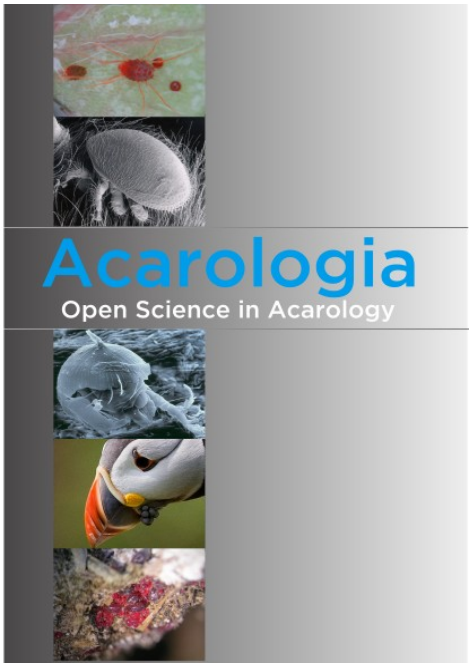

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Water mites of the World by Harry Smit, a book review

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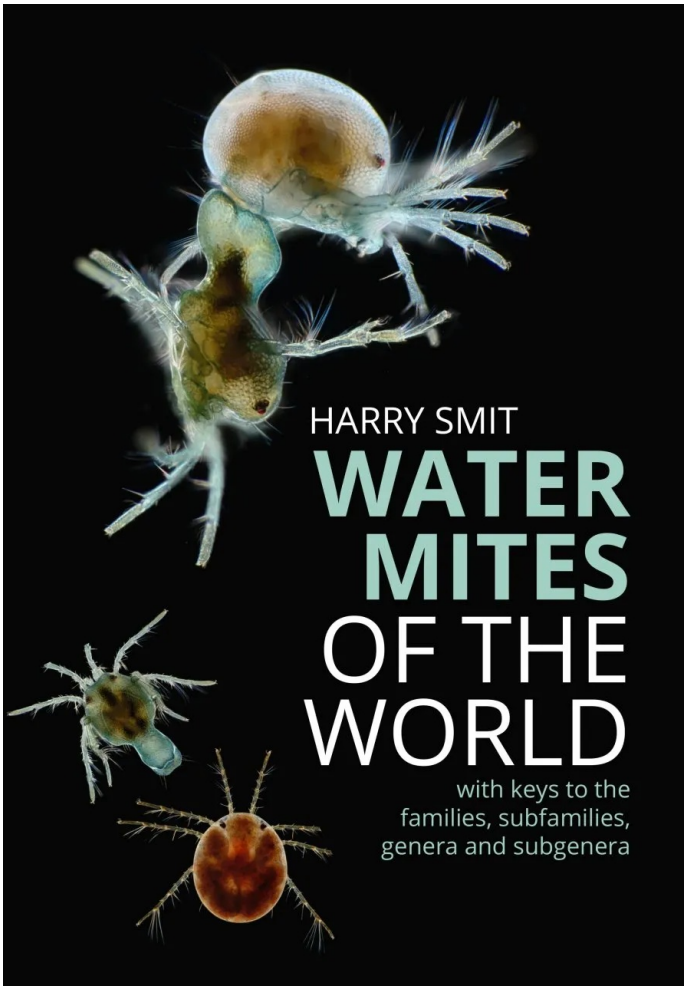
Book review



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Water mites represent one of the most important components of freshwater communities in terms of both diversity/abundance and biotic interactions (Di Sabatino *et al.* 2000). Since the publication of the monumental book "Water mite genera and subgenera" by the late David Cook in 1974, our knowledge of global water mite diversity has considerably increased. In the last fifty years, the number of described water mite species has increased from 4 500 to more than 7 500, with about 200 new genera described. In only the last twenty years, 1410 species and 89 new genera/subgenera were added to the world water mite catalogue (Zhang *et al.* 2021). Considering the current rate of new species descriptions (~70 per year) and the results of more recent DNA-based approaches, we may reach 10 000 described species over the next decade (Di Sabatino *et al.* 2008). This acceleration in the discovery of new water mite taxa is mainly due to the efforts of some friends and colleagues who concentrated their research

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in poorly explored habitats and/or geographical areas; Harry Smit is one of the most productive scientists in this field.

