

ENTOMOLOGY

Empire of Ants: the Hidden Worlds and Extraordinary Lives of Earth's Tiny Conquerors

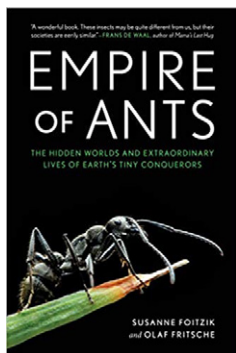
By Susanne Foitzik and Olaf Fritsche. Translated by Ayça Türkoğlu. 2021. The Experiment. 352 pages, 36.50 CAD, Hardcover. Also available as an E-book.

I really enjoyed this book. Originally written in German by Susanne Foitzik, Ph.D. (an international authority on ants) and Olaf Fritsche, Ph.D. (a science journalist and biophysicist), this work is an entertaining treatise on why these insects deserve your attention. *Empire of Ants* is easy to read and has an excellent pace and flow.

The authors have a sense of humour about their subject, and the playful writing is enjoyable and highly digestible. Credit for the exceptional writing is also owed to Ayça Türkoğlu, who translated *Empire of Ants* to English.

Typical of a nonfiction book, each of the 13 chapters has a central theme (e.g., Chapter 9, Milking It: Ants and Their Livestock) and is comprised of smaller subsections providing specific examples, interesting facts, or anecdotes. These subsections are short, on average two pages each, and many have amusing titles such as Take Me to Your Leader! and Sisters are Doing It for Themselves. Peppered throughout the book are stunning full-colour images. The custom watercolour ant art (by Susanne Foitzik) with accompanying captions that start each new chapter are a welcome and charming addition.

Empire of Ants is a book of ant miscellany executed perfectly. The authors provide both an overview of ant biology and the fascinating specifics—for example, how gene expression determines what an individual ant can or cannot do in the different phases of its life and the consequences of this biology (e.g., ants that cannot migrate when their colony needs to move, because their genes for moving are



not active, must be carried by their sisters). Throughout the book, these examples are supported by well-placed photos. In one case, we find a photo of Sahara Desert Ant (*Cataglyphis bicolor*) assuming a characteristically compact 'suitcase' body position so that her sister can easily carry her to a new home (p. 56).

Predictably with insect books, there is a definite 'ick' factor here. This includes a chapter dedicated to unsettling forms of parasitism (such as tapeworms and zombie ants) and, of course, the obligatory mention of the Schmidt Sting Pain Index for all hymenopteran stings, which South American Bullet Ant (*Paraponera clavata*) tops (p. 23). But there is plenty new to me, too, including the concept of a social immune system that prevents colony infections through individual and collective behaviours, and details on ant pharmacology (e.g., leafcutter ants that employ antibiotics to protect their crop against fungus). The authors also provide interesting snippets on their research methods, including first-hand accounts of the challenges associated with digging up ant colonies and detailed instructions on how to dissect an ant brain. As is also typical of insect books, there is discussion of what we still don't know—whole species about which we have next to no information—and some discussion of invasive species and the consequences of their global conquests.

For readers eager to learn more, the authors have included a (non-exhaustive) list of references organized by chapter and specific research subtopic at the end of the book. I have no real criticism of *Empire of Ants*; it is an enjoyable read with excellent writing and useful accompanying images. If you want to know more about your tiny neighbours (who sometimes self-destruct or digest parts of their own brains), this is a great place to start.

HEATHER CRAY
Halifax, NS, Canada