

Publications

Hymenoptera and Conservation by T.R. New (2012), 230 pp., Wiley-Blackwell, Oxford, UK. ISBN 9780470671801 (hbk), GBP 60.00.

Within ecology and conservation, entomology is an understudied discipline. Even within the relatively well-studied group Hymenoptera (the order containing bees, wasps and ants), attention is disproportionately focused on social species, specifically of the family Apidae (a family containing honeybees and bumblebees), following concerns about the instability of pollination services. However, this family only represents a fraction of a large and diverse order, with estimates suggesting that Parasitica (a group within Hymenoptera containing parasitoid wasps) comprises 1 million species worldwide. Despite the accepted ecological importance of parasitoid wasps, this group is extremely understudied, with the majority of species remaining undescribed. In *Hymenoptera and Conservation* Tim New emphasizes this underrepresentation through a thought-provoking review, combining scientific evidence with case studies to portray the overarching theme of this book: how bias in research on Hymenoptera and a knowledge deficit of the true scale of this order limits the application of conservation science.

New sets the scene by delivering a sombre report of past interventions, whereby, within the context of a lack of long-term and community-level studies, poor understanding of the polyphagous nature and adaptability of introduced species has resulted in ecological instability at a large scale. He highlights the complexity of interactions at the ecosystem level and illustrates the need for caution when assuming the transference of knowledge from well-studied species to the order Hymenoptera as a whole. For example, when this knowledge is taken out of context from the environment in which the organism has been studied, and applied to a conservation intervention (e.g. reintroduction), such information can have damaging and unpredicted effects, especially when species composition is not fully understood in the area where it is to be applied.

The book reiterates the struggle both financially and practically of remedying earlier interventions. To demonstrate this point he reports on how accidental introductions of social insects together with the continual practice of pollinator provisioning have implications for conservation, including: out-competition of native species, parasite spill-over, floral destruction, hybridization and local extinction. Based on these impacts

he emphasizes the importance of moving away from reliance upon the transportation of generalist pollinators and instead suggests that research and policy be focused on the creation and maintenance of habitat to support native pollinators.

New offers insight into the future of conservation by bridging the gap between past and present conservation practices. He discusses the move away from a generalized, one policy fits all approach to species conservation towards a structured policy built on past experiences. He assesses the limitations and successes of past practices, restoring optimism through case studies that demonstrate the resilience of organisms and the surprising diversity within fragmented and urbanized habitats. He continues to present a balanced outlook of the current schemes targeting species diversity. In doing so he accepts the importance of incentive-led policies in delivering successful implementation, whilst also accepting the potential reluctance by land owners to support schemes such as set aside, which can cause problems such as pest reservoirs.

The concluding chapters in *Hymenoptera and Conservation* reiterate the need for an invertebrate focus in conservation, developing identifiable frameworks to facilitate the designation of conservation priorities. New uses case studies of vulnerable and topical species to portray this point, noting that in some cases no further intervention is the most appropriate prescription. Future strategies should look not only for a deeper knowledge of biological systems and the full extent of species involved but also for a realistic understanding of what can be achieved, applying a target-driven approach with quantifiable monitoring schemes in place to measure success.

In *Hymenoptera and Conservation* New captures the reader, offering a concise chronology of past interventions and, in doing so, provides lessons on which future conservation strategies can be built. For this reason, I recommend this book to anyone interested in a better understanding of the role of insects in conservation as well as the full implications of intervention.

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Life, Fish and Mangroves: Resource Governance in Coastal Cambodia by Melissa Marschke (2012), 192 pp., University of Ottawa

Press, Ottawa, Canada. ISBN 9780776607726 (pbk), GBP 19.99.

In the best-selling novel *Catch-22*, set in Italy in World War II, Captain John Yossarian has a problem. He doesn't want to fly any more combat missions because, he says, people are trying to kill him—which they are. So he requests a psychiatric evaluation to declare him unfit to fly. But since only a sane person would not want to fly a combat mission, anyone requesting such an evaluation would, in fact, be fit to fly. This, now well-known, type of situation is called a catch 22.

In *Life, Fish and Mangroves: Resource Governance in Coastal Cambodia*, Melissa Marschke uses catch 22 to describe a situation that is probably more common in conservation and resource governance than we'd like to believe. In Chrouy Pros Bay the resource management committees have the authority, given to them by the Department of Fisheries, to patrol the Bay to spot and confront illegal trawling. However, they must have a police officer or a technical officer of the Department with them. But the police aren't interested, and the Fisheries department doesn't have the capacity to send a technical officer. The resource committees have a mandate to patrol but of course are not allowed to patrol—catch 22.

Life, Fish and Mangroves is a decade-long research endeavour by Marschke, showcasing her attempt to understand (1) how livelihoods shift, evolve and adapt in resource-dependent coastal communities in Cambodia, (2) the role of decentralized resource governance in such situations, and (3) the potential for multiple forms of governance in situations where decline of resources has severe livelihood implications. Such questions are clearly important in a context such as Cambodia, a country ranked 139 on the Human Development Index and where an estimated 75% of all protein consumed in rural areas comes from fish. Add to this dependence the suggestion that most coastal and freshwater fisheries in Cambodia are already overfished (Pomeroy et al., 2007, *Marine Policy*, 31, 645–656; Salayo et al., 2008, *Marine Policy*, 32, 692–700.), and we have a clear call for sustainable fisheries governance as soon as possible.

Decentralization of resource governance, which has swept the developing world in the past 2 decades, holds for fisheries in Cambodia as well. As Marschke relates to us, in the early 1990s only a handful of community fisheries existed and now there are well over 450. Throughout the book we learn about this

history, the power struggles, and some of the contributing factors providing communities with rights, as well as some of the factors impeding successes. With no surprises, capacity and corruption issues loom large, the latter being driven by financial and political interests in mining and industrial fishing extraction.

