

Measures below and the Halesowen Sandstone group above. The locality from which Mr. Kay obtained the specimens, which he has kindly placed in my hands for description, is the Granville Clay Pit, at Old Hill.

In the present note I propose to indicate briefly some of the species represented, which I hope on a future occasion to describe more fully. They are very well preserved, as a rule.

The Equisetalean remains are not very numerous, and of these the specimens of the external surface of *Calamites ramosus*, Art., are the most interesting. *Annularia sphenophylloides* (Zenker) and *Calamocladus equisetiformis* (Schl.) also occur. The Sphenophyllales are represented by *Sphenophyllum cuneifolium* var. *saxifragæfolium* (Sternb.). The fern-like plants include a *Renaultia*, probably *R. Footneri* (Marrat), *Neuropteris flexuosa*, Brongn., and *N. tenuifolia* (Schl.). The Pecopterid types are varied, good specimens of *Pecopteris oreopteridia* (Schl.), as well as *P. Miltoni* (Art.) and *P. (Dactylothea) plumosa* (Art.), occurring. A *Rhabdocarpus*, which may be compared with *R. sulcatus* (Presl), is also present.

The Lycopods are represented by *Sigillaria principis*, Weiss, *Lepidophloios acerosus* (L. & H.), and *Lepidostrobus variabilis*, L. & H. The most interesting fossil, however, is what I take to be a small specimen of the cone of *Sigillariostrobus nobilis*, Zeiller, which is the first record of this interesting species from Britain. I have also, curiously enough, obtained several undoubted examples of the same plant from the Wyre Forest Coal-field recently, and these I hope to describe before very long.

The known flora of the Old Hill Marls is too small at present to indicate the horizon of these beds beyond doubt. While many of the above species are most abundant in the Middle Coal-measures, the presence of *Pecopteris oreopteridia* (Schl.) and *Neuropteris flexuosa*, Brongn., species which have not been recorded below the Transition Series, indicate that the later is the probable horizon. The Old Hill Marls probably occupy a low position in the Transition Coal-measures. The known flora of this horizon in South Staffordshire at present consists of eight species, recorded by Dr. Kidston¹ from the Hamstead boring between 1,236 and 1,320 feet, and of these only the composite *Lepidostrobus variabilis*, L. & H., is also found in the Old Hill Marls.

REVIEWS.

I.—THE MESOZOIC FLORA OF GRAHAM LAND. By T. G. HALLE. *Wissenschaftliche Ergebnisse der Schwedischen Südpolar-Expedition, 1901-3. Bd. iii, Lieferung 14. Stockholm, 1913. Price 16s.*

THE evidence that the existence of genial climates at the Poles has been the rule rather than the exception in the past is one of the most fascinating and noteworthy results of the study of fossil plants. The present memoir, none the less welcome because it appears in excellent English, is the most important contribution

¹ Kidston, *Trans. Roy. Soc. Edinb.*, vol. xxxv, pt. vi, p. 319, 188 ; see also *Quart. Journ. Geol. Soc.*, vol. lxi, p. 313, 1905.

to our knowledge of Antarctic fossil floras that has yet been published. It is true that Hope Bay, Graham Land (lat. 63° 15' S.), lies without the Antarctic circle, but, as the author justly points out, the present climate of this region is purely Antarctic and its known flora includes only two species of the higher plants.

It is very remarkable to find that of the specimens from Graham Land, collected by members of the Swedish South Polar Expedition (which are not only far more numerous but much better preserved than those obtained in the Antarctic region either before or since), not a few are the same species as those with which we have long been familiar in the Lower Oolites of the Yorkshire coast. No less than nine of the species, including *Todites Williamsoni* (Brongn.), *Cladophlebis denticulata* (Brongn.), and *Coniopteris hymenophylloides* (Brongn.), are British plants, and a very large proportion of the genera are also found in England. Surely current opinion with regard to the worldwide distribution of Mesophytic vegetation could receive no more striking confirmation than is to be found in Dr. Halle's memoir.

The author distinguishes sixty-one Jurassic types either generically or specifically, and full and clear descriptions are given of each. Of these, twenty-one are new species, and two (*Elatocladus* and *Schizolepidella*) are new genera. The systematic portion of the work is followed by a discussion, at considerable length, on the known geographic distribution of the plants and the age of the beds, which are regarded as Middle Jurassic.

Dr. Halle may be congratulated on the results of his labours, and our thanks are due to him for the care and research which he has obviously bestowed on the preparation of this memoir. It is no doubt true that the study of fossil plants demands, perhaps more than any other subject, an accurately balanced judgment. Dr. Halle has shown, by the way he meets the difficulties presented by this material, that he is possessed of such judgment in a high degree. Many of the suggestions which he makes with regard to difficulties arising from homoplasy and synonymy are worthy of careful attention at the hands of all those who are working in the same field. We may also congratulate Professor Nathorst on the achievement of his pupil, whom he has obviously inspired with something of his own enthusiasm, care, and discrimination.

In conclusion, a word of praise may be added with regard to the clearness and general excellence of the plates (eight double and one single) which accompany and illustrate the memoir.

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II.—GEOLOGICAL SURVEY MEMOIR.

THE GEOLOGY OF THE COUNTRY AROUND IVYBRIDGE AND MODBURY.

By W. A. E. USSHER, F.G.S., with chapter on Altered Rocks by G. BARROW, F.G.S. 8vo; pp. vi, 137, with 6 plates and 26 text-illustrations. Printed for His Majesty's Stationery Office, 1912. Price 3s.

THIS is an explanation of the colour-printed Geological Survey map, Sheet 349. It takes in the eastern part of Plymouth, and adjoins Sheet 348, which was described by Mr. Ussher in "The