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Diversity of *Paranura* Axelson, 1902 (Collembola: Neanuridae: Neanurinae) in Pacific Region of Russia and United States

ADRIAN SMOLIS^{1,3} & LOUIS DEHARVENG²

¹Department of Invertebrate Biology, Evolution and Conservation, Institute of Environmental Biology, Faculty of Biological Science, University of Wrocław, ul. Przybyszewskiego 63/77, 51-148 Wrocław, Poland. E-mail: adek@biol.uni.wroc.pl

²Institut de Systématique, Évolution, Biodiversité, UMR 7205 CNRS-MNH-UPMC-EPHE, CP50, Muséum national d'Histoire naturelle, Sorbonne Universités, 45 rue Buffon, 75005 Paris (France)

³Corresponding author

Abstract

Eight new species of the genus *Paranura* are described from temperate zone of Holarctic. Five of them: *Paranura reticulata* sp. nov., *Paranura oregonensis* sp. nov., *Paranura reducta* sp. nov., *Paranura cassagnai* sp. nov. and *Paranura microchaetosa* sp. nov. were found in coniferous forests of Oregon state, USA. Three others: *Paranura kedrovayensis* sp. nov., *Paranura setosa* sp. nov. and *Paranura conjuncta* sp. nov. were collected in mixed woods of Russian Far East. All new species are illustrated in detail and compared with existing taxa. *P. reticulata* sp. nov. is characterised by having three ocular chaetae, relatively short chaeta F on head, four ordinary chaetae De on th. III and three chaetae Di in abd. V (in *s-uenoi* two chaetae). The presence of only one ordinary chaeta De on abdomen IV is the most characteristic and recognizable character of *P. oregonensis* sp. nov. *P. reducta* sp. nov. is most diagnostically recognized by labral chaetotaxy, with only 4 chaetae. The species is true saproxylic form living inside decayed logs of coniferous trees only. *P. cassagnai* sp. nov. is easy to distinguish by the presence of complete chaetotaxy of central area of head, presence of microchaetae on furcal remnant and the fusion of tubercles Di on abd. V. *P. microchaetosa* sp. nov. and *P. