Ecology of parasite-vector interactions

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Ecology and control of vector-borne diseases

Volume 3

edited by:

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and
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Ecology and control of vector-borne diseases

In the past century, many advances were made in the control of vector-borne diseases. Malaria disappeared from the northern hemisphere, diseases such as typhus, *Bartonella* and yellow fever were seriously reduced in prevalence and in many countries effective methods of disease control contributed to a greatly reduced incidence of such diseases. Most of these advances were beneficial to the industrialised world, whereas underdeveloped countries continued to suffer much as before. Indeed, several diseases such as malaria, Rift Valley fever and African sleeping sickness are still highly prevalent in parts of the tropics. 'New' vector-borne diseases such as dengue, chikungunya fever and West Nile fever, have emerged and are invading previously disease-free regions. The discovery of new drugs and vaccines has made great advances and allows for the effective treatment and control of many diseases. In contrast, vector control has lagged behind in development, even though it is realised that effective vector control would allow for an immediate interruption of the transmission of disease, and aid in disease control and eradication. In the last decade new initiatives on vector control have been undertaken, leading to a rapid development of effective and lasting methods of vector control. For example, the Roll Back Malaria control programme of the World Health Organization has led to significant reductions in malaria in many countries. In order to achieve further advances, however, additional tools are required. The development of molecular genetics has provided new insight in vector biology and behaviour, which is being used for developing new strategies of vector control. Advances in geographic information systems allow for precision targeting of interventions. The collective information on new developments in Vector Ecology and Control for Vector-borne Diseases is scattered over numerous periodicals and electronic databases. This book series intends to bring together this information in sequential volumes arranged around selected themes that are currently of interest. Forthcoming themes will include 'Recent advances in biological control of mosquitoes', 'Transgenic tools for vector management' and 'Integrated management of vectors of livestock diseases', but also fundamental biological topics such as 'Mating behaviour of disease vectors', 'Oviposition behaviour of disease vectors' and 'Reproductive strategies of disease vectors'. Other topics will be added as perceived relevant.

Willem Takken is the senior editor of the series. Each volume will be co-edited by a guest editor, which in Volume 3 is Sander Koenraadt. The editors of the current volume are well-known experts in the field of Medical and Veterinary Entomology, and have experience from field work in the tropics and ecological studies in laboratory and field. Willem Takken is professor in Medical and Veterinary Entomology at Wageningen University. Sander Koenraadt is an assistant professor in Vector Ecology at Wageningen University. Both editors collaborate in several research programmes, and consider dissemination of research results to fellow scientists as well as the public at large as an important component of their work.

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