is the smallest known metazoan. The different forms of the body of Rotifers, the jointing of the body, the head and its corona and processes, the appendages of the trunk, and the foot are considered. The ciliation of the trochal region is traced from the primitive type, most closely approximated in *Notommata*, through the varying forms represented by *Pedalia*, *Floscularia* (*Melicerta*), *Philodina*, *Epiphanes* (*Hydatina*), and *Brachionus*, and a description is added of the wheel-organs of each family.

A clear account is given of the glands, including the retrocerebral organ, the different grades of development of the lorica, and the three kinds of envelope—the gelatinous, as in certain Flosculariacea; the secreted case of firmer consistency, as in the Bdelloid genus *Habrotrocha*; and the envelope formed of foreign particles, as in *Floscularia ringens*. The illustrations, 153 in number, are well chosen and clearly reproduced.

Short Reviews

Das Tierreich: eine Zusammenstellung und Kennzeichnung der rezenten Tierformen. Gegründet von der Deutschen Zoologischen Gesellschaft. Im Auftrage der Preussischen Akademie der Wissenschaften zu Berlin. Herausgegeben von F. E. Schulze and W. Kükenthal.

(1) Lief. 54: *Myriapoda.* 2: *Scolopendromorpha.* Bearbeitet von Dr. Graf Attems. Pp. xix + 308. 50 gold marks.

(2) Lief. 55: *Amphibia. Anura III., Polypedatidæ.* Bearbeitet von Dr. E. Ahl. Pp. xvi + 477. 77·50 gold marks.

(3) Lief. 56: *Acarina; Bdellidæ, Nicoletiellidæ, Cryptognathidæ.* Bearbeitet von Dr. Sig. Thor. Pp. xiii + 87. n.p. (Berlin und Leipzig: Walter de Gruyter und Co., 1931.)

(1) DR. GRAF ATTEMS gives a brief account (16 pp.) of the external morphology of the Scolopendromorpha and defines the two families, Scolopendridæ and Cryptopidæ, which constitute the order. In the first of these families are 16 genera with 238 recognised species, besides a further 44 species of uncertain position; in the second family are 12 genera with 106 species, with a score which are incompletely described. The discrimination of genera and species is made as straightforward as possible by the provision of excellent keys and of clearly drawn illustrations, 387 in number.

(2) A brief description of the salient biological and structural features of these tree frogs precedes the systematic account of the twelve genera and 527 species—found in the African and Indo-Malayan region—which are included in the family Polypedatidæ. Noteworthy are the keys devised for the separation of the large genera *Rhacophorus* and *Hyperolius*, each of which contains nearly two hundred species. The systematic characters are set forth clearly, and for many of the species in considerable detail, and there are 320 figures, mostly in half-tone, representing usually the dorsal aspect of the frogs.

(3) The systematic treatment of the Bdellidæ or snouted mites is prefaced by a useful account of their external features, internal anatomy, life history, and biology. For the less-known Nicoletiellidæ a briefer description suffices, and for the very small Cryptognathidæ, with only one genus and two species, the general account is restricted to the external features, as the development, internal anatomy, and the nature of the food of these mites are unknown. The keys, systematic descriptions, and illustrations have been carefully prepared by Dr. Sig. Thor, to afford the maximum of help in the difficult task of determining these mites.

Each volume has a systematic index and "nomenclator generum et subgenerum". The three parts before us worthily maintain the high traditions of the series to which they belong.

Electrical Insulating Materials: an Engineering Treatise on the Production, Characteristics and Uses of Electrical Insulating Materials. By H. Warren. Pp. 516. (London: Ernest Benn, Ltd., 1931.) 42*s.* net.

THE insulating materials from which the designer has to choose cover a very wide range of natural and artificial substances. They vary from rocky deposits, like slate and marble, to highly complicated synthetic resins. The engineering expert has to familiarise himself with all of them, and choose for his special purposes those with suitable characteristics. Mica is the most important mineral material for insulating work. Its excellent electrical properties, great mechanical strength, ease of cleavage into continuous laminæ, purity, chemical inertness, and resistance to high temperature put it into a class by itself. It is used in natural plates for condensers, certain heating devices, and small commutators. It is also used for non-electrical purposes, such as sound producing diaphragms, and to build up composite materials.

On the other hand, materials like casein, the albuminoid which is the basis of cheese, is sometimes used for switch covers, lampholders, etc., especially abroad. The manufacturer has to consider ease of working and the degree of polish possible, as well as the electrical and mechanical properties of the materials. He will find this book most useful for reference, and parts of it suggestive and instructive.

Manx Algæ: an Algal Survey of the South End of the Isle of Man. By Dr. Margery Knight and Mary W. Parke. (L.M.B.C. Memoirs on Typical British Marine Plants and Animals, 30.) Pp. vii + 155 + 19 plates. (Liverpool: University Press of Liverpool; London: Hodder and Stoughton, Ltd., 1931.) 10*s.* 6*d.*

BRITISH workers in the field of marine algology have been seriously hampered for many years by the paucity of literature. The present memoir is