

*THE ROYAL INTERNATIONAL  
HORTICULTURAL EXHIBITION.*

THE Royal International Horticultural Exhibition which has just been held in the grounds of the Royal Hospital, Chelsea, possessed considerable scientific and educational interest. In the first place, a whole tent was devoted to scientific exhibits contributed by Prof. Bateson, Prof. Keeble, Prof. Balfour, the director of the Rothamsted Experimental Station, the Board of Agriculture and Fisheries, the Wye Agricultural College, Messrs. James Veitch and Sons, Mr. Backhouse, of the Innes Horticultural Station, Mr. William Cuthbertson, and others, whilst a most excellent exhibit of specimens of injurious insects, contributed by Mr. Georges Truffaut, of Versailles, was staged in the tent specially reserved for French exhibits.

Then there were two conferences held under the presidency of the Rt. Hon. A. H. Dyke Acland, one on Thursday, May 23, on horticultural education, and another on the following day on the subject of legislation in connection with insect pests. At the education conference the papers included one from Prof. L. H. Bailey, Cornell University, U.S.A., on horticultural education in America; Herr K. Weinhäusen, Berlin, on horticultural education in Germany; Mr. W. Hales, on the education of a gardener; and Prof. A. Buysens, of the School of Horticulture, Vilvorde, Belgium, on horticultural education in Belgium.

At Friday's conference Prof. Ritzema Bos, Holland, contributed a paper on the value of importation regulations as a means of preventing the introduction of plant pests from abroad; A. G. L. Rogers (Board of Agriculture), on the aim of legislation in Great Britain; H. Maxwell Lefroy, imperial entomologist for India, on legislation in connection with insect pests; H. J. Gussow, botanist to the Canadian Government, on legislation in connection with fungus diseases; and A. W. Sutton, Reading, on import dues and regulations.

Both conferences were fairly well attended, and the second one particularly appeared to excite much interest. The committee intend to get all the information possible on both subjects, and their report, together with the papers contributed to the conferences and the discussion, will be printed in the official report.

The exhibition will also be famous for the notable speech delivered by the Rt. Hon. Walter Runciman, President of the Board of Agriculture, at the jurors' luncheon. Mr. Runciman spoke very sympathetically respecting the proposed national diploma for gardeners, and though not pledging the Government to any particular line of action, he said that "whatever is best in the interests of horticulture in the allotting, organising, and examining for diplomas shall receive full assistance from the department over which I preside." Mr. Runciman then proceeded to make an even more notable announcement, namely, that he had created a horticultural branch of the Board of Agriculture, the interests of which will be devoted exclusively to horticulture, and near the head of that branch it was proposed to appoint one of the best entomologists the country can furnish.

*AN EARLY CRETACEOUS FLORA.<sup>1</sup>*

THE coastal plain of Maryland, a region forming part of the Atlantic slope which extends from the crest of the Alleghanies to the sea, consists of Mesozoic and Tertiary strata deposited in orderly sequence since the dawn of the Cretaceous epoch. It

<sup>1</sup> "Maryland Geological Survey.—Lower Cretaceous." Pp. 622+xcvii plates. (Baltimore: Johns Hopkins Press 1911.)

is with the estuarine and fluvial beds of the Lower Cretaceous, or Potomac, group that this important volume is primarily concerned. With the exception of a few Reptilia and Mollusca, described respectively by Mr. R. S. Lull and Mr. W. Bullock Clark, the life of the period is represented by a rich flora, which has been entrusted to Mr. E. W. Berry. As stated in the preface, "The necessity of some sort of systematic treatment of the maze of described forms in the literature of the Potomac which would enable the geologist or botanist to obtain some idea of the flora has long been felt." This want is satisfactorily met by the publication of the reports included in the fourth volume of a series dealing with the stratigraphy and palæontology of Maryland.

The determination of fragmentary fossil plants affords ample scope not only for the imagination, but also for differences of opinion. Some of Mr. Berry's conclusions are open to criticism; but this is of minor importance, and reluctance to agree with a few of his determinations does not necessarily imply ability to do better. He has treated the subject from a broad point of view, and the result is a monograph of permanent value. The introductory section, by W. B. Clark, A. B. Bibbins, and E. W. Berry, includes a concise account of the Potomac group, with a bibliography and historical review, followed by a general discussion on the stratigraphical and palæontological features of the beds. In the two lower subdivisions of the Potomac group (the Patuxent and Arundel), ferns, cycads, and conifers are abundant, but the genera *Rogersia*, *Proteaphyllum*, and *Ficophyllum* are wisely distrusted by Mr. Berry as records of flowering plants. In the uppermost, or Patapsco, formation Angiosperms are abundant.

In a letter to Hooker in 1879 Darwin wrote:—"The rapid development as far as we can judge of all the higher plants within recent geological times is an abominable mystery." It is because this mystery is still unsolved that any additions to our knowledge of floras in which the earliest examples of flowering plants occur is particularly welcome. Mr. Berry expresses the opinion that the evolution of the Angiosperms was accomplished, if not inaugurated, in the Lower Cretaceous period. There can, however, be very little doubt that the angiospermous type had been evolved some time before the close of the preceding Jurassic epoch, though it was not until the later phase of the Cretaceous period that the remarkable success of the new type became apparent. Unfortunately, the Potomac Angiosperms are represented almost entirely by impressions of leaves, fossils which it is so easy to name but in many cases almost impossible to identify with confidence.

The concise summary by Mr. Berry of the literature on the Lower Cretaceous floras of the world is a welcome contribution both to geologists and to the student of ancient phytogeography. The descriptions by the same author of the Maryland plants, accompanied by good illustrations and some useful maps, mark a considerable advance on the less critical accounts of the Potomac flora previously published. Several new genera are instituted, though it is questionable whether they all rest on a satisfactory foundation. Some fronds of a "pseudo-dichotomous" habit are referred to *Knowltonella*, a genus assigned with hesitation to the Matoniaceæ on unconvincing evidence. The genus *Dicksoniopsis* is founded on pieces of fern fronds which afford no satisfactory indication of close relationship to *Dicksonia* rather than to other members of the Cyatheaceæ, and might well be included in the old genus *Coniopteris*. Similarly the generic name *Dryopteris* suggests an affinity to *Dryopteris*, which is not established.

In coining new names implying near relationship