



**HAL**  
open science

## Book review of: **What a Bee Knows: Exploring the Thoughts, Memories, and Personalities of Bees.**

Lihoreau Mathieu

► **To cite this version:**

Lihoreau Mathieu. Book review of: What a Bee Knows: Exploring the Thoughts, Memories, and Personalities of Bees.. Quarterly Review of Biology, 2024, 99, pp.104-105. hal-04586310

**HAL Id: hal-04586310**

**<https://hal.science/hal-04586310>**

Submitted on 24 May 2024

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

## **What a Bee Knows: Exploring the Thoughts, Memories, and Personalities of Bees.**

By Stephen Buchmann. Washington (DC): Island Press.

\$30.00. xviii + 278 p.; ill.; index. ISBN: 9781642831245. 2023.

As the title says, this volume is about bees. But unlike most bee books, this one was written by a pollination ecologist who knows bees as much as plants, and this makes a difference. Stephen Buchmann takes us on a fascinating journey into the recent discoveries in bee behavior and cognition, and explains how the surprisingly sophisticated inner life of bees help them better interact with their environment. Although many authors (including myself) would probably have focused their volume on the well-studied honey bees and bumblebees, Buchmann treats rightly bees as a large and diverse group of insects. He reminds us that many of them are single moms. Some, like the cactus bees, have weird sexual habits. Not to mention the vulture bees that unusually prefer meat over pollen.

This is an entertaining book written by a trained storyteller. The author regularly takes us into his favorite work place, the Sonoran Desert of southern Arizona, where he observes and studies various kinds of bees. I was delighted, for instance, to hear about his early experiments on bee vision and UV perception. Lots of glue gun, cardboards sheets, plastic bits, and duct tape.

But this is also the work of a trained professor. University students will learn about many key concepts in ecology and evolution, such as sexual selection and the arms race that shape plant-pollinator interactions. In the first chapters, Buchmann describes “what we know a bee knows,” with textbook knowledge about their everyday lives, social activities, perception of the world, how they choose plants, and how they mate. But as the book progresses, he discusses “what we are not completely sure a bee knows.” He describes recent studies suggesting more sophisticated cognitive abilities, emotions, pain, and the possibility of consciousness. All of these discoveries are changing our perception of insects, as more complex creatures than previously thought and that we probably need to treat differently. Buchmann himself explains how he very much prefers observing live bees in the field rather than dead pinned specimens.

The volume ends with some considerations about bee declines that the author started to document in the mid-1990s. Sadly, since then things have only gotten worse. We can all individually take actions to support and protect pollinators. But perhaps the most powerful thing we can do is to encourage this book be read by the broadest possible audience, so that people, just like Buchmann, realize how human bees are and how much we need to care about them.

Mathieu Lihoreau, Research Center on Animal Cognition, Center for Integrative Biology, CNRS, University of Toulouse, Toulouse, France