
EDITORIAL

Current Trends in Avian Parasitology

Aldo Poiani

Parasites are an important component of any species' environment. With the exception of brood parasites, and unlike predators, most parasites tend to be smaller, and often much smaller, than their hosts. They are difficult to observe and not easy to avoid. They may also have higher mutation rates per unit of time than their hosts that allow them to keep pace with the host's antiparasitic counterstrategies. Hosts, on the other hand, have evolved a considerable number of traits to defend themselves against parasites that span from behavioural avoidance to behavioural and immune repulsion following initial contact, to control of the most damaging effects after the parasite has settled in the host.

In this special issue of *The Open Ornithology Journal* we provide the reader with an overview of the most current and exciting issues regarding host-parasite interactions that span across various levels of analysis and focus on a variety of specific mechanisms. Matthew Evans' article focuses on immunoendocrinological aspects of host-parasite interactions, especially as they relate to life-history strategies. The immunity vs. parasitism theme is also taken up by Santiago Merino in his contribution, but his focus is mainly at the nestling stage of the host, a developmental stage often neglected in host-parasite studies. The relationship between host immunity and the evolution of parasite virulence is the focus of Gabriele Sorci and Stéphane Cornet's article.

Although hosts have evolved sophisticated immunological responses to defend themselves against endoparasites, other physiological but also behavioural strategies are used in defence against ectoparasites, a topic that will be thoroughly reviewed by Dale Clayton, Jennifer Koop, Christopher Harbison, Brett Moyer and Sarah Bush in their article.

Among the parasites that are transmitted by direct contact between hosts, the sexually transmitted ones are especially intriguing as they are expected to benefit from keeping their hosts healthy and sexually attractive, but as transmission rates increase, higher levels of virulence and host damage are expected to be selected. Sexually transmitted microbes are the focus of Aldo Poiani's article. Although parasites may increase their probability of transmission from one host to another by increasing the production of dispersing life stages, they could also facilitate transmission by directly manipulating their host's behaviour, a topic that is the focus of Anders Møller's article.

Finally, countering our usual perception of microbes being mainly pathogenic, Juan José Soler, Manuel Martín-Vivaldi, Juan Manuel Peralta-Sánchez and Magdalena Ruiz-Rodríguez analyse the relationship between birds and their beneficial microbes as they may engage in mutualistic interactions.

Guest Editor

Aldo Poiani

School of Biological Sciences

Monash University

Victoria 3800

Australia

E-mail: Aldo.Poiani@sci.monash.edu.au