

Book reviews

The Hidden Universe: Adventures in Biodiversity by Alexandre Antonelli (2022) 288 pp., Ebury Press/Penguin Random House, London, UK. ISBN 978-1-5291-0916-0 (hbk), GBP 14.99.

Globally, biodiversity is in crisis. Following centuries of overexploitation and the industrialization of human society, over 1 million species are estimated to be at risk of extinction (Purvis, 2019) and many ecosystems are in severe decline. These have massive implications for billions of people, affecting our food and water supply as well as our health and cultural heritage. After more than 2 years of delays because of the Covid-19 pandemic, in December 2022 world leaders met in Montreal to negotiate and finally adopt a landmark Global Biodiversity Framework, setting clear targets for countries to mitigate biodiversity loss. Following the failure to reach prior targets (Dickie, 2022), this new framework was considered critical for nature and human society, and for ensuring the rights of Indigenous People are a central priority. The ambitious framework was adopted by most countries, making biodiversity conservation not just a cause for ecologists and environmentalists, but a priority for international cooperation.

In light of this renewed interest comes a new book by Kew Gardens' Director of Science Alexandre Antonelli. *The Hidden Universe* sets out to provide a broad, accessible overview of biodiversity. Likening the diversity of life on Earth to stars in the universe, Antonelli discusses the five points of the biodiversity 'star'—species, genes, evolution, function and ecosystems—and their importance, the threats facing them, and approaches to protect them. He draws upon his own lengthy career in botany, the history of science, and recent developments in understanding and protecting nature. Some of the most engaging passages are anecdotes from his own field research, including in his native Brazil, and later, when he was affiliated with the University of Gothenburg in Sweden and Kew Gardens in the UK.

Antonelli succeeds in providing a broad, layman's overview of biodiversity and related issues that is accessible and concise. I particularly enjoyed reading about Antonelli's life and experiences, in passages that are woven into his wider points. Highlights include him recalling visits to Kew's portfolio of international conservation projects, fighting *The Washington Post* over an editorial that argued we should not try to save threatened species (Antonelli & Perrigo, 2017), and struggling to secure a research visa for Brazil to study new

plants. Although many of the points made are not anything ground-breaking, I appreciated Antonelli's modern lens; he discusses biodiversity's links with Indigenous ecological knowledge, colonialism and the rights of nature as much as the historic work on Linnaeus and Wallace. There is emphasis on people being central in protecting biodiversity, and Antonelli liberally credits his diverse global network of collaborators and students as well as highlighting his own achievements. Descriptions of Kew's broad range of collaborations—from a research site in Madagascar to furniture giant IKEA—provide a rich illustration of what modern conservation looks like. There is even a comprehensive glossary with key terms, and *The Hidden Universe* is beautifully illustrated with graphs, diagrams and images of species that make up our biosphere, as one would expect from a classic work of natural history.

I went into this hoping to gain deeper insight into what biodiversity means, how it is measured and how we conserve it. For its subject, *The Hidden Universe* is slim and it could easily have been twice as long. The closing chapter also fell a little short of my expectations: a series of recommendations focused on individual actions such as making environmentally conscious choices about diet, household and garden, which—although they form a part of the solution—are smaller than the structural, global changes we really need to halt biodiversity loss. This was better executed in another excellent book on a similarly huge topic: Tim Flannery's *The Weather Makers*, on climate change, which lists a series of recommendations and breathes more life into some ambitious and country-specific recommendations for Flannery's fellow Australians. I would have liked Antonelli to provide a more ambitious vision for a future where nature can thrive, as he would be well placed to posit steps for systematic changes that could be taken at the level of large institutions or indeed countries such as Brazil, the UK or Sweden to give nature the space and resources it needs to recover and continue to provide for us and the many species with whom we share our planet.

This is an accessible and engaging book for anyone new to and interested in biodiversity, and it provides a good summary of modern conservation. Antonelli successfully breaks down this huge topic into digestible and engaging portions, and his inspiring journey and inquisitive personality shine throughout the book. However, a seasoned researcher or conservation practitioner will not find many new ideas here. Nevertheless, I hope this

book will help promote the importance of biodiversity to a wide audience in this critical decade to protect nature.

References

- ANTONELLI, A. & PERRIGO, A. (2017) Opinion: We must protect biodiversity. *The Washington Post*, 15 December 2017. [washingtonpost.com/opinions/2017/12/15/53e6147c-e0f7-11e7-b2e9-8c636f076c76_story.html](https://www.washingtonpost.com/opinions/2017/12/15/53e6147c-e0f7-11e7-b2e9-8c636f076c76_story.html) [accessed 8 December 2023].
- DICKIE, G. (2022) Explainer: Why did past targets to protect nature fail over the last decade? *Reuters*, 9 December 2022. [reuters.com/business/environment/why-did-past-targets-protect-nature-fail-over-last-decade-2022-12-09/](https://www.reuters.com/business/environment/why-did-past-targets-protect-nature-fail-over-last-decade-2022-12-09/) [accessed November 2023].
- PURVIS, A. (2019) *How did IPBES Estimate '1 Million Species At Risk of Extinction' in #GlobalAssessment Report*. [ipbes.net/news/how-did-ipbes-estimate-1-million-species-risk-extinction-globalassessment-report](https://www.ipbes.net/news/how-did-ipbes-estimate-1-million-species-risk-extinction-globalassessment-report) [accessed November 2023].
- KIERAN MURRAY (ORCID), Kieran.murray@fauna-flora.org Fauna & Flora, Cambridge, UK

The Killer Whale Journals: Our Love and Fear of Orcas by Hanne Strager (2023) 280 pp., Johns Hopkins University Press, Baltimore, USA. ISBN 978-1-4214-4622-6 (hbk), USD 29.95.

It's early afternoon, and in the Lofoten Islands, Norway, the autumn sun only just makes it above the horizon. Hanne Strager is about to board a boat she's never seen, alongside a crew of people she's never met. In accepting a job as a cook on board the old fishing-boat-turned-research-vessel *Old-Bi*, she is embarking on a lifelong adventure studying killer whales, and in *The Killer Whale Journals*, she is kind enough to take us along with her.

The book—part history, part natural history, part autobiography and part travel book—is perhaps a little difficult to classify, but that is not a bad thing. It is meticulously researched yet anything but dense or slow; I found *The Killer Whale Journals* a great read that is further enhanced by a number of beautiful reprints and photographs, including some by wildlife photographer Paul Nicklen. The writing style is engaging and easy to follow, keeping the reader on board as we move with Strager from place to place.