Given these major recent changes to known diversity of water mites, the revision and update of Dave Cook's 1974 book was urgently needed. Fortunately, Harry Smit took on this significant task and we now have a complete guide for the identification of world water mite taxa.

"Water mites of the world" has an elegant hard cover with intriguing graphics. On more than 700 printed pages, with about 3000 figures, the volume provides useful information for the identification of water mite families, subfamilies, genera and subgenera. The book starts with some short introductory chapters and then presents a key for the currently known families. For each family, keys to subfamilies, genera and subgenera are provided. In addition, a diagnosis , based on the main distinctive morphological characters, is given for all treated taxa, except for the superfamily Hydryphantoidea. Notes on habitat preference and distribution are also given. The book ends with a chapter on some proposed taxonomical changes, a glossary of morphological terms, a large (33 pages) reference section and the taxonomic index.

In this volume, Harry Smit has revised and merged the information from Cook (1974), with more recent keys for Central Europe (Davids *et al.* 2006; Di Sabatino *et al.* 2010; Gerecke *et al.* 2016) and a huge number of published papers. He has also included important taxonomic notes and diagnoses for the new discovered or re-classified taxa. The key couplets are well organized, pertinent and easy to use. The main diagnostic morphological characters are illustrated with adequate reference figures.

As "Water mite genera and subgenera" did before it, I am convinced that "Water mites of the world" will guide and support the work of future generations of water mite researchers. In my opinion, this book represents a milestone in acarological literature and highlights the role and the contribution of water mites to global freshwater biodiversity. Finally, it may help to raise awareness on the importance of these organisms in ecological studies and help promote their inclusion in biomonitoring programmes. I have only one final remark: I would have appreciated a proper acknowledgement or a dedication to Dave Cook who sadly passed away while this book was being published in 2020.

Water mites of the world, with keys to the families, subfamilies, genera and subgenera (Acari: Hydrachnidia). 2020. Smit, Harry. Nederlandse Entomologische Vereniging. 774 pp.

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References

Cook D. 1974. Water mite genera and subgenera. Memoirs of the American Entomological Institute, 21: 1-860.

Davids C., Di Sabatino A., Gerecke R., Gledhill T., Smit H., Van der Hammen H. 2006. Chelicerata: Acari I. pp. 241-388 in: Gerecke, R. (ed.). Süßwasserfauna von Mitteleuropa 7/2-1. Elsevier-Spektrum, Heidelberg. https://doi.org/10.1007/978-3-662-55958-1_7

Di Sabatino, A., Gerecke R., Martin P. 2000. The biology and ecology of lotic water mites (Hydrachnidia). Freshwater Biology. 44: 47-62. https://doi.org/10.1046/j.1365-2427.2000.00591.x

Di Sabatino, A., Gerecke, R., Smit, H., Goldschmidt, T., Matsumoto, N., & Cicolani, B. 2008. Global diversity of water mites (Hydrachnidia: Acari: Arachnida). Hydrobiologia, 595: 303-315. https://doi.org/10.1007/s10750-007-9025-1

Di Sabatino A., Gerecke R., Gledhil, T., Smit H. 2010. Chelicerata: Acari II. pp. 1-234 in: Gerecke, R. (ed.). Süßwasserfauna von Mitteleuropa 7/2-2. Springer-Spektrum, Heidelberg. https://doi.org/10.1007/978-3-8274-2266-8

Gerecke R., Gledhill T., Pešic V., Smit H. 2016. Chelicerata: Acari III. pp. 1-429 in: Gerecke, R. (ed.). Süßwasserfauna von Mitteleuropa 7/2-3. Springer-Spektrum, Heidelberg. https://doi.org/10.1007/978-3-8274-2689-5

Zhang Z. Q. et al. 2021. Discovering and documenting Acari: the first twenty years in Zootaxa. Zootaxa, 4979: 115-130. https://doi.org/10.11646/zootaxa.4979.1.13