoism," may be found exemplified in the lower as well as in the higher forms of life. The struggle for existence has two aspects—the individual struggle for existence and the struggle for the benefit of the race. To human intelligence the individual plant loses much, or even its all, in reproduction—self-sacrifice for the race, which is of the nature of altruism. Methods of pollination, contrivances for seed-dispersal and the storing of nutriment in the seed were claimed as evidence of the altruistic basis of reproduction. Applying this thesis the reproductive processes were briefly traced from simple division in unicellular algae to the reproductive phenomena exhibited by seed-bearing plants.

In the short discussion which followed some of the speakers dissented from the thesis of the lecturer, and it was contended that altruism implies moral attributes and therefore consciousness.

THURSDAY, 24th MAY 1917.

In the Common Hall, the President in the chair.

Mr J. A. WHELDON showed flowering specimens of the Lady's Slipper Orchid (*Cypripedium Calceolus* L.), grown at Walton. Flower-buds, visible on the 20th, opened on the 24th May.

Mr A. A. DALLMAN, F.C.S., gave an interesting lecture on "Scottish Wild Flowers and Their Haunts," which was illustrated by 100 beautiful lantern slides, principally from photographs taken in the Clyde district, including those of several rare aquatic and sub-aquatic species.

MONDAY, 18th JUNE 1917.

In the Common Hall, Dr W. A. Lee, M.A., in the chair.

Mr C. WATERFALL, F.L.S., showed *Peucedanum Ostruthium* Koch, *Ruscus aculeatus* L. and *Ceterach officinarum* DC., from Torquay.

Dr W. A. LEE showed:—(1) *Cynips Kollari* Htg., the insect bred from a marble-gall, gathered in August 1916, matured June 1917; (2) gall on twigs of *Tilia europaea* L., caused by the larva of

Contarinia tiliarum Kieffer; (3) gall on leaf of sycamore, caused by *Phyllocoptes acericola* Nal.

Dr E. J. H. THOMAS sent from Dee Cop the aliens *Echinosperrum* sp., *Legousia hybrida* DC. and *Fagopyrum esculentum* Moench.

The following popular plant-names, current in the Rainhill district, were communicated by Mr DALLMAN:—Sour Grass (*Rumex Acetosella*), Jenny Green-teeth (*Lemna minor*), Pig Ear (*Plantago major*) and Morning Glory (*Convolvulus sepium*).

Mr W. G. TRAVIS read a paper illustrated by maps and plans, entitled "Old Liverpool Botanising Haunts." He described topographical features obliterated by the growth of the city. Quoting old references he depicted the vegetation of haunts familiar to former generations of botanists. Copious records existed of the flora of the North and South Shores and the Dingle, but as to the Pool, the Great Heath and the Mosslake Fields, which disappeared earlier, no botanical information was extant, and the character of those plant-associations could only be deduced by analogy.

In proposing a vote of thanks, Mr Dallman referred to matter of historical interest still awaiting publication.

TUESDAY, 17th JULY 1917.

In the Common Hall, the President in the chair.

Miss A. LEE, L.L.A., showed specimens from St Annes-on-Sea, including *Lithospermum officinale* L., *Raphanus maritimus* Sm., *Bartsia viscosa* L., *Oenothera odorata* Jacq. and *Verbascum nigrum* L.

Mr J. A. WHELDON showed *Polygala dunense* Dum., from sand-hills at Hall Road (South Lancashire), not previously recorded for Britain, and *Sphagnum fimbriatum* Wils., var. *arcticum* Jens., from Durham.

Mr Albert WILSON sent fruiting specimens, rarely met with, of *Hypnum stramineum* Dicks., from Tatham Fells, West Lancs.

Proliferous specimens of *Trifolium repens* L., from Bromborough, were shown by Miss L. R. COOKE.

Mr A. A. DALLMAN, F.C.S., exhibited an old botanical catalogue, formerly the property of Miss Swainson, a local botanist of the early nineteenth century, containing MS. entries of local plants.

Mr W. G. TRAVIS showed the fungus, *Ustilago hypodytes* Schlecht., on *Elymus arenarius* L., from Blundellsands.

Dr E. J. H. THOMAS sent living examples of *Ricciocarpus natans* (L.) Corda, from Denbighshire, an addition to the flora of the Principality.

A paper was read by Dr W. A. LEE, entitled "Some Desiderata in a Local Flora." After indicating what in his opinion should be the scope of an ideal local flora, Dr Lee gave a review of some of the salient features of representative floras. Many local floras show a very restricted outlook, and the author was strongly of opinion that there was ample field for originality and improvement. Such works as F. Arnold Lees' "Flora of West Yorkshire," Wheldon & Wilson's "Flora of West Lancashire," and Scott Elliot's "Flora of Dumfriesshire" might be taken as examples of local floras showing wider treatment. The paper was much appreciated and elicited an interesting discussion in which the President, Messrs Wheldon, Dallman, Connor, and Payne took part.

