

and, with the exception of the parts on Insecta and Myriapoda, was written entirely by von Zittel, this new work is to consist of twenty volumes by nearly fifty specialists.

In this part, Dr. Bulman gives a masterly account of the Graptolithina. Each of the two main divisions, the Dendroidea and the Graptoloidea, is considered under the headings: diagnosis, morphology, development, ecology, distribution, phylogeny and systematics. There is no separate section on the history of the subject, but the development of knowledge is indicated in each section of the work. The illustrations are numerous, and those showing morphology and development are especially noteworthy. In the systematic part diagnoses are given of all the known genera. It is to be regretted that the outstanding work of Kozłowski could only be considered briefly in a postscript. His discovery in the Upper Tremadoc, south of Warsaw, of the most perfectly preserved Dendroids yet known has led him to the conclusion that the Graptolites are not hydroids, but are closely related to the Pterobranchia among the Hemichordata. This is supported by the presence among the Graptolites of a Pterobranch allied to the living Cephalodiscus.

#### Elementary Microtechnique

By H. Alan Peacock. Second edition. Pp. viii + 330. (London: Edward Arnold and Co., 1940.) 9s.

REASONABLY priced, compact, well bound and clearly written, this book surpasses the high standard already set by the author in the first edition. There are chapters on the microscope and its use, methods of making preparations of animal and plant tissues, methods of wax-embedding, formulæ, sources and culture of material, preservation of material, etc.; while more than a hundred pages are devoted to methods of dealing with specific material, both plant and animal. There are also an excellent little bibliography and a list of dealers from whom amateurs or schools not favourably situated can obtain enough to satisfy the most exacting student of the microscope. The author has done well to set out his practical instructions line by line in numbered sequence, adding the length of time for applying each reagent and giving a number of alternative methods. For the next edition, the author should consider omitting the chapter on the protoplasm and the cell (too short to be of great use) and substitute a few pages on the cultivation of microscopic fungi, with details of various nutrient media in common use. All students and teachers of biology owe thanks to Mr. Peacock for this excellent little compendium; for its scope there is none better.

#### Food Values at a Glance

And How to Plan a Healthy Diet. By Violet G. Plimmer. Second edition. Pp. 190. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1939.) 6s. net.

MODESTLY disclaiming any expert knowledge of nutrition, Mrs. Plimmer has launched the second edition of this useful little work at a time when, as she herself puts it, there is opportunity to recast and

modernize our defences on the food front. Her disclaimer is misleading if by the knowledge of nutrition we understand a knowledge of how properly to nourish the body, because here are all the essential facts clearly presented and in very readable form. Although I do not think every reader will find Mrs. Plimmer's "Neapolitan Ice" method of portraying the composition of foods as convenient to refer to as the more customary tables, it at least lends colour to the commonsense account she gives of up-to-date views on diet in relation to health and fitness. At a time such as the present this handy little work should be widely read.

J. C. D.

#### The World of Insects

By Prof. Carl D. Duncan and Prof. Gayle Pickwell. Pp. ix + 409. (New York and London: McGraw-Hill Book Co. Inc., 1939.) 21s.

THIS book is one of the best elementary manuals on insect life that has appeared during recent years in the United States. It is well adapted for the general reader or the student-beginner, since technicalities are reduced to a minimum and the subject is attractively presented without a noticeable tendency to be unduly popular. While sufficient grounding in structure and classification is given, the book, in the main, is concerned with living animals, and more attention is shown to such matters as life, growth, behaviour, food, locomotion, etc. There is also a useful chapter on injurious insects and the means for their control. The illustrations are very good and original, and comprise both line and half-tone examples. Many of the latter are really effective results of the expert use of photography.

#### Calluna

A Monograph on the Scotch Heather. By W. Beijerinck. (Verhandelingen der Koninklijke Nederlandsche Akademie van Wetenschappen, Afdeling Natuurkunde, Sectie 2, Deel 38, No. 4.) Pp. 180 + 30 plates. (Amsterdam: N. V. Noord-Hollandsche Uitgevers Maatschappij, 1940.) 7.50 fl.

IN view of the great importance of Calluna in diverse types of vegetation, a monograph, which aims at bringing together all that is known about this plant, will be very welcome to the ecologist. The author has sifted a large volume of literature and, where needful, has supplemented available information by his own investigations; so that information on a wide diversity of topics is provided. Considerable space is devoted to a consideration of external and internal structure, as well as of the life-history, and this is copiously illustrated. Occasional points are obscure; for example, it is difficult to follow the data on cork-development on p. 34. On the ecological side the monograph falls a little short of the ideal. Thus, there is but little information on such topics as rooting depth, seedling mortality, and regeneration after fire, while the British reader would no doubt seek more data than are afforded on the vegetation-types in which Calluna plays a part. The subject-matter is well arranged, but for a treatise of this size some kind of index would have been desirable.

F. E. F.