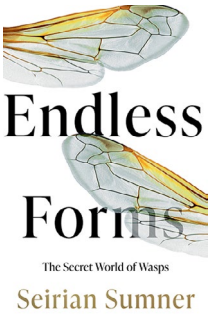
# An inordinate fondness for wasps




**Endless Forms: The Secret World of Wasps**

*By Seirian Sumner*

HARPER COLLINS: 2022. 384 PP. £20.00

The German proverb, which implies that God made the bees and the devil made the wasps, accurately reflects the relative attitudes of people towards bees and wasps. While most of us who think otherwise laugh it off, Seirian Sumner, the author of *Endless Forms*, has taken it personally and made it her life's mission to set the record straight. The happy result is a lifetime of research and a book that put wasps and wasp researchers in her debt.

Although a few mean-looking, sharp-stinging species have usurped the 'wasp' meme in the public imagination, wasps are a diverse group of insects, with hundreds of thousands of species displaying solitary, social and parasitic lifestyles. They also gave rise to the ants and the bees. Considering their vast numbers and diverse biology, our scientific knowledge of wasps is rudimentary. A survey of the state of knowledge presented in *Endless Forms* is sure to help that knowledge grow.

To enjoy *Endless Forms*, the reader should embrace the fact that different chapters belong to different genres of writing, including advocacy, history of science, popular science and even fantasy — I quite liked the diversity.

Sumner begins her book exploring how and why humans have historically despised, scorned and neglected the wasps. Her exploration ranges from classical art and literature all the way to her own contemporary surveys on the internet, and reveals that misunderstanding and misinformation have played a significant role in giving wasps their negative image. That is good news because it means that the reputation of wasps can yet be redeemed by information and understanding. And that is what she proceeds to do with much success in the rest of the book.

In what is, for me, the finest chapter in the book, Sumner pays tribute to some remarkable wasp researchers of the past whom she evocatively calls 'The Wasp Whisperers'. They include: Jean-Henri Fabre (a famous French naturalist), Phil Rau and Nellie Rau (an amateur naturalist couple, famous for their *Wasp Studies Afield*), Léon Dufour (every wasp researcher knows about the Dufour's gland), George and Elizabeth Peckham (best known for *Wasps: Solitary and Social*), Howard Evans (the author of the charming *Wasp Farm* and *Life on a Little-Known Planet*), Alexander Petrunkevitch (a Russian naturalist) and of course, Charles Darwin. What these passionate and prescient naturalists could discover without any of the tools that today's scientists have become dependent on is most inspiring. It is also an indictment of all of us who attribute our meagre research output to the lack of funds and facilities.

The chapters *How to Have a Social Life* and *Playing the Game* provide a comprehensive overview of the author's own research. While it is helpful to have the considerable work of her and her students summarized in one place, the downside is that readers might come away with the impression that research on social wasps needs to be high-tech and expensive, and that the ways of the wasp whisperers are a thing of the past. I hope readers, especially those not from high-income countries — where wasps are often plenty and money and technology always scarce — are not too intimidated. I can assure them that there is plenty of cutting-edge science they can still do with not a dollar in hand and that they can still produce significant new knowledge that is absolutely essential for the subsistence of the small number of high-tech researchers like the author of *Endless Forms*.

In one chapter, Sumner invents an imaginary dinner that she cooks for and eats with Aristotle in his home territory in Athens. She cleverly uses this ploy to survey our progress in understanding the biology of the vespine wasps (hornets and yellowjackets) that Aristotle was so interested in. She does not lose the opportunity to remind the reader of the incongruity of the very occasion, as women would not have been permitted to have dinner with men in ancient Greece, much less, drink wine. Nor does she forget to tease Aristotle for saying that, "Hornets and wasps … are devoid of the extraordinary features which characterise bees; this we should expect, for they have nothing divine about them as the bees have", and attempts to convince Aristotle and the reader that, "wasps are in fact worthy of the word 'divine'; not due to any … godly creativity, but because of their sophisticated societies produced by evolution". More importantly, she fills in her guest and her readers with our current understanding of vespine life cycles, which Aristotle got almost right, and their way of making paper nests, which he failed to understand, telling him that "there's a lot more than cobwebs and rubbish to a wasp nest", as he had imagined 2,400 years ago. She also speaks about our current understanding of division of labour in vespine colonies, or the lack thereof as compared to honey bees, and about wasp cognition and face recognition. The chapter is as informative as it is entertaining, although personally I think she goes a bit overboard — perhaps that is why it is entertaining.

Not content with extolling the virtues of wasps for the beauty and elegance of their form and function, their life cycles and behaviour, their abundance and diversity, and their unique role as model systems in ecology and evolutionary biology, Sumner turns to their practical utility — something we can measure in pounds and dollars. The chapters *Nature's Pest Controllers* and *The Secret Pollinators*, integrating much old and new knowledge, are among the finest examples of applied entomology I have read; they have raised admiration for the wasps a notch higher, even for a dyed-in-the-wool wasp researcher like me.

Sumner aims to secure for wasps their rightful place in the research agenda of scientists, the biocontrol toolkit of farmers, the strategies of conservationists and indeed, in the minds and hearts of all people. She battles valiantly for the cause of the wasps she so loves. And, when she runs out of ammunition to defend the honour of wasps against the formidable bees and ants, she resorts to phylogenetic truths such as, "bees are simply wasps that have forgotten how to hunt" and "the first ant was a wasp that lost its wings". But then I suppose all is fair in love and war! ❐

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