Book Reviews

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BOOK REVIEW . . .

Keys to the Cestode Parasites of Vertebrates, L. F. Khalil, A. Jones, and R. A. Bray, editors. CAB International, Wallingford, Oxon, OX10 8DE, United Kingdom. 1994, (Available from The University of Arizona Press, 1230 North Park Avenue, Tucson, Arizona 85719-4140 USA, $153.00 U.S.) 751 pp.

Identifying a tapeworm can sometimes be like trying to solve a jigsaw puzzle with the most important pieces missing. Either the scolex (holdfast organ) was not found; or it was present, but the hooks have all fallen off; or the worm was not mature; or it was mature, but the gravid segments had been shed, etc. In addition, a number of composite species have been described by combining the scolex of one species with the strobila (segments) of another—all of which explains why graduate students are not lining up to enter the field of cestode systematics.

Only a few landmark compilations exist to aid in the identification of tapeworms. These include the classic Zoology of Tapeworms by Wardle and McLeod (1952). Systema Helminthum by Yamaguti (1959), and the Handbook of Tapeworm Identification by Schmidt (1986). Now the International Institute of Parasitology has coordinated the expertise of 19 authorities to produce new keys to the known genera of cestodes.

The liberally illustrated keys are organized according to Orders, with the exception of the huge Order Cyclophyllidea, which is broken down into 15 individual keys, one on each Family. The scope of this work, however, goes considerably beyond what is implied by the simple title "Keys." Based in many instances on examination of original specimens, numerous synonyms are proposed, subfamilies are elevated to families, 15 new genera are created, and speculations are made on the phylogenetic relationships of various groups. In short, this volume is a major revision of the systematics of the Cestoda and will be indispensable to any worker in the field.

The keys are straightforward and easy to use. Two of the larger families, the Dilepididae and Hymenolepididae, are divided into separate keys for parasites of birds and mammals. The structure and armature of the scolex are heavily emphasized in most of the keys, making it nearly impossible to identify a tapeworm if the scolex is missing or the hooks have been lost. Similarly, the structure of the gravid uterus prominently figures in many of the keys so the moral is: if you don't have a complete tapeworm, you are in a heap of trouble.

Lists of species and hosts are not included for each genus and the literature cited is somewhat abbreviated (about 900 references) considering the scope of the work. The handbook of Schmidt (1986) has comprehensive lists of species and hosts and lists over 4,000 references. However, many of the genera used by Schmidt have been split, combined, or placed in entirely different subfamilies in the newer work. For these reasons, the two volumes could best be used in combination in identifying tapeworms to the specific level.

This book is a worthy companion to the 1981 CIH Keys to the Nematode Parasites of Vertebrates and, even in these difficult economic times, belongs on the shelves of every university library.

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BOOK REVIEW . . .

Avian Hematology and Cytology, 2nd ed., Terry W. Campbell. Iowa State University Press, 2121 S. State Avenue, Ames Iowa, 50014-8300, USA. 1995. 104 pp., $62.95 US.

In Avian Hematology and Cytology, the author addresses the collection of blood or other body fluids and tissue cells, preparation and staining of blood films and cytologic preparations, and evaluation and interpretation of these specimens. The goal of diagnostic hematology and cytology is to identify and classify the nature of systemic or local tissue reactions, usually as inflammatory, degenerative, neoplastic, metabolic, or toxic processes. In many instances, the etiologic agent responsible for the reactions can be identified. The text is composed of 14 chapters: three chapters on hematology including evaluation of avian bone marrow and identification of common blood parasites, a chapter on basic veterinary cytotechnology, a chapter on cytology of coelomic effusions, and eight chapters on normal and abnormal cytology of different organ systems. The fourteenth chapter comprises common artifacts associated with contamination of specimens and poor sample collection. The appendix contains procedures for preparation and application of routine and special hematologic and cytologic stains. There is an adequate index. The text contains information on the diagnosis of a variety of infectious, neoplastic and metabolic diseases affecting psittacine, passerine, galliform, and columbiform birds and raptors. Included are over 200 color photographs, each of which complement the narrative. Size (8.5 × 6 cm), magnification and quality of the majority of photomicrographs are excellent, and the cellular features are generally representative and diagnostic of the disease process that the author discusses in the text. However, cells that have dark violet to blue cytoplasm and nuclei, such as plasma cells, erythroid precursors, thrombocytes, and neoplastic cells are often too dark to appreciate adequately. One of the highlights of the text is the incorporation of a section on indications and techniques in the beginning of most chapters. The narrative in these sections is supplemented with photographs that illustrate proper handling of birds during sample collection.

