

Keeping the Bees: Why All Bees Are at Risk and What We Can Do to Save Them

By Laurence Packer. 2010. HarperCollins Publishers Ltd., 2 Bloor Street East, 20th Floor, Toronto, Ontario M4W 1A8. 273 pages. \$17.99 CAD Paper.

Keeping the Bees is a must-read for any naturalist interested in insects and/or concerned about the current pollinator crisis. Written by York University (Toronto) melittologist (entomologist who specializes in bees) and biology professor Laurence Packer, this book is both a celebration of the diversity and fascinating lives of bees, and a rallying cry to save them from further species loss. I was hooked from the beginning.

Divided into 13 chapters, the book covers a wide range of topics, including bee evolution, bee biodiversity, bee identification, bee research, bees and food, bee life and drama (social and solitary), bee reproduction and genetics, misconceptions about bees, threats to bee survival, and ways we can help bees survive. Each chapter starts with a story from the author's life as a researcher and teacher, adding personal, passionate, and often humorous touches to the book. Photographs, appendices, sources (references and other information) and a detailed index complete the package.

The first chapter – a particularly compelling one which depicts a world without bees – makes the case for the rest of the book. Packer points out that bees are at a higher risk of extinction than most other organisms, and that without bees, the world as we know it today would be very different – far fewer wildflowers, and a substantially diminished, and more expensive, food supply. Packer also reveals the sheer numbers of bees – more bee species than birds and reptiles combined, more bee and wasp species than plants – and stresses that we don't know enough about ecological interdependencies to grasp the extent to which Earth's organisms depend, directly or indirectly, on the pollination services of bees.

In other chapters, the author portrays the fascinating lives of bees. He sets straight, for example, popular myths about bees, revealing that certain widespread associations made with bees – complex social lives, hard work, honey – are a combination found in less than 1% of bee species! In fact, most bees live solitary lives, some bees are actually lazy, less than 5% of bees make honey, and many bees are not capable of stinging, all of which makes the bee world much more diverse and interesting than widely believed.

Yet this diversity also makes it difficult to differentiate between bees and other bee-like insects. Not only that, closely related bees are tricky to distinguish, as the author reveals through a painful experience where he is stung by a bee he mistakes for a stingless species.

Bee identification aside, the diversity is captivating. There are, of course, honey bees and bumblebees, as

well as leaf-cutter bees, orchard bees, vulture bees, cellophane bees, cuckoo bees, robber bees, and more. Along with this variety goes a diversity of appearances, feeding strategies and breeding and nesting practices, which Packer describes in gleeful detail.

Sadly, this diversity is declining alarmingly, as sections throughout the book, and Chapter 11 (“What Are We Doing to the Bees?”) in particular, reveal. Yet humans have not always, as the author points out, had a negative impact on wild bees. Throughout most of our history, he writes, we have had a mutually beneficial relationship, with many past land management practices creating suitable habitat for bees.

Which brings us to Chapter 13 (“Help the Bees”), the chapter which outlines things we can do to help preserve bees, many of which are small steps we can take no matter where we live, most of which we can do in our backyards. In a previous chapter, Packer had pointed out that urban areas, as well as low-input agricultural lands, often provide complex habitat that can be good for bees.

“If you want to find an ecologically complex single square kilometre,” he writes, “you would be hard-pressed to improve upon an old city's downtown neighbourhoods, assuming that the inhabitants are more interested in gardening than they are in covering their property in concrete. Every backyard shows the signs of different planting preferences, and the overall results may be spectacularly diverse” (p. 152).

Statements like that raised expectations for a comprehensive and fact-filled “you can help” chapter. But I was disappointed to find only 11 pages devoted to that topic. The “Sources” section admittedly provides more information, but not as much as I had hoped, considering the critical nature of the issue. Fortunately, there is lots of great material available from a wide variety of credible organisations on the internet, as I have discovered in the meantime.

Despite this little shortcoming, *Keeping the Bees* is an important book with an urgent and impassioned message – to take immediate action in support of bees, for their survival, and ours. These small animals are so fascinating and diverse, and vitally important to life on this planet. We, as naturalists interested in and concerned about the natural world, can take very concrete and simple steps we to make the lives of bees easier. The least we can do is read a book like *Keeping the Bees*, and recommend it to others.

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