REVIEW

Rothstein, S.I. & Robinson, S.K. (eds.), 1998: Parasitic birds and their hosts: Studies in coevolution.
Oxford University Press, New York.
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The study of brood parasitism is one of the most dynamically evolving fields of behavioural research today. This is not surprizing: brood parasite-host associations are excellent models for the study of co-evolution. The advantage of brood parasitism as a model for co-evolution stems from the clearly defined costs and benefits which are relatively easily measurable in field experimental studies. In fact, the relationships between nest parasites and their hosts still remain the only thoroughly studied co-evolutionary systems.

Brood parasites are not constrained by parental duties and this natural "experiment" provides a unique opportunity to study many aspects of bird behaviour, from the sexual to foraging. Many studies also show that investigations on host-parasite relationships provide fascinating insights into communication and recognition systems (e.g. paper by Soler & Soler 1999 on conspecific recognition in the great spotted cuckoo *Clamator glandarius*, or the Kilner et al. 1999 study of the exploitation of host parental feeding rules by the common cuckoo *Cuculus canorus* parasitic nestlings).

The unequal pattern of distribution of books and monographs on brood parasitism during this century nicely reflects the amount of effort spent on brood parasite studies. The first half of the century brought pioneering books by E. Chance (1922, 1940), H. Friedmann (1929) and E. C. S. Baker (1942). After WWII the scarcity of studies on brood parasitism lead to the publication of only two books (Makatch 1955, Wyllie 1981). This situation sharply contrasts with the publishing "big-bang" of the last three years during which six books on the subject have appeared: Johnsgard (1997), Ortega (1998), Rothstein & Robinson (1998), Morrison et al. (1999), Davies (2000) and Smith et al. (2000). Three of them (the first, second and fourth) are dedicated entirely to American cowbirds and are the result of a huge amount of studies made primarily on the famous brown-headed cowbird (*Molothrus ater*). Probably the most important and timely book is that edited by Rothstein & Robinson. Almost all leading researchers working on the issue contributed to this monograph.

The authors of each chapter provide the reader with the results of detailed analyses of the bewildering variety of means employed by parasites to cheat hosts and the counter-means used by hosts to repel parasites. The first chapter provides a short overview of the whole book. The following parts bring together the results of studies that have focused on cuckoo species from Europe (chapters 2, 5, 6), Japan (chapters 3, 4) and the Australian region (chapters 7, 8). In chapter 9, the reader will find the very interesting results of a detailed study of a unique host–parasite system, that between the bay-winged cowbird (*M. badius*) host and its parasites – the generalist shiny cowbird (*M. bonariensis*) and the specialist screaming cowbird (*M. rufoaxillaris*). Important methodological issues are discussed in Chapter 10. The authors argue that the different methodological approaches used by various researchers studying host nest defence behaviour prevent sensible comparisons among different studies. Therefore, it is important to standardize the experimental procedures employed in field studies. The next chapter tries to explain the poorly developed antiparasitic defences of the model cavity-nesting species, the house wren (*Troglodytes aedon*). Chapters 12 and 13 discuss one of the main controversies in "cuckoo and cowbird" research – is acceptance of parasitic eggs adaptive (evolutionary equilibrium hypothesis) or hosts could do better by rejecting alien eggs and are constrained from doing so by a lack of genetic variation or evolutionary time (evolutionary lag hypothesis)? Chapter 14 provides a novel cognitive approach to the problems of recognition and response to brood parasites. The next part (chapters 15, 16, 17) is dedicated to the consequences of brood parasites on host population dynamics. As Yokel (1986) noted, monogamy and brood parasitism are an unlikely pair. However, some brood parasites are not only monogamous but show a puzzling variety of mating systems. Chapter 18 tackles this problem. Another four chapters (19-22), in contrast to the rest of the book, are about facultative parasites - they concern the topic of conspecific brood parasitism.

Despite the enormous amount of published data on brood parasitic systems we can be sure that current research activities will not exhaust their subject for long. Many exciting questions (chapter 23) still cry out for detailed empirical scrutiny even in such well studied species as the common cuckoo or brown-headed cowbird. The great majority of parasite-host associations remains unstudied and even basic information on hosts species, egg characteristics, breeding biology or population dynamics is lacking. The excellent review of the best studied topics in brood parasitism research provided by Rothstein & Robinson's book will remain a major source of references and stimulating ideas for decades to come.

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