MONDAY, 20th AUGUST 1917.

In the Common Hall, the President in the chair.

Miss BRAY sent specimens of *Hypericum dubium* Leers, var. *erosum* Duby and *H. Desetangii* Lamotte, from Mr Salmon, of Reigate; also *Solanum Dulcamara* L., var. *marinum* Bab., *Nasturtium sylvestre* Br. and *Lactuca saligna* L., from Eastbourne.

Mr A. A. DALLMAN, F.C.S., showed aliens from Dee Cop:—*Thlaspi arvense* L., *Carduus nutans* L., *Solanum nigrum* L., *Linaria minor* L., *Erodium moschatum* L'Hér., *Saponaria Vaccaria* L., *Senecio viscosus* L., *Lepidium ruderae* L. and *Matricaria suaveolens* Buch.

Dr E. J. H. THOMAS sent specimens of *Serratula tinctoria* L. and *Cornus sanguinea* L. in fruit, from Prestatyn.

Mr E. F. PAYNE remarked on the decrease of *Statice Limonium* along the shores of the Mersey, stating that the sea-lavenders at Bromborough were being destroyed by oil and chemical refuse.

Dr LEE gave an introduction to the study of Galls, illustrated by numerous examples. He remarked that the subject had been neglected alike by the botanists and entomologists. There are over 2000 kinds of galls, a quarter of which are found in this country. The phenomena of gall formation were explained and the fastidiousness of insects indicated.

Mr DALLMAN, F.C.S., dealt with "Grasses," and gave an interesting address, illustrated with specimens, on the method of their study. He referred to the relationship between the grasses and sedges, and lucidly described morphological features and classification.

TUESDAY, 18th SEPTEMBER 1917.

In the Common Hall, the President in the chair.

Miss BRAY wrote describing the results of seed germination in *Hyoscyamus niger* L. and *Datura Stramonium* L.

Dr W. A. LEE showed galls on beech leaves, from Pensarn, caused by the larva of *Hormomyia piligera* F. Löw.

Mr J. A. WHELDON showed the ascomycete, *Geoglossum glabrum* Pers., from the Trough of Bowland.

Mr A. A. DALLMAN, F.C.S., showed examples from North Wales of *Sambucus nigra* L., var. *laciniata* L. and *Brassica oleracea* L., gathered where Mr Thomas Johnson found it in the sixteenth century, as well as fruiting examples of an undetermined species of wild pear.

A paper was read by Mr J. A. WHELDON on "The Collection, Taxonomy, and Ecology of Sphagna." After giving hints on collection, he discussed the classification of this remarkable group, during which the progress of the intensive study of the Sphagna was historically treated. The major portion of the paper was devoted to a study of the bog-mosses from an oecological point of view, the influences of climate, altitude, moisture and light being considered, and the relationship of growth and colour forms to habitat. The author drew on his extensive experience in the field and brought forward a wealth of personal observations. The paper has been published in the *Lancashire & Cheshire Naturalist*, Nos. 116-119 (1917-1918).

SATURDAY, 20th OCTOBER 1917.

The tenth annual Soirée was held at the Free Church Rooms, Lord

Street, when an unusually large number assembled to hear an excellent programme of music. An item, much applauded, was a poetical account of the Society's activities, composed and recited by Miss E. Warhurst, L.L.A.

Some exceedingly interesting botanical exhibits were on view, including rare exotics and fruiting examples of native species, among the latter being a fine collection sent by Miss Bray, of Hailsham. Miss S. J. Shoobridge provided a series of exquisitely finished silver ornaments made by hand-workers in India, and Mr J. A. Wheldon displayed an instructive collection of Sphagna.

Mr A. A. Dallman, F.C.S., and Mrs Dallman, in the enforced absence of the President, Mr W. G. Travis, performed the duties of host and hostess with much acceptance.

WEDNESDAY, 24th OCTOBER 1917.

In the Common Hall, Dr W. A. Lee in the chair.

Mr J. A. WHELDON exhibited specimens of *Bidens frondosa* L. and *B. bipinnata* L., found by Mr Thos. Baddeley, near Manchester, and not previously recorded for the county. These plants were associated with other North American aliens, including *Leptilon canadense* Britton, *Galinsoga parviflora* Cav., *Thelesperma trifidum* (Poir.) Britton and *Amarantus retroflexus* L. Mr Wheldon also showed a new British Sphagnum, *S. Camusii* Warnst., collected near Ditton, in the New Forest, in January 1916 by J. F. Rayner.

