

of *Gentianella campestris* in connexion with biometric analysis and cultural experiments being undertaken to ascertain if *G. baltica* is distinct from *G. campestris*, and if so, whether *G. campestris* forms a uniform group. Dr. E. F. Warburg (Oxford) showed forms of *Sedum forsterianum* and its allies which he has under cultivation, while B. N. Bowden (also of Oxford) illustrated the differences in the stomata between *Sesleria coerulea* and the British *S. varia* with a map showing doubtful as well as the accepted records of the latter in Britain. J. G. Packer (University College, Leicester) had a critical review of the criteria used for distinguishing the genus *Sieglingia*, in which he concluded that the relationship between *Danthonia calycina* and *Sieglingia decumbens* is one of species and not of genus. J. Rossiter (Oxford) showed specimens of *Ranunculus acris* and *R. bulbosus* which he had had in cultivation from Teesdale and Durham, and suggested that they included two ecotypes in each case. P. M. Benoit showed two forms of *Spartina townsendii* that he had found on mudflats near Barmouth Junction station, one of which had anthers only 5-7 mm. long, incompletely exerted, or exerted on short filaments, with small imperfect pollen grains and the styles small. This more slender plant is perhaps male-sterile, and was compared with a stouter form with anthers 8-11 mm. long exerted on long filaments with the pollen fully formed. P. D. Sell (Cambridge) and Dr. C. West exhibited a series of critical *Hieracia* and suggested that a long list of names in current use are synonyms of a single species.

It has already been shown that two species have been confused as greater bindweed—the native *Calystegia sepium* and the introduced *C. sylvestris*⁵, which is more common in many districts. To these, an exhibit by Dr. S. M. Walters (Cambridge) and Prof. D. A. Webb (Trinity College, Dublin) added a third, the pink-flowered *C. dahuricus* Herbert apud Sims, which can be distinguished by the narrow leaf-shape and hairy winged petioles, and is widespread. G. Halliday (Cambridge) showed how another alien, *Arenaria balearica*, has been recorded from numerous widespread localities in Britain. As long ago as 1861 observations of this plant in Scotland aroused heated argument⁶, and in 1908 it was remarked that it was “gradually making its way into our flora”⁷. To describe *Hieracium spraguei* as an ‘endemic alien’ would appear to be a contradiction in words, but, so far as our knowledge goes, this is a true statement of the position. Pugsley in 1948⁸ described the species as new to science based on a plant found by Dr. T. A. Sprague in Buckinghamshire near Chorley Wood in 1923 and 1925. Despite careful search by several botanists, it could not be refound until R. F. Turney, who showed it at the exhibition, sent to Kew specimens collected by Mrs. A. T. Peppercorn in 1951. They have now found it in five localities in Buckinghamshire and one in Hertfordshire, but although the species is undoubtedly an alien in Britain, its native country is still unknown.

Mrs. B. H. S. Russell exhibited herbarium specimens and a drawing of *Dichondra repens*, a plant widespread both in the tropics and some temperate countries, which she had found established on dunes near Hayle, Cornwall. Miss C. M. Goodman showed a most interesting series of alien grasses found in fields in Worcestershire where their seeds had been introduced in wool ‘shoddy’.

From the library of the Department of Botany of the British Museum (Natural History) was an exhibit

of original drawings for Sowerby’s “English Botany” for comparison with the copper-plate engravings of the first edition and lithographs of the third. From the same library came manuscripts of Wolley-Dod’s “Flora of Sussex”, Rea’s “Botany of Worcestershire” (with the published works for comparison), Benbow’s “Florae of Uxbridge and District and of Middlesex”, and Trimen’s annotated copy of Brewer’s “Flora of Surrey”. Mrs. H. N. Clokie (Oxford) showed specimens and manuscripts throwing new light on Dillenius and John Sibthorp. It seems that the types for Dillenius’s new species in the third edition of Ray’s “Synopsis” are likely to be found among Sherard’s specimens rather than in the Dillenian Herbarium, most of the material of which was evidently collected after publication of the “Synopsis”⁹.

