

## Book review

**A Plague of Rats and Rubbervines: The Growing Threat of Species Invasions.** By Yvonne Baskin, 2002, 377 pp, Island Press, Washington, DC, US\$25.00, ISBN 1-55963-876-1 (cloth).

The gulf between scientists and the lay public has grown in recent decades if only because the gap among different scientific fields has grown. We as scientists are ever more specialized and that specialization makes the task of science writers both more interesting and more difficult than it has ever been. It is easier to tell a story about science, but it is ever more difficult to tell “the story”. Yvonne Baskin in “A Plague of Rats and Rubber-Vines” attempts to tell “the story” of species invasions, by which I mean the broad story of the sweeping movement of species among continents, regions, and ecosystems. All of what might be considered invasion biology, both in terms of its research and praxis is within the domain of the book.

In many ways, Baskin accomplishes the task of reviewing and summarizing the vast body of work about biological invasions. Her approach is to tell the stories of individual regions, biologists, quarantine officers and the like and through those stories to draw broader conclusions. She does so with chapters or sections loosely framed around the early history of invasions, the effects of invasives on natives, the broader geopolitical and economic causes of invasions, what makes an invasive, methods of preventing and controlling invasives and others. The book is thick with examples of biological invasions, from Tilapia and Formosan termites to the Asian tapeworm. Baskin includes good descriptions of many of the more tragic examples of particular ecosystems that have besieged by invasions including the Galapagos, Guam, Australia, Hawaii and New Zealand as well as some lesser known examples. Perhaps in part because the book was officially sponsored by the Scientific Committee on Problems in the Environment (SCOPE), the IUCN and the Global Invasive Species Program (GISP), Baskin was able to talk to many individuals

involved in controlling and researching invasive species at all stages of the process, which adds legitimacy and depth to the prose. Baskin’s stories about invasions are often more up to date than would be the case had she simply considered published accounts, and many of Baskin’s case studies are relatively poorly known outside her book.

The difficulty Baskin faces (and perhaps the difficulty invasion biology as a field faces) is in drawing general lessons from a case study approach (she includes literally hundreds of different stories of particular places and their plights) and making those lessons compelling reading. In the introduction, Baskin indicates that when GISP commissioned the book that they wanted to “reach a broader audience with their findings.” Unfortunately, I found that the book has a weak central narrative unlikely to compel the average nonscientist reader to turn the page 304 times to get to the end. The large number of separate and tightly packed examples of invasions and aspects of invasion give the prose a slow, lumbering feel, that lends itself more to a reader who wants to search in the index for a particular story than one who wants to read the book cover to cover. A reader who was interested in biology and had a passing interest in species invasions would be unlikely to find this book the friendly sort of introduction to the topic that might encourage further reading. On the other hand, the book will provide biologists with additional examples of invasions and the stories of more particular invasions than they might find elsewhere. But biologists are unlikely to finish this book with the feeling that they have gained additional insight into biological invasions. Instead, the book seems pitched somewhere between an audience of scientists and the National Geographic readership, namely those who might have some reason to want a book that both tells the story of invasions and is a resource for further investigation. Unfortunately, one suspects this is a relatively small audience.

One can find errors of both omission and biology in Baskin's book, though given the sheer number of examples and topics covered, the errors are remarkably few. Nonetheless, some stand out. For example, the insects seem to receive light treatment relative to the costs they have imposed as invaders and to their losses in terms of numbers of species. Fire ants, although they constitute one of the most costly invasions in the US (e.g. Buhs 2004) and have been at the heart of intense political, cultural and economic battles (see an excellent history of these interactions in the Fire Ant Wars, Buhs 2004), are discussed only in passing. In general, invasions in the US, likely home to the majority of the book's audience, are lightly treated. The potential synergisms between climate change and invasions, although clearly key to the long-term consequences of invasions (e.g. Stachowicz et al. 2002), are also only discussed in passing. In addition, while Baskin mentions the early failures of biological control agents (often insects) and the more recent successes, she places false optimism on the potential of biological control to control invasions without discussing accompanying negative effects. For example, she fails to mention the fact that even today most biological control agents are not tested against nontarget insects, often with devastating effects on those insects (e.g. Boettner et al. 2003). Nonetheless, these errors and omissions are small in the context of a thick book that covers huge ecological territory.

Baskin concludes the book optimistically, and after 300 pages of failed attempts at excluding invaders, failed attempts at extirpating invaders and failed attempts at raising awareness about species invasions with politicians and the larger public, such optimism seems a pleasant reprieve. Ultimately, however, Baskin's optimism seems too much and too soon. The two examples Baskin's provides of successful attempts at preventing invaders, Australia and Galapagos islands, both show what we can do when we have large pots of money and relatively confined spaces

(or in the case of Australia, at least confined numbers of entry points). While the ends to which biologists and policy makers, managers, and policymakers have gone in both regions to control invasions and prevent future invasions are impressive, it is not yet clear that they have been successful nor that they can be applied to the rest of the world, where funds are much more limiting.

Baskin says toward the end of the book that "If the Galapagos succeed in remaining a fabled land of anomaly and isolation, the strategy pioneered here may truly guide other regions." Perhaps the better conclusion to be drawn from the Galapagos, however, is that if we are unable to control invasions in the Galapagos, where the spatial scale is limited, the means of introduction known and relatively few, and the amount of funding tremendous then our hopes in the long-term struggle at the scale of continents should be limited. That is, of course, not the conclusion one hopes for at the end of a book, but Baskin's book is not a story book, it is a book of facts and surmises and in the end of Baskin's litany of introductions, we must surmise that the future of biological invasions remains relatively grim.

## References

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