



COEVOLUTION

Coevolution of Life on Hosts: Integrating Ecology and History. By Dale H. Clayton, Sarah E. Bush, and Kevin P. Johnson. 2015. University of Chicago Press. (ISBN: 9780226302270). 320 pp. Paperback. \$28.

It would be difficult to find an aspect of ecology or evolution not touched upon in *Coevolution of Life on Hosts*. Although the book is focused primarily on the biological interactions between lice and their hosts, these associations present clear and fascinating examples of topics including competition, parasitism, structural and behavioral adaptation, island ecology, and much more. The reader transitions quickly from bemusement (“Am I really reading a book mostly about lice?”) to fascination. Topics are presented clearly, with informative supporting graphs, charts, tables, drawings, and photographs. Evolution’s central drive to maximize

reproductive fitness is evident throughout. Physiology, behavior, and adaptation are all examined in light of survival and reproduction.

Each topic is a case study in interesting evolutionary biology; choosing a few examples to highlight is a difficult task. Students with a paleontological focus will be interested in the comparison of mandibular lesions between modern osprey and *T. rex*, which indicates the probability of *Trichomonas* infections in the ancient beast. Those interested in evolutionary adaptation to environmental extremes will marvel at the numerous aspects of lice of the Weddell seal. Students interested in experimental design will find numerous, clearly presented examples of intriguing and carefully designed scientific investigations. Amazing associations are investigated: increased O₂ consumption with increased parasite load due to grooming; anatomical and behavioral adaptations due to parasite load, such as an owl’s pectinate claw or birds “anointing” themselves with citrus to decrease their load of ectoparasites – the list is fascinating and lengthy.

This is a rich, dense text: each page presents fascinating aspects of coadaptation. A student science reader may initially be intimidated by the text’s numerous accompanying charts, graphs, and phylogenetic trees. However, the research science is explained with clarity, and each case presents an excellent learning opportunity for students in developing familiarity with careful interpretation of data presentation. Although reading the whole text is doubtless rewarding, the number of examples presented offers the teaching possibility of dividing the topics between students to jigsaw the topic of coevolution and adaptation. However it is used, this text is well worth the time for any student or teacher with a love for learning about biology.



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ANIMALS

Seal. By Victoria Dickenson. 2016. Reaktion Books. (ISBN: 978-1-78023-489-2). 224 pp. Paperback. \$19.95.

Seal is the latest release in the Animal series published by Reaktion Books, and the second authored by Victoria Dickenson. The book begins with a review of the evolutionary history of this playful species and then moves into the long and complicated relationship between seals and humans, from the folklore of the selkies to the controversial but historic seal hunts. Dickenson describes pinnipeds, the clade of carnivorous, semiaquatic mammals that includes the Phocidae, or true seals, which are the focus of this book. If you have not spent much time along a coast where seals are common, then the pinniped you are likely most familiar with is actually a sea lion. “The otariids – fur seals and sea lions – are also distinguished by their possession of pinnae, or