

Halacaroidea (Acari): A guide to marine genera

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Abstract

Halacarid mites (Halacaroidea: Halacaridae) are meiobenthic organisms. The majority of species and genera are marine, only few are restricted to freshwater. Halacarid mites are present from the tidal area to the deep sea. It is the only mite family completely adapted to permanent life in the sea. The first record was published more than 200 years ago.

At present, 51 marine and brackish water genera of halacarid mites are known, including more than 1000 species. The genera are *Acanthohalacarus*, *Acanthopalpus*, *Acarochelopodia*, *Acaromantis*, *Acarothrix*, *Actacarus*, *Agauae*, *Agauides*, *Agauopsis*, *Anomalohalacarus*, *Arenihalacarus*, *Arhodeoporus*, *Atelopsalis*, *Australacarus*, *Bathyhalacarus*, *Bradyagaue*, *Camactognathus*, *Caspihalacarus*, *Coloboceras*, *Colobocerasides*, *Copidognathides*, *Copidognathus*, *Corallihalacarus*, *Enterohalacarus*, *Halacarus*, *Halacarellus*, *Halacaroides*, *Halacaropsis*, *Halixodes*, *Isobactrus*, *Lohmannella*, *Metarhombognathus*, *Mictognathus*, *Parhalixodes*, *Pelacarus*, *Peregrinacarus*, *Phacacarus*, *Rhombognathides*, *Rhombognathus*, *Scaptognathides*, *Scaptognathus*, *Simognathus*, *Spongihalacarus*, *Thalassacarus*, *Thalassarachna*, *Thalassophthirius*, *Tropihalacarus*, *Werthella*, *Werthelloides*, *Winlundia*, and *Xenohalacarus*.

The guide, which includes marine and brackish water genera, starts with an introduction to methods of collection, extraction and examination of halacarid mites, an outline of the external morphology and life history, and an overview of the commonly used terminology. Both a dichotomous key and tabular keys to the genera are presented. The keys have been prepared on the basis of adults. In general, in adults and nymphs the outline of idiosoma, gnathosoma and legs is similar, whereas the outline of plates, the sculpturing and number of setae on idiosoma and legs differ. In the tabular keys idiosoma, gnathosoma, palps, legs, tarsi and shape of claws are treated separately.

The major part of the guide deals with descriptions of the 51 genera. Each genus is diagnosed and illustrated, namely a dorsal and ventral aspect of the idiosoma, the gnathosoma, leg I and tarsi I, II and IV. The diagnoses mention both, characters expected to be relevant in a phylogenetic sense and those thought to be mainly correlated with environment and mode of life. Rare character variants are included in the diagnoses; more variants are expected to be found in the future. In addition to the diagnoses, short notes are given on biology and geographical distribution, on similar-looking genera, and distinguishing characters. At the end of the presentation of a genus, relevant and most recent descriptive or phylogenetic references are listed.

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