



A morphological study of the genus *Penthalodes* (Acari, Prostigmata, Eupodoidea, Penthalodidae) with description of a new species

KATARZYNA JESIONOWSKA

Department of Invertebrate Zoology and Limnology, University of Szczecin, Wąska 13, 71-415 Szczecin, Poland.

E-mail: Katarzyna.Jesionowska@univ.szczecin.pl

Abstract

The morphology of representative species of the genus *Penthalodes* is reviewed. A new generic diagnosis and an identification key for adults of *Penthalodes* species is provided. Previous descriptions of *Penthalodes ovalis* from Alaska and Hawaii are considered as different species and named as *P. alaskaensis* (Strandtmann) **sp. n.** and *P. hawaiiensis* (Strandtmann & Goff) **sp. n.**, respectively. *Penthalodes polonicus* **sp. n.** is described and illustrated based on material collected in Poland.

Key words: taxonomy, identification key, morphological review, morphological description

Introduction

The genus *Penthalodes* Murray, 1877 has as its type species *Megamerus ovalis* Dugés, 1834, collected from an unknown European locality. Subsequent to Dugés description Koch (1838) described the same species as *Penthaleus ovatus*. Murray (1877) transferred the type species into the section Eupodidae, instead of the Trombidiidae, where Dugés placed it. Moreover, due to the lack of a line which separates the "thorax" and "abdomen", he stated that it cannot be placed in the genus *Penthaleus* (referring to Koch's description), but in a new genus *Penthalodes*. He also formulated a new name for the species, *Penthalodes ovalis*.

Thor and Willmann's (1941) monograph on the Prostigmata provided the first review of *Penthalodes*. They gave an extensive description of the type species, viz. *Penthalodes (Megamerus) ovalis* (Dugés, 1834). The descriptions of another two species, *P. columbiae* Berlese, 1921 and *P. inflatus* Dugés, 1834 they considered very superficial; *P. inflatus* was recognized as *species enquirenda*. The latter has linopodes-like front legs and is probably not a *Penthalodes* species (Strandtmann 1971).

Unfortunately, it is impossible to identify species according to these descriptions. Since Thor and Willmann (1941), four following species are currently recognised. Dr Edward Baker (1946) described three new species from North and Central America, which were distinguished by the shape of the epiprostrum and idiosomal setae and ornamentation. Shiba (1978) described a new species from Japan, which is easily diagnosed by the epiprostrum and rhagidial organs of tarsi I and II.

Two additional studies gave further data regarding *P. ovalis* (Strandtmann 1971; Strandtmann & Goff 1978). However, specimens of *P. ovalis* on original microscope slide preparations from Hawaii, earlier examined by Strandtmann and Goff, are now damaged (spoiled) or hardly visible. Dr Anne Baker (1987, 1990) presented selected morphological details for an undescribed *Penthalodes* sp. and *P. ovalis*. Strandtmann (1971, 1974) prepared a brief key for determination and check list of *Penthalodes* species, including synonyms. Most recently, Kaluz (2000) provided an extensive redescription of *P. ovalis* from material collected in Slovakia and Turkey.

Earlier descriptions of *P. ovalis* from Alaska (Strandtmann 1971) and Hawaii (Strandtmann & Goff 1978) show substantial morphological differences in the solenidia of rhagidial organs I and II and epiprostra. These