

BOOK REVIEW

Klaus Rohde (Ed.): Marine Parasitology. CSIRO Publishing, Collingwood VIC 3066, Australia; CABI Publishing, Wallingford, Oxon OX10 8DE, United Kingdom, 2005. ISBN 0 643 09025 8, hardback, 565 pp. Price: £ 60.00.

The editor of the book, Prof. Klaus Rohde from the University of New South Wales, Armidale, Australia, has to be congratulated on having achieved publication of such a unique monograph. It offers a very thorough review of the present knowledge on virtually all marine parasites and most of what concerns their biology and ecology. Readers who know other books covering similar field will be amazed to find here, in addition to “classical” protistan, helminth and crustacean parasites and chapters on general problems, a huge realm of alien creatures not to be encountered in other parasitological compendia. All “organismal” chapters deal with an outline of morphology, life cycle, effect on the host, epizootiology and other aspects of the parasites in question. It is justified to use here the sentence from the preface, that there is no similar text that covers as broad a spectrum of marine parasitology in such depth as this. The scope of the book reaches from tree of life based on molecular analysis, fossil parasites or mites parasitic on walrus to medical importance of marine parasites.

An international team of 75 authors participated in the book, which is broken down into 11 chapters. Each of them is again divided into 2 to 21 subchapters, authored as a rule by different experts. Thus it would be beyond the scope of this review to list them all. The chapters are followed by references given separately for each of the subchapters; to find them right behind the subchapter would be more convenient for fast finding of a reference. The book is concluded by index only of important (i.e., not all) subjects and taxa.

The organisation of the book is logical – first the basic terms in parasitology are explained and the tree of life is shown into which the organisms fit (Chapter 1, The nature of parasitism), then parasites are introduced (Chapters 2 to 5). Then is the reader offered an insight into the intricate interplay between symbiotic organisms and their hosts (Chapter 6, Behaviour aspects of parasitism) and between the parasites, hosts and environment (Chapter 7, Ecology). Then follow chapters on evolution, zoogeography and economic and medical importance.

Introduction of parasites starts with protistan parasites and Myxozoa in Chapter 2. It begins with a subchapter of protistan biodiversity, introducing the huge diversity found in protists, and further subchapters deal with “sarcomastigophora”, Labyrinthomorpha, Haplosporidia, Apicomplexa, Microsporidia, Ciliophora and Myxozoa, while a separate chapter is devoted to *Mikrocytos mackini*, a still very enigmatic protist, agent of mortalities of Pacific oysters. One cannot favour the group sarcomastigophora, even if used only for practical reasons and in parenthesis – it is dated. The “mastigophoran” part has been somehow neglected, and the included dinoflagellate *Amyloodinium pillularis* should be spelled *Piscinoodonium*, and it is a parasite of freshwater ornamental fish.

Chapter 3 on helminth parasites deals with monogeneans, aspidogastreans, digeneans, amphilinids, gyrocotylids, eucestodes, nematodes and acanthocephalans; interestingly, also symbiotic turbellarians are included.

Considerable space has been reserved for Crustacean parasites (Chapter 4) with instructive reviews of their intricate, sometimes incredible life cycles. It includes subchapters on copepods, isopods, branchiurids, or the tiny, little known ectoparasitic tantulocarids and amphipods. Three subchapters, on ascothoracids and especially Cirripedia Thoracica plus rhizocephalans, review instructively the amazing morphological transformations these crustaceans undergo in their parasitic stage.

Chapter 5 reviews a total of 21 various minor groups of parasites not to be easily found in books on parasites, like porifers, polychaetes, the recently discovered ectoparasitic cyclophors, nemerteans, rotifers, acari, little known cheliceran pycnogonids, insects, tardigrades, pentastomids, molluscs, echinurans and echinoderms. The chapter is concluded with parasitic marine fishes, dealing in addition to lampreys with a curious “cookiecutter” shark, behaving like a small ectoparasite of large fish.

Chapter 6, Behavioural aspects of parasitism, offers an insight into “Parasite induced changes in host behaviour and morphology” and “Cleaning mutualism in the sea”, analysing the relationship of cleaner organisms and their clients.

Chapter 7, Ecology, presents eight subchapters – on transmission of marine parasites, ecological niches of parasites, marine hyperparasites, parasites in brackish waters, population biology of marine parasites, structure of parasite communities, parasite populations and communities as non-equilibrium systems, and population and community ecology of larval trematodes in molluscan intermediate hosts. All these are topics that will meet with interest of all marine parasitologists.

Equally intriguing is Chapter 8, Coevolution and speciation, with subchapters on coevolution in marine systems and speciation and species delimitation. In addition to an annotated list of terms, coevolution and speciation are clearly explained on examples from the marine environment.

Chapter 9, Zoogeography, includes subchapters of both fundamental and applied nature – Latitudinal, longitudinal and depth gradients, Parasites as biological tags, Parasites as indicators of historical dispersals, Introduced marine parasites and Deep-sea parasites.

In Chapters 10, Economic and environmental importance, and 11, Medical importance, already the listing of their subchapters gives the idea how relevant for practice is what they deal with: Chapter 10 – Mass mortalities in the oceans, Effects of salmon lice on Atlantic salmon, Effects in finfish culture, Effects in mollusc culture, Effects in shrimp culture, Ecological aspects of parasites in the American lobster, Parasites of marine mammals, Marine birds and their helminth parasites, Effect of pollution on parasites, and use of parasites in pollution monitoring; Chapter 11 – Cestode and trematode infections, Anisakiasis, Zoonotic potential of Protozoa, Zoonotic aspects of trichinellosis and Infection by the rat lungworm, *Angiostrongylus cantonensis*.

All topics are succinct and well presented and although they have necessarily to be brief, this is made up for by the reference lists in the back.

There are some surveys in the book, which the reader may find quite interesting, since they cannot easily be found elsewhere. Let us name e.g., the list of ecto- and endocommensal turbellarians associated with (mostly) marine invertebrates with a remark on three really parasitic, gut-less turbellarians; a list of Acanthocephala with marine life cycles; the list of symbiotic and parasitic hoplonemertans; the list of louse genera in marine birds; a diagram of biodiversity of Acari parasitic on marine invertebrates and vertebrates, or a list of hyperparasites in the marine environment. Of special interest are also the list of introduced parasites in the seas and the list of important parasites of cultured marine fish.

One could consider the text not always well balanced since e.g., the pentastomid *Reighardia sterna* has been allotted one and half page while more important groups as nematodes received altogether only 11 pages. On the other hand the reader is made familiar with an organism of which there is a paucity of data.

Of course there are points in the book which leave something to be desired, and the recent name of some parasites is not given – e.g., the correct name of the “rosette agent” is *Sphaerothecum destruens*, or *Microsporidium seriola* is correctly *Kabatana seriola*. This can be hardly avoided in a book of such a large grasp. The book cover and layout is appealing and the illustrations, both line drawings and photographs, are well executed.

We can suppose that the book will become a standard text, stimulating future work in the field not only of students recently attracted to marine parasite research but also of established scientists. At present, when most of scientists studying marine parasites are specialised in their fields of research and cannot be equally proficient in other directions, even for them the book will be an invaluable source of information. However, the book may find its place on the shelf of every biologist who likes the intricacies and charms of organisms adapted to symbiotic existence in the immense and rich realm of marine life.

Jiří Lom