

BOOK REVIEW

CHOE J. 2012: SECRET LIVES OF ANTS. The Johns Hopkins University Press, Baltimore, MD, 156 pp. ISBN-13-978-1-4214-0428-8 (hard cover). Price USD 34.95.

It is not easy to write a popular scientific book on ants after the world bestseller *Journey to the Ants* (1994, Harvard Univ. Press, Cambridge, MA) by Bert Hölldobler and Edward O. Willson. Yet, Jae Choe followed the road paved by his Harvard tutors and twenty years after their successful “journey” produced a book that relates his own insight into the world of ants based predominantly on his own experience. The author is a skilled popular science writer and lecturer able to inspire young readers to focus their attention on a miniature world of six-legged organisms that is dominated by ants. He eruditely narrates the incredibly diverse lives of ant societies he witnessed during field trips mainly to the American tropics, or when observing them in the laboratory and around his home. He persuades the reader to love ants even when the interests of both parties are in conflict, as for instance in the case of pharaoh ants and other synanthropic species. In the words of the author – “once you get to know ants, you’ll love them”. Even though this book is mainly about ants, much more is revealed about the wisdom of Nature, principles of evolution and sociogenesis once one has a good understanding of the secret lives of these amazing little creatures.

There is a foreword by Jane Goodall after which the book is divided into three main parts. The first entitled, *The Economics of Ant Society*, begins with a general account of how the futuristic economics of ants maximizes their return. The author gives examples of how ants mirror the actions, emotions and industries of human societies, the last of which they often do more effectively than man does. Their division of labour resembles the assembly lines of modern factories. The leaf-cutter ants developed farming in the form of huge underground mushroom gardens 50 million years before we did. Many other ants practice dairy farming by exploiting homopteran or lepidopteran symbionts. Great economic advances in the development of ant

societies resulted from the evolution of a complex symbiosis with plants. Army ants demonstrate the unmatched efficiency of a militarist insect society – a column of well organized marching marauders of this species constitutes the most terrifying predator in the insect world.

In the second part of the book, entitled *The Culture of Ant Society* Choe reveals the principles of ant communication based predominantly on a finely tuned chemical language, which together with self-sacrifice, acute sense of orientation and time, and sophisticated division of labour among worker ants are the foundations of their monarchical society, which is capable of exploiting and defending vast territories, waging large-scale warfare or taking slaves. However, ants can also be easy victims of numerous parasites and predators that can crack their delicate secret codes and profit from the welfare provided by prosperous ant societies.

The third part of the book, *The Politics of Ant Society*, was the most impressive for me. It explains the peculiarities and consequences of ants’ mating systems. Here the author more than elsewhere in the book draws from his early experience of the Costa Rican *Azteca* ants and their amazing symbiosis with the *Cecropia* tree. The intricate ways in which con-specific as well as hetero-specific queens of this ant cooperate to establish new colonies are here, I believe, revealed for the first time to a more general readership. The section is topped with an account of the strategies and tactics associated with ant slavery and social parasitism. Tales of the massacres and atrocities, as well as struggles for power are all too reminiscent of our own world.

This rather slim (156 pages) book is an enjoyable popular read from an author who combines expert scientific knowledge of ants with a real passion for these miniscule marvels. The text is amply illustrated with complementary and captivating illustrations and original photographs. It will be a welcome addition to the bookcase of naturalists of any age.

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