The major improvement of the second edition is the inclusion of references within the text and the expansion of the bibliography from 32 to 118 references. Otherwise, there were very minor revisions, most of which were in the first chapter on hematology. Four new photographs were added and the glossary was expanded. As in the first edition, the emphasis of the book is on relatively noninvasive diagnostic procedures in the live bird, and mostly excludes the evaluation of imprints of specimens obtained at surgery or necropsy. The author missed the opportunity to expand and improve the chapter on the cytology of internal organs and lymphoid tissue by failing to include cytologic methods that can be useful at necropsy. Diseases for which a tentative diagnosis can be made by imprint cytology at necropsy are not discussed. These include common viral diseases caused by polyomavirus, circovirus, herpesvirus, and adenovirus. There is no information on the use of immunohistochemical techniques and DNA probes for the cytologic diagnosis of microbial infections. While there are excellent photographs representative of a number of bacterial diseases such as mycobacteriosis and chlamydiosis, information and photographs of the cytology of other bacterial diseases such as megabacteriosis, pasteurellosis and staphylococcosis are not included.

This text should appeal to clinical and wildlife veterinarians, veterinary clinical pathologists, avian biologists, veterinary medical technologists and avian researchers. Hematologic and cytologic examinations are useful in the diagnosis and monitoring of disease. In very small birds, examination of stained blood smears may be the only practical diagnostic procedure available. Changes in the number, proportions, and appearance of peripheral blood cells may signal the presence of microbial infection, endoparasitism, toxic disease, nutritional imbalance, stress, or neoplasia. Blood and cytologic samples can be collected, prepared and interpreted quickly, and the procedures used are relatively inexpensive. This text provides the basic details necessary for the application of hematology and cytology in avian practice or research.

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BOOK REVIEW . . .

Zoonoses: Recognition, Control, and Prevention, Martin E. Hugh-Jones, William T. Hubbert, and Harry V. Hagstad. Iowa State University Press, 2121 S. State Avenue, Ames, Iowa 500014-8300, USA. 1995. 384 pp. $49.95 US.

This is an impressive expansion, not just a revision, of an earlier book by Schnurrenberger and Hubbert published in 1981. It is much more than the title implies and contains information on the basic aspects of epidemiology that are applicable also to those diseases that are not zoonotic. These include the history of selected diseases, surveillance, outbreak investigation techniques, the role of laboratories, and principles of control of infectious diseases.

The book is divided into four sections: Introduction, Principles, The Future, and Synopses (of zoonoses). The latter are in outline form and include tables of biological classifications and reporting.

Workers in wildlife may find the book to be an occasional useful reference to some specific disease, but will find little information about risks which pertain to their duties. For example, tuberculosis in elk and its possible transmission to humans is not mentioned. There is no list of disease agents which may specifically affect those who work with wildlife.

There are extensive lists of zoonoses which include diseases (agents) some of which do not fit the criterion of "agents of which are transmitted between vertebrate animals and people": e.g., Ebola Hemorrhagic Fever which has not been proven to be zoonotic by the above description.

Readers will be pleased with the amount of effort by the authors in literature research and with such information as rabies control in western Europe. This text will be useful for veterinary students, teachers of epidemiology and public health, and workers in disease control, especially those working with zoonoses.

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