



ENGEL M.S. & JACKSON T. 2025: INSECT ARCHITECTURE: HOW INSECTS BUILD, ENGINEER, AND SHAPE THEIR WORLD. Princeton University Press, Princeton, NJ, 176 pp. ISBN 978-0-691-27523-9. Price USD 29.95/GBP 25.00.

The topic of insect architecture is a fascinating one that, deservedly, makes frequent appearances in popular science articles, books and TV documentaries. As a result, many of the stunning images and facts about the architecture of ants, wasps, and termites are already well known to the public, setting a high bar for any new publication on this topic.

The authors of *Insect Architecture* have all the right credentials for taking up the challenge of producing such a publication: Engel is a distinguished entomologist whose name has been proposed as an eponym for several insect taxa, and Jackson is a science author and communicator specialised in the writing of scientific books for the general public. Both authors have previously published books on natural science and the world of insects.

The book covers the diverse structures created by a variety of insect species. It features, of course, all the taxa that we would naturally expect to find in a book like this: wasps, bees, ants, and termites are all allocated one chapter each. But the book also makes the bold choice of dedicating almost an equal amount of space to the less conspicuous structures made by a wide range of other insects, with three full chapters focusing on the structures made by, respectively, “beetles and bugs”, “web spinners and silk weavers”, and “funnels, cases, and stalk builders”.

This choice of topics seems to be driven by the underlying proposition that all forms of insect architecture are important and deserve equal attention. The same logic permeates each individual chapter. To give an example, in the chapter on ant architecture, Argentine ants – a species that nests opportunistically in natural shelters and crevices, without substantially modifying the spaces they inhabit – are featured alongside Florida harvester ants, which are capable of excavating multiple nests, each one of them 3 metres deep, during the life cycle of a single colony.

Despite being titled “Insect architecture”, this book does not focus so much on how insects *build* different types of complex structures, but rather on how they *inhabit* the space in which they live, often by shaping structures to suit their needs. It is a book about the diverse life-history strategies of various species of insects, and about the creative and adaptive solutions that some insect species found to cope with their environment.

From this perspective, it makes perfect sense to adopt a broad definition of what examples of insect architecture should be included, as there is something interesting and special that can be told about nearly every insect species, from the ingenious attack and escape strategies of tiger beetle larvae, to the complex ecological interactions between different gall wasp species that – often unbeknownst to us – unfold within a single plant gall. The

book effectively highlights these special facts, by presenting them concisely in the text and with numerous accompanying figures.

The book is structured around concise “cards”, which are grouped together under the broader topic of each chapter, but are otherwise relatively independent from one another. Each card generally presents one single insect species, starting with a short introduction followed by two or three paragraphs, each introducing an interesting aspect of the life cycle of the featured insect, or a characteristic of the structures that it builds. These cards are designed in a way that is accessible to a general audience, although initiated readers will nonetheless be thrilled to find in them many new things to learn, due to the large number of species of insects covered in the book, and to the peculiar, quirky details provided for each species.

Given the precise and detailed nature of the information presented in the book, it is a shortcoming that no bibliography or list of references is included. This may leave some readers with an unsatisfied curiosity to delve deeper into the research that underlies the knowledge so succinctly summarised in the book. Similarly, the fact that most photographs used to illustrate this book are taken from stock photo repositories, rather than from the fieldwork of scientists, may also sometimes leave the reader with the uncomfortable feeling of not having obvious means of access to the exact origin of the images, as in the case – for instance – of the impressive, but somewhat atypical, termite mound that is featured on the book cover. Possibly, an editorial decision was made to prioritise the photographic and aesthetic quality of the illustrations, which are consistently stunning.

Indeed, the overall graphic quality of the book is excellent, and the act of browsing its pages brings about a definite visual pleasure, due to the balanced and varied arrangement of text and figures, and to the clear illustrative drawings featured (assuming, of course, that the reader will not be disgusted by the gruesome behaviour of some insect species, which is vividly and enjoyably depicted).

Engel and Jackson’s *Insect Architecture: How Insects Build, Engineer, and Shape Their World* is a book that I would recommend to young entomologists and young natural scientists. Whether its readers will ultimately retain a scientific interest for the natural world or switch to a completely different path later in life, reading this book will likely leave a mark, and arouse in them a healthy curiosity for the infinite variety of forms that animal life can take.

Andrea Perna
IMT School for Advanced Studies
Lucca, Italy