

## BOOK REVIEW

**D.I. Gibson, A. Jones, R.A. Bray (Eds.): Keys to the Trematoda. Volume I.** CABI Publishing, Wallingford, UK & The Natural History Museum, London, UK, 2002. ISBN 0-85199-547-0, hardback, 521 pp. Price GBP 95.00, USD 175.00.

Flukes, i.e. members of the class Trematoda, are the most abundant and diverse group of the Neodermata which includes parasitic flatworms (Platyhelminthes). The medical and veterinary importance of flukes is enormous, but they are also invertebrate animals, serving as important and excellent models for biological research due to their extreme adaptations to parasitism. Trematodes have extraordinarily diversified and complicated life cycles, which make them suitable for studies of interactions between parasite developmental stages and their hosts at different levels.

A basic taxonomic monograph with the keys to subfamilies and genera of all digeneans and extraordinary illustrations of representatives of each genus was published by S. Yamaguti in 1971. Despite its extreme usefulness as a comprehensive reference book with a list of all species of digeneans known until 1970, it became outdated because a high number of new taxa have been erected during last 30 years. To overcome these limitations of Yamaguti's classical monograph, an idea to present a systematic treatise dealing with one of the most important group of helminth parasites was initiated by three renowned taxonomists from the Natural History Museum in London.

The monograph represents an easy-to-use manual, enabling the identification up to the generic level, and it is being published in three volumes, the first of which appeared in early 2002. This volume provides keys to the superfamily, family, subfamily and generic levels of the subclass Aspidogastrea and the order Strigeida of the subclass Digenea. It was prepared by 16 specialists from Australia (2 authors), Bulgaria (2), Czech Republic (1), Poland (2), UK (5) and USA (4).

The keys are based not only on the compilation of literature data, but largely on a critical examination of material, including type specimens, carried out by specialists in individual trematode groups. Therefore, chapters provide the most updated overview of the current knowledge of the taxonomy and classification of aspidogastreans and trematodes of the order Strigeida. Identification keys are dichotomous and as simple as possible to enable even the non-specialist to identify unknown material of trematodes up to the generic level. Each taxon, including genera, is briefly characterized, with the diagnosis summarizing the most pertinent characters suitable for the differentiation of related taxa. A representative of each genus is also illustrated to provide basic information about its morphology; most illustrations presented in the Keys are of very good quality.

The first volume includes the General Introduction; Class Trematoda Rudolphi, 1808; Subclass Aspidogastrea Faust & Tang, 1936; and Subclass Digenea Carus, 1863, with chapters covering all but one families of the order Strigeida, with the following superfamilies included: Azygoidea (coordinator D.I. Gibson); Bivesiculoidea (T.H. Cribb); Brachylaimoidea (T. Pojmańska); Bucephaloidea (R.M. Overstreet and S.S. Curran); Clinostomoidea (I. Kanev, V. Radev and B. Fried); Cyclocoeloidea (I. Kanev, V. Radev and B. Fried); Diplostomoidea (K. Niewiadomska); Gymnophalloidea (R.A. Bray); Hemiuroidea

(D.I. Gibson); Schistosomatoidea (J.W. Smith); and Transversotrematoidea (T.H. Cribb). The only family of the Strigeida not published in this volume is the Didymozoidae because the text on this family was not completed in time, and it will be included into a subsequent volume.

The participation of individual contributors is not balanced, with some authors dealing with huge groups consisting of dozens of genera, such as David I. Gibson (Hemiuroidea) or Katarzyna Niewiadomska (Diplostomoidea). It is impossible, and useless, to overview each chapter because of their number and due to the risk of a too subjective point of view. It is obvious that each contributor has had a different manner of presenting data but this heterogeneity of the style does not devalue the quality of the book, especially because of careful editing of the volume.

The information presented is mostly based on a deep analysis of existing literature data, revision of specimens, including types, and long-term experience of individual contributors.

If some of the chapters of the first volume are to be mentioned, one should not omit the detailed treatise of gastrostomes (Bucephaloidea) presented by Robin M. Overstreet and Steve S. Curran. Congratulations should also be given to Katarzyna Niewiadomska who dealt with one of the most complicated group of trematodes, i.e. Diplostomoidea.

Comparing with Yamaguti's (1971) monograph, one may criticise that the Keys do not contain species lists of each genus. It is true that the lists of species such as those presented in Yamaguti's volumes of the *Systema Helminthum* (1958–1963) or in G.D. Schmidt's (1986) *Handbook of Tapeworm Identification* would be very helpful. However, the Keys published by CABI have had space limitation and, in particular, providing species lists does not mean simply to compile lists of previously known species and supplement them with newly described taxa. It would require in most, if not all genera, a detailed revision of the validity and generic appurtenance of each taxon. It is obvious that this would represent an unrealizable task not only in the case of species-rich, taxonomically complicated genera but also in most trematode groups. So ambitious aim is beyond the scope of the Keys and it is also limited by a shortage of specialists who would cover all the trematode families.

Therefore, we consider the Keys to represent a valuable contribution to taxonomic research on trematodes. It would be ideal if the data presented in the Keys would serve as a basis for subsequent taxonomic revisions of individual groups, which would provide complete lists of species and the keys up to the species level.

Keys to the Trematoda will undoubtedly represent an indispensable source of basic information about the systematics of these helminths. It will be useful not only for taxonomists and specialists in helminthology, but also for veterinarians, physicians dealing with helminthoses and anybody interested in the biodiversity and zoology of invertebrates, including natural sciences students.

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