Other exhibits included coloured photographs of some British plants by K. Le Sueur, an interesting photograph of *Ophrys fuciflora* believed to have been found in the Cotswolds, with an account of the circumstances by C. Thomas, records from the Lleyn Peninsula by Dr. A. P. Conolly, the stolon system of *Glaux maritima* by F. N. Hepper and Euphrasias in southern England by P. F. Yeo. J. E. LOUSLEY

¹ Walters, S. M., *Nature*, 173, 1079 (1954).

² Woodruffe-Peacock, E. A., *The Naturalist*, 408 (1903).

³ Woodruffe-Peacock, E. A., *The Naturalist*, 177 (1898).

⁴ Schotsman, H. D., *Acta Bot. Néerl.*, 3, 313 (1954).

⁵ Lousley, J. E., *Rep. Bot. Soc. and Exch. Club*, 13, 265 (1948).

⁶ Sim, J., et al., *Phytologist*, 5 (N.S.), 32, 46, 127 (1861).

⁷ Gregory, E. S., *Rep. Watson Bot. Exch. Club*, 2, 135 (1908).

⁸ Pugsley, H. W., *J. Linn. Soc. (Bot.)*, 54, 328 (1948).

⁹ Druce, G. C., and Vines, S. H., “The Dillenian Herbaria” (Oxford, 1907).

INTERNATIONAL ANALOGY COMPUTATION MEETING

THE Société Belge des Ingénieurs des Télécommunications et d’Électronique organized last year a series of lectures and colloquia on the various aspects of analogy computation. These meetings, held on a local basis, aroused so much interest and seemed to lead to such fruitful discussions that the Society decided, in collaboration with the Société Belge des Électriciens and the Société Belge des Mécaniciens, to organize a larger international conference on this subject. This meeting was arranged for the period September 26–October 2 in Brussels, and was attended by four hundred scientists and engineers from seventeen countries. Apart from many Belgian participants, strong delegations went from the United States, France and Great Britain, and among the foreign guests were several scientists from the U.S.S.R. and from Poland. In conjunction with the scientific sessions, an exhibition of analogue computing equipment and of many interesting and novel applications was held.

The great number of papers submitted for reading (one hundred and one) made it necessary to conduct two parallel sessions, and several additional discussion meetings in smaller circles took place. To preserve the unity of the conference, the following invited survey papers were given before the whole audience on succeeding days, before splitting up for the specialist parallel sessions: “Les analyseurs différentiels électroniques”, by M. F. H. Raymond; “Electrical network analysers”, by Mr. E. L. Harder; “La méthode d’analogie rhéoelectrique, ses possibilités et

ses tendances", by Prof. L. Malavard; "The mechanical differential analyser, recent developments and applications", by Mr. J. G. L. Michel; "Resistance-network analogues", by Dr. G. Liebmann; "Pédagogie concrète du calcul fonctionnel linéaire", by Prof. J. Brodin; and "Special computers", by Prof. H. Wallman. About 50 per cent of all contributions dealt with various aspects of electronic analogue computers, including differential analysers, simulators, etc., about 30 per cent with electrical analogues, such as electrolytic tanks and resistance-networks and their recent applications, and the remaining 20 per cent with mechanical differential analysers and various special-purpose computers. The review papers and the original communications, together with the discussions on these papers, will be published in full as Proceedings of the International Analogy Computation Meeting, Brussels, 1955, and its editors hope that the volume will be available at an early date.

It was decided during the meeting to form an International Association for Analogy Computation (Association Internationale pour le Calcul Analogique), and the chairmen of the various sessions, representing a good international cross-section, were asked to act as members of the organizing committee. The purpose of the new International Association for Analogy Computation is the furthering of this field by the organization of national and international scientific meetings, and the publication of a multi-language bulletin or periodical devoted to the scientific and engineering basis of analogue computers and to their steadily growing applications. Collaboration will be sought with existing organizations in the fields of electrical and mechanical engineering, and with those working with other computing techniques. The basic organization of the new Association will be in the hands of its first elected president, Prof. J. Hoffmann, and his colleagues at the Université Libre, Brussels.

