

BOOK REVIEW

What Good Are Bugs? - Insects In The Web Of Life.

Gilbert Waldbauer (2003).

Harvard University Press, Cambridge, Massachusetts. 366 pp.

This is a detailed and absorbing placement of insects in the picture of ecology. The author, Gilbert Waldbauer Professor Emeritus of Entomology at the University of Illinois, has a well-read and orderly mind, able to organise a vast number of facts into an interesting array of logical categories, relating insects to ecology. It is also nice to know that he is making this knowledge easily accessible and attractive to anyone seriously interested in natural history. At the same time, there is a wealth of interest for the entomologist, as we are able to delve into fields slightly outside, but related to, our own.

One section which I found fascinating, if gruesome, was in "Controlling Vertebrate Populations", concerning the hordes of, not only fleas and lice in birds' nests, but also louse flies (family Hippoboscidae) and maggots of calliphorid flies feeding on the blood of nestlings. "*Many louse flies that infest birds that reuse nests lack wings or have small wings useless for flying. They need not fly to find a host; a host will usually come back to them. But louse flies that infest birds that build a new nest every year do have wings because they must locate a new host*". "*Nest flies ... never lay in nests that are empty or contain only eggs... Like leeches, hungry maggots crawl onto the nestlings ... and hold on with a sucker at the front end of the body as they drink blood for about an hour*". But birds have defences. The descriptions of "anting" and placement in nests of foliage with insecticidal properties demonstrate these defences.

Unfortunately, mostly North American studies are quoted on this subject. However, Waldbauer includes plenty of examples from Australia in other areas, e.g. *Cactoblastis* in the section "Controlling Plant Populations"; Myxomatosis and calici virus in "Controlling Vertebrate Populations"; Australian termites in the section "Recycling Dead Plants"; and, "Recycling Dung" includes not only the introduction of dung beetles, but also a description from unpublished field notes of W. McLennan, 1922, of the nests of golden-shouldered parrots in termite mounds being kept clean by dung-eating caterpillars!

There are also interesting snippets of anatomy, physiology and behaviour such as the description of how a large hornworm caterpillar (family Sphingidae) keeps a firm grip on a leaf petiole with tiny hooks on its abdominal prolegs while clutching the soft leaf blade with its thoracic legs and bending the leaf to the mouth, walking forward with the thoracic legs while keeping its rear end in place. There is also mention of physiology relating to behaviour e.g. "*Some parasites that attack herbivorous insects ... locate a suitable host by orienting to its food plant's odour ... flying upwind to damaged plants*".

Of course, there are stories about ants, honeydew, aphids and nectaries, leaf cutter ants, driver ants, fig wasps etc. many of which will be familiar to the assiduous viewer of television nature documentaries. But there are also numerous new studies and new facts quoted to hold the reader's attention.

Waldbauer has gone to the trouble of quoting who discovered what, and when, and the progression of knowledge on a subject. He gives paragraph-long quotes from many sources, which spice-up the text (which was, in any case, interestingly written). For instance, there are beautiful passages from Jean Henri Fabre's classic observations, on dung beetles and other matters. Delightful pencil illustrations by Meredith Waterstraat are in place every few pages. There are 26 pages of "Selected Readings" grouped in the topics of the chapter headings and a comprehensive index.

In summary, I consider this book excellent light reading for entomologists, and very instructive and entertaining for interested naturalists.

Barbara May
Entomologist
Centre for Horticulture & Plant Sciences
University of Western Sydney, NSW 1797