In the beginning of the book Marschke takes us through a review of natural resource governance in Cambodia and some general resource governance for social science theory. Now I'll admit I am both biased by, and enamoured with, quantitative data. So I could do without the 'As Nietzsche notes, "one should not wish to divest existence of its rich ambiguity."' In fact I could do without the word rich in all social science unless it is describing wealthy people, and I like Nietzsche, he was funny. But Marschke's effort is not quantitative, so while I struggled with the first few chapters and the focus on social theory, qualitative approach and the political ecology, I found the case study in Koh Sralao absorbing.

In taking us into the households of six different families, Marschke paints a great picture of what has happened in the community over time with respect to the state, importance and management of the fishery upon which the community depends. While many people came to the area to work in the marijuana fields, they stayed and adapted their livelihood strategies once the government shut this option down. The case study here reiterates much of what the world learned from Elinor Ostrom and colleagues, that local natural resource governance requires strong leaders, and long-term relationships with technical and political allies (and some national publicity helps too).

This is not a story where everything turns out rosy. This story is ongoing and both the local resource management committee and local fishers are struggling to overcome impediments at local, regional and national levels. Marschke deftly points out that fisheries are hard to manage under the best of conditions. We can look to the salmon, lobster and cod fisheries of the north Atlantic and numbly nod in agreement. In Koh Sralao people are dealing with industrial trawlers, mining companies, increasing food prices, vested political interests and extreme poverty. Yet, by focusing on goals that are cost-effective, non-political, and where success is easy to demonstrate, the local resource governance committees have made some headway towards more effective management of the resource upon which their livelihoods depend—despite the catch 22s.

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Reintroduction Biology: Integrating Science and Management edited by John G. Ewen, Doug P. Armstrong, Kevin A. Parker and Philip J. Seddon (2012), xxv + 499 pp., Wiley-Blackwell, Oxford, UK. ISBN 9781444355833 (pbk), USD 69.95/GBP 45.00.

This book contributes a great deal to the growing field of reintroduction biology, a field that, as emphasized throughout the book, is growing at a rapid rate and will continue to do so with the ever-increasing human population and pressures such as climate change. As presented in the summary chapter of this book, the authors have attempted to compile a 'state-of-the-art for reintroduction practice', which is exactly what has been provided. The book provides a useful, one-stop, up-to-date tool for all reintroduction practitioners that are likely to be involved in reintroduction and translocation programmes.

The first chapter provides a detailed outline of translocations, including a brief history of animal movement, and also clearly defines the terminology surrounding the variety of translocation types. There are detailed summaries of each of seven types of translocation for non-conservation purposes, including useful working examples. The chapter then presents a detailed description of conservation translocations, again with working examples for both population restoration and conservation introductions, and finally a description of the growing importance for collaboration of a range of stakeholders, for fulfilling translocation objectives.

The second chapter provides a collection of case studies of a range of conservation activities in New Zealand and Mauritius that have assisted in the recovery of a number of species and in ecological restoration projects. The chapter includes descriptions of management initiatives that have been developed in both countries over a number of years by personnel from diverse backgrounds. What is particularly useful in this chapter are the tables that present clear outlines of problems encountered and the management solution and outcome. Innovative management approaches are clearly discussed in the latter half of this chapter, along with working examples.

The third chapter examines the problem of habitat suitability in release site selection by initially discussing eight consequences for reintroductions that the authors propose should be considered to adequately address the suitability of a release site. Chapter four initially details the need for a multidisciplinary approach to the translocation process and the value of previous research and science in the approach to translocations. The chapter then explores a range of factors associated with stress that affect the success of a translocation

and the need for practitioners to understand these factors.

The fifth chapter reviews the extent to which post-release dispersal has been examined in translocations and the problems associated with dispersal. Various critical factors for managing the dispersal of reintroduced individuals are discussed and finally the integration of dispersal and habitat selection behaviour into the pre-release phase are discussed, including a number of useful working examples.

Chapters six, seven and eight provide a framework for reintroductions and deal with management problems. In chapter six an overview of population models for reintroduction programmes, including a comprehensive review of population models in the literature and their application to management, leads into a discussion on the future use of population models to enhance reintroduction programmes. Chapter seven introduces the concept of structured decision making and adaptive management (discussed in detail in chapter eight) and the importance of monitoring programmes in reintroduction. The chapter explores the role of monitoring in the decision-making process and the main purposes of monitoring in adaptive management, which include making state-dependent decisions, assessing reintroduction success, learning, and developing or refining models for the reintroduction programme. Chapter eight reviews the concept of adaptive management and its application to reintroduction programmes for their improvement. The chapter includes a review of literature on adaptive management and then the introduction of a seven-step adaptive management cycle, including working examples, to explain each step. This chapter describes the role of Bayesian methods in the re-evaluation of parameters and the suitability of Bayesian analyses for incorporating information from multiple sources as it becomes available over time. The role of monitoring in adaptive management, with useful examples, is also discussed.

Chapters nine and ten focus on animal health and disease risk. Chapter nine provides a summary of health and parasite consideration in reintroduction programmes and includes a discussion on the benefits of vaccinations, pre-release screening of wildlife, the use of quarantine prior to release and the importance of obtaining information relating to animal health for the duration of the reintroduction monitoring period. The chapter concludes with four key areas where improvements to disease and parasite management could occur in future translocations. Chapter ten provides a discussion on disease risk analysis methods and how these are applied to translocations of wild animals.