This first international analogy computation meeting, bringing together people from many countries, was considered by all participants a very stimulating event, and the excellent organization of the meeting by the Société Belge des Ingénieurs des Télécommunications et d'Électronique and the great hospitality enjoyed will be remembered by all.

G. LIEBMAN

CHEMISTRY AND PHYSIOLOGY OF PHOSPHOLIPIDS SYMPOSIUM IN ONTARIO

DURING October 12-13, some hundred and twenty scientific workers gathered at the University of Western Ontario, London, Ontario, to attend a symposium on phospholipids sponsored by the Biochemistry Division of the Chemical Institute of Canada. The success of the meetings, planned by Prof. R. J. Rossiter and members of the local committee of the Institute, was attested by the enthusiastic response of all participants. The papers and succeeding discussions will be published in full in the *Canadian Journal of Biochemistry and Physiology*.

The first part of the symposium, with Dr. A. M. Wynne (University of Toronto) in the chair, was entitled "Chemistry of Phospholipids" and dealt with current advances in knowledge of the structure and

properties of the phospholipids. Dr. Erich Baer (Toronto) outlined the elegant synthetic methods used by his group for preparing optically pure α - or β -isomers of glycerophosphoric acid, glycerylphosphorylcholine, phosphatidic acids, lecithins, glycerylphosphorylethanolamine, glycerylphosphorylserine, and phosphatidyl serine. He also described the 22-step preparation of the first synthetic lipopeptide, L- α -(distearoyl)-phosphatidyl-L-serylglycylglycine. Finally, he reported on the first synthetic preparation of a fully unsaturated lecithin, L- α -dioleylecithin. Of particular interest is the ability of this substance to render a number of polar compounds soluble in organic solvents, and its property of high stability to atmospheric oxidation. Dr. Baer emphasized the consistency with which the L-configuration and α -structure appear in natural glycerolphosphatides. In discussing Dr. Baer's paper, Dr. C. S. McArthur (University of Saskatchewan) commented on the attempts to prepare lecithins from L- α -glycerylphosphorylcholine by other methods. He also pointed out the possibilities of appreciable phospholipid losses during the dehydration of tissue with acetone prior to lipid extraction.

Drs. J. Folch and F. N. LeBaron (Harvard Medical School) critically reviewed the current state of knowledge of the chemistry of phosphoinositides. It was pointed out that the common feature of this class of lipids is the presence of meso-inositol, phosphoric acid and fatty acids. In some cases carbohydrates or amines are present and often glycerol. The five phosphoinositide preparations discussed include soybean lipositol, brain diphosphoinositide (the only member of the group from which inositol diphosphate has been obtained rather than the usual monophosphoric acid ester), peanut glyceroinositophosphate, and wheat germ and cardiac muscle glyceroinositophosphatidic acids. Dr. Folch reported on the hydrolysis studies which have been carried out, the difficulties of obtaining uncontaminated preparations, and the appearance of inositol in other lipid complexes, and he emphasized the need for further structural studies. Dr. C. C. Lucas (Toronto) pointed out that the ubiquitous occurrence of inositol in biological material suggests a role as an essential component, and this is strengthened further by the observed lipotropic action of inositol.

The recent progress in the chemistry of sphingolipids was comprehensively reviewed by Dr. H. E. Carter (University of Illinois). He outlined the classical evidence for relative positions of functional groups on sphingosine and described his synthesis of tribenzoyl-D-erythro-dihydrosphingosine, which has properties conforming to those of the tribenzoyl derivative of the naturally occurring material. The application of infra-red techniques to establish the *trans*-structure of the double bond was mentioned, and the structure of sphingosine has finally been proved to be D-erythro-1, 3-dihydroxy-2-amino-4-*trans*-octadecene. This would appear to be confirmed by the recent reports of the synthesis of sphingosine. Dr. Carter pointed out the difficulties encountered in establishing the *erythro*-configuration of sphingosine as it occurs in cerebroside due to possibilities of inversion during hydrolysis. However, he showed that the analogous compound, phrenosine, contains sphingosine bearing the *erythro*-configuration, and he gave further information regarding cerebroside and cerebroside sulphuric ester, although the configuration of the galactosidic bond remains unsolved. The steps which have led to the elucidation of the structure