

Book Review

The Oestrid Flies. Biology, Host-Parasite Relationships, Impact and Management. By D. D. Colwell, M. J. R. Hall and P. J. Scholl, pp. 384. Commonwealth Agricultural Bureau International (CABI Publishing) UK, 2005. ISBN 0 85199 684 1. £85.00 (US\$160.00). doi:10.1017/S0031182006000941

The oestrids are a small family of flies whose larvae cause myiasis in mammals. Compared with other Dipteran groups, oestrids (bot flies) have been relatively neglected, perhaps because of the low number of genera that comprise this family (28, with only about 151 species in the world) or because of their apparent lack of significance on animal health. However, their original lifestyles have engaged many scientists that are actively working in the pursuit of a better understanding of this group.

Since the publication in 1965 of '*Myiasis in Man and Animals in the Old World*' by F. Zumpt, that thoroughly summarized the knowledge of the Oestridae, much information has been accumulated, especially on economically significant species. My congratulations are due to the editors, D. D. Colwell, M. J. R. Hall and P. J. Scholl, for their initiative of putting together both classical knowledge and new advances in this long-awaited book.

The focus of the book is not only on those economically important members of this family (*Hypoderma*, *Oestrus* and *Gasterophilus*) but also on those that parasitize a wide range of wild animals (e.g. elephants, rhinoceros, kangaroos, etc), some of them endangered or rarely encountered. For that reason, it will become the standard reference work for entomologists, biologists, veterinarians, etc, and for anybody interested in this group of parasites.

The book was prepared by 16 specialists from all over the world, and it is divided in 14 chapters. The subtitle accurately describes its contents focusing on the biology, host-parasite relationships, impact and management. Most chapters begin with a concise introduction and end with a conclusion or discussion section that provides an excellent base for future developments. The text has been carefully edited, without overlapping between the different contributions, and the editors, especially Douglas Colwell, have substantially contributed as authors of different chapters.

Following the editors' introduction, Chapter 1 by R. Roncalli includes an exhaustive historical review of the family, since the first reports in pharaonic times to recent exciting advances in the molecular biology. Then follow two chapters that examine the

phylogeny of bot flies from two different perspectives: the first one (T. Pape) uses traditional methods (cladistic) and establishes the appearance of bot flies in the early Tertiary presenting the ancestral bot fly as an inhabitant of humid tropical forests that parasitized the dermis of early rodents. The second chapter, by D. Otranto, uses molecular biological techniques leading to new insights into systematics, phylogenetics population genetics, as well as into more practical aspects, such as pathogenicity, diagnosis and control. Chapter 5 (D. D. Colwell) is devoted to life-cycle strategies, giving general details on the life-cycles, egg development times, larval migrations, and larval development of each subfamily (Hypodermatinae, Oestrinae, Cuterebrinae and Gasterophilinae). The next three chapters provide a detailed account of the morphology of adults (D. M. Wood), eggs and larvae (D. D. Colwell). This section is illustrated with a large number of transmission and scanning electron micrographs of a high standard.

Chapter 9 by A. C. Nilssen focuses on the biology of pupae, including metamorphosis behaviour and adult emergence. A detailed review of mortality factors (predators, parasitoids, fungi, etc) is also included. The next chapter (J. R. Anderson) deals with the adult biology including mating, host-finding behaviour, ovipositing behaviour, etc.

Larval-host parasite relationships are treated in Chapter 11, divided into four parts that summarize the tremendous volume of recent literature for each of the subfamilies. The role of oestrids as a cause of myiasis of humans is reviewed by J. R. Anderson and includes frequency, methods of infestation, and related pathology. Chapter 13 (P. J. Scholl) is devoted to integrated pest management including biological, chemical, genetic control, etc; the author concludes with his opinion about the relative lack of development of the immunological control and vaccines. The final chapter gives an overview of 25 genera within each of the subfamilies, describing briefly the biology, disease, hosts and distribution and the management implications. This section is marvellously illustrated with a large number of black and white photographs (94) of high-quality specimens.

All the chapters are well referenced; there is a bibliography of 41 pages (with more than 900 references) that is up-to-date and that constitutes the most complete review of this group. The thoroughness of this work is also reflected in detailed indices including a general index of terms and the names of hosts and parasites included in the text.

It is my pleasure to congratulate the editors for their effort and all contributors for their excellent work because they have been successful in producing a readable and clear text that will facilitate our studies on this fascinating group of parasites.

ROSARIO PANADERO-FONTÁN
Parasitology and Parasitic diseases
Faculty of Veterinary Medicine of Lugo
University of Santiago de Compostela
27002 Lugo, Spain