Mr DALLMAN, F.C.S., brought an example of reed-mace showing fasciation, as well as *Riccia fluitans* L. (new to Denbighshire), found by Dr E. J. Haynes Thomas.

A lecture was given by Mr R. CROSTON, on "Sphagnum as a Dressing for Wounds Received in War." The lecture, which aroused much interest, was illustrated by numerous microscope slides prepared and displayed by Messrs J. S. Norman Thomas (President of the Liverpool Microscopical Society), E. Fry, W. E. Harper, T. Muskett, F. J. Smith, C. H. H. Walker and E. Leonard, the last-named supplementing his exhibit by a set of diatoms.

THURSDAY, 15th NOVEMBER 1917.

In the Common Hall, the President in the chair.

Mr J. A. WHELDON showed specimens of *Euphrasia curta* Wetts. a tall and very hairy form, found by him and his son, near Ramsey, Isle of Man, in August 1917. He had previously reported the var. *glabrescens* from the neighbourhood of Lhane, but the type appears not to have been previously recorded for the island.

Dr LEE brought black poplar galled by *Pemphigus spirothecae* Koch, found at Formby. He also called attention to the question of the status of *Linaria Cymbalaria* L., and mentioned some of its recorded types of habitat. In the discussion the consensus of opinion was against the species being considered indigenous in Britain.

A lecture was delivered by Mr W. S. LAVEROCK, M.A., B.Sc., of the Liverpool Museum, on "Some Personal Experiences of Plant Life in the Federated Malay States." The lecturer, who visited the East for the purpose of collecting specimens for the local institution, gave a most instructive account of tropical flora, and dealt with the economic and botanical aspects of various vegetable products. The lantern illustrations gave a clear impression of the jungle vegetation and the rubber plantations.

MONDAY, 10th DECEMBER 1917.

The distribution of prizes and certificates in connection with the Children's Nature-Study Scheme took place in the Common Hall. Dr Lee presided and, commenting on the excellent quality of the work submitted, drew attention to the absence of facilities for nature-study in Liverpool, which compared unfavourably with neighbouring cities. It was purely a labour of love on the part of teachers who received no encouragement from the educational authorities. The schools represented in the prize-list were Oulton Secondary, St Edmund's College, Pleasant Street Council, Gt. Homer Council, and New Chester Road, New Ferry. A stimulating address was given by Miss E. Warhurst, L.L.A., and the prizes were distributed by Mrs Bangham.

At the conclusion of this function the ordinary monthly meeting was held, the President in the chair.

Mr J. A. WHELDON showed *Sphagnum Franconiae* Warnst., from Esher, Surrey, collected by Mr Sherrin and Miss Hayman, and new to England. It was not included in the recently published *Synopsis of European Sphagna*, having been omitted by accident. The exhibitor remarked that only 10 European species of sphagna now remain unrecorded for Britain.

Miss BRAY sent leaves showing the work of a tent-making beetle, probably one of the Pselaphidae.

Before a large and appreciative audience a lecture was delivered by Mr WALTER T. HAYDON, F.L.S., on "Thoreau and his Environment," illustrated by numerous lantern slides. The lecturer, having visited the Concord district and devoted himself for many years to a study of the remarkable literary group which flourished there, conveyed fresh interesting personalia. Dealing with the social and intellectual environment in which Thoreau's genius developed, he showed that the originality of character which distinguished him prevented his personality from being dominated by his entourage.

FIELD MEETINGS.

SATURDAY, 21st APRIL 1917.

Dibbinsdale and Raby Mere. *Leaders*—Mrs DALLMAN and Miss A. LEE, L.L.A.

Most of the woodland plants usually met with in the district were noted. Common flowering plants, such as the foxglove and primrose, formerly plentiful in these localities, have been practically eradicated, and are now rare. *Aulacomnium androgynum* Schwaeg. and *Tetraphis pellucida* Hedw. were abundant on decaying tree trunks, and the Jew's-ear fungus (*Hierneola Auricula-Judae*) was noted on elder. Some fifty or sixty years ago Marrat and Higgins recorded many mosses and lichens on the bark of trees here, but these have disappeared owing to the pollution of the atmosphere.

SATURDAY, 19th MAY 1917.

Willaston, Puddington, and Shotwick. *Leader*—Dr W. A. LEE, M.A.

After an inspection of antiquarian objects at Willaston, a rapid survey was made of the lanes leading to Burton, the district affording a fair number of flowering plants.

The short distance to Puddington Old Hall yielded a number of unfrequent species, such as *Geranium pyrenaicum* Burm., *Vicia hirsuta* S. F. Gray, and *Taraxacum erythrospermum* Andr. By the kind permission of Mr A. B. Earle, the grounds of the Hall were visited, the well-grown trees and display of floral beauty eliciting much admiration. Some account of the history and antiquities of the neighbourhood was given by the leader.

On the return journey, *Ceterach officinarum* DC., a fern not previously recorded for the Wirral, was found on a stone wall.

SATURDAY, 16th JUNE 1917.

Rainhill. *Leader*—Miss D. ANDERTON.

By the kind permission of H. J. Bromilow, Esq., of Rann Lea, a visit was paid to his gardens and orchid-houses. Afterwards, an enjoyable ramble was taken through the lanes and roads of the neighbourhood, a district associated in local natural history annals with the Rev. H. H. Higgins.

SATURDAY, 30th JUNE 1917.

Freshfield, Woodvale, and Formby. *Leader*—Miss E. REID, L.L.A.

During this ramble one passed from the area of blown sand, with its characteristic flora, to the peaty tract in its hinterland, where an entirely different type occurs. Drainage and cultivation have led to the disappearance or increasing rarity of many of its choicest species, but the heathy fields and deep peaty ditches yield many survivors, which have been chronicled in previous reports.

SATURDAY, 14th JULY 1917.

Shoddle Woods and Eastham. *Leader*—Miss A. P. LLOYD, B.A.

The party, augmented by Chester members, entered Shoddle Woods, a name indicating the presence of St Chad's Well, one of several neighbouring springs whose existence has been known for centuries. Sir W. B. Forwood kindly gave permission for an inspection of this area, and it was hoped that many of the interesting old records would be confirmed, but only the sad effects of atmospheric and river pollution, especially among cryptogamic plants, were noted. The flora of the woods was scanty, and the herbage dry from continued drought. On the shores of the River Mersey *Armeria maritima* Willd., and a few specimens of the common sea-lavender (*Statice Limonium* L.) were found, the latter in a stunted condition. In an old sandstone quarry, long abandoned to the reparative influences of nature, were found *Scabiosa Succisa* L., in quantity, and *Marchantia polymorpha* L., var. *aquatica* Nees, plentiful in a marshy part.

SATURDAY, 29th JULY 1917.

Speke and Oglet. *Leader*—Miss OLIVE BANGHAM.

The presence of oak trees, indicated by local place-names, was particularly noticeable, and on these were found two varieties of the spangle gall. The clay banks fringing the river presented a fine dis-

play of colour, *Melilotus officinalis* L. combining in great quantity with *Epilobium hirsutum* L., in places supplemented by the purple flower-heads of *Dipsacus sylvestris* Huds. An obscure collemaceous lichen, collected in small quantity on the clay banks, proved to be *Homodium pusillum* Nyl.—an addition to the local lichen flora.

SATURDAY, 11th AUGUST 1917.

Helsby Hill. *Leader*—MR A. A. DALLMAN, F.C.S.

The party joined with the Chester Society of Natural Science and proceeded to Helsby marsh, one of the most favourable localities in the district for the study of aquatic vegetation. Among the plants recorded were:—*Bidens cernua* L., *B. tripartita* L., *Hydrocharis morsus-ranae* L., *Lemna polyrhiza* L., *Hottonia palustris* L., *Butomus umbellatus* L., *Catabrosa aquatica* Beauv., and *Oenanthe Lachenalii* C. G. Gmel. Returning to Helsby, the party ascended Helsby Hill, noting *Calluna vulgaris* Hull, *Erica Tetralix* L. and *E. cinerea* L. *Corydalis claviculata* DC. and *Jasione montana* L. were also seen. Mr Dallman gave a short address on the vegetation, and mentioned that the first record of the *Corydalis* on Helsby Hill was in 1777, by the Hon. and Rev. R. H. Waring, of Leeswood.

SATURDAY, 18th AUGUST 1917.

Caldy and Thurstaston Hill. *Leader*—MR E. F. PAYNE.

The rarer plants recorded included *Thalictrum minus* L., *Geranium sanguineum* L., and *Glaucium flavum* Crantz. Subsequently the party visited Thurstaston Hill.

SATURDAY, 22nd SEPTEMBER 1917.

Formby. *Leader*—MR J. A. WHELDON, F.L.S.

Hippophae Rhamnoides L., naturalised in this locality, was particularly attractive by its fine display of orange-coloured berries. A feature of the excursion was the abundance of fungi. The most notable gall observed was that caused by *Pemphigus spirothecae* Koch, on *Populus nigra* L.