

## BOOK REVIEW

**Six legs walking: notes from an entomological life**, by Elizabeth Bernays, Clearwater, Florida, Raised Voice Press, 2019, 175 pp., \$16.95, (pbk), ISBN 978-1-9492-5903-2

Last autumn, this book got the 2020 New Mexico-Arizona Book Award for Autobiography/Memoir. That is well deserved. It is a captivating mix of personal memoirs and science, showing that it is hard to separate the one from the other. What motivates a scientist can be a rather inexplicable number of childhood experiences, chance meetings and inspiring environments, of nature as well as human beings.


Elizabeth Bernays is an entomologist, now professor emerita at the University of Arizona, well known for her studies in insect-plant interactions, especially with regard to the tritrophic relationship of plant-herbivore-predator which she has shown is important in evolution. Her fundamental question was: 'Plant-eating insects and their host plants make up 50% of all species of life (...), and most of these insect species specialize on just one or a few species of plants. Why?' Earlier, the generally accepted idea was that plant chemistry is by far the most important factor in herbivorous insect specialisation. Bernays argues that the specialisation primarily facilitates a more effective foraging behaviour which she has shown is an extremely dangerous part of the activity of an insect, making it vulnerable to predators.

Her memoirs illustrate the limitless patience it takes to be a field biologist, and even then often the ordeals will be fruitless. To find joy in the process is the key, and Bernays did that. She recalls her travels, which was an important part of the job as a researcher in agricultural pests. She grew up in Australia, and now lives in Arizona. Her memories of stays in India, Nigeria, Hungary and other places make for many interesting comparisons of nature and culture. It is also instructive to follow her painstaking and clever experiments, especially with grasshoppers, to a level of detail where she realises that they have different personalities: one rests on its back with legs in the air, another has very long meals ...

In an era where science is often about complex equipment and huge funding, it is inspiring to read about how much can be done with a row of plastic cups, a notebook and patience. Bernays is just as enthusiastic about applied entomology as about basic research, and sometimes the best solution against pests also really is surprisingly simple, such as with a grasshopper pest where the trick was to observe the soil patches where they prefer to lay their eggs, and then just dig them up.

Bernays' book also gives a basic introduction to methods of biological control, especially with the detailed story of the spread of the prickly pear in Australia. This cactus covered an area larger than Texas before it was successfully decimated by a tiny moth imported from the American natural habitat of the plant. This also covers the subject of invasive species. A real work of literature with deep thoughts about the human condition, Bernays' book will have a general appeal, and will no doubt also

evoke more interest and awareness, owing to its more accessible and inspiring style, with regard to the subjects of the author's profession than any merely factual account could do among lay readers.

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<https://doi.org/10.1080/00207233.2021.1893104>

