

## Descriptive Zoology

### Handbuch der Zoologie:

eine Naturgeschichte der Stämme des Tierreiches. Gegründet von Prof. Dr. Willy Kükenenthal. Herausgegeben von Dr. Thilo Krumbach. (Berlin und Leipzig: Walter de Gruyter und Co., 1937.)

(1) Band 3, Hälfte 2: Chelicerata, Pantopoda, Onychophora, Vermes Oligomera. Lief. 10, Teil 5. Pp. 7-134. 18 gold marks.

(2) Band 3, Hälfte 2: Chelicerata, Pantopoda, Onychophora, Vermes Oligomera. Lief. 9, Teil 2. Pp. 289-384. 12 gold marks. Band 3, Hälfte 2: Chelicerata, Pantopoda, Onychophora, Vermes Oligomera. Lief. 11. Pp. 385-496. 16 gold marks.

(3) Band 5, Hälfte 2: Tunicata. Lief. 6. Pp. 545-672. 18 gold marks.

(4) Band 6, Hälfte 1: Acrania (Cephalochorda) = Cyclostoma, Ichthya. Bearbeitet von Dr. Victor Pietschmann. Lief. 5. Pp. 449-560. 14 gold marks.

(5) Band 7, Hälfte 1: Sauropsida, Allgemeines; Reptilia; Aves. Lief. 3. Pp. 225-320. 14 gold marks.

(1) **T**HIS well-known general "Handbuch der Zoologie" revives the term Vermes, which has practically ceased to be used in English texts. The Vermes are divided into three groups, the Amera, Polymera and Oligomera. The present part is the first of the section of the book to treat of the Oligomera. This group includes three classes: (1) Tentaculata, that is, the Phoronidea, Bryozoa and Brachiopoda; (2) Sagittoidea (Chaetognatha); and (3) Brachiotremata, that is, the Pterobranchia and Enteropneusta. The first sixty pages contain an introduction to the Oligomera, including a bibliography of general works. The next four pages are an introduction to the Tentaculata in particular, and the last sixty-four pages furnish a complete and most useful account of the Phoronidea up to the first few items of the special bibliography of that group. The whole part contains 150 well-produced figures, a good number of which are original. A curious error has crept in on p. 123. No. 24, *Phoronis pacifica* is correctly stated to be Puget Sound and Humbolt Bay, but on the map point 24 is depicted on the east coast a little south of New York.

(2) Part 9 of this half of the second volume contains 116 illustrations. The first eleven pages conclude the account of the Solifugidæ by A. Kästner and are mainly concerned with the distribution, classification and literature of the group. Ten families in all are recognized and defined, and a useful key for separating them is provided. The bulk of the part is concerned with A. Kästner's

account of the Opiliones, up to their geographical distribution.

The first nine pages of Part 11 carry on from Part 9 and conclude the Opiliones. It contains little more than a review of the families and sub-families, among which the more than 1,400 species of the order are divided, and the list of the relevant literature. The remaining hundred and three pages commence the account of the Araneæ, or true spiders, by U. Gerhart and A. Kästner. It deals in detail with the general morphology, anatomy and histology of the group up to the beginning of the female reproductive organs—the reproductive system being the last to be considered. The part is illustrated with 133 figures, a number of which are original.

(3) In Part 6 of the second half of the fifth volume Dr. Johan Huus deals with the Ascidiaceæ or simple Ascidians. It contains 123 figures, mostly, with the exception of the distributional maps which are original, chosen from the works of previous writers. It completes the account of the structure, physiology and ecology of the sub-class and also a large part of the systematic review of the genera, but does not include the bibliography.

(4) The first hundred and two pages of the first part of volume 6 complete the account of the Cyclostoma by Dr. V. Pietschman. It has thus taken five hundred and fifty pages and 531 figures altogether to deal with this group. Without in any way suggesting that it is an uninteresting or unimportant group, it would seem that such treatment exceeds in length and detail what is usually expected of a "Handbuch". In itself it forms quite a substantial volume, and the various parts together cost 68 gold marks. It is obviously impossible to treat all the groups of the animal kingdom at this length. As it stands, it forms a veritable mine of information and has a most useful bibliography. The last ten pages commence the general account of the Ichthya or true fishes.

(5) The first eleven pages of this part conclude Proj. O. von Wettstein's account of the order Rhynchocephalia. It is naturally based on the genus *Sphenodon*, of which only one living species, *punctatus*, is recognized, although several varieties are described. Brief reference is made, however, to the allied fossil orders, Choristodera and Rhynchosauroida. The whole account of the order occupies two hundred and thirty-five pages, is illustrated by 174 figures, and terminates with a most useful and full bibliography. The remainder of the part deals with the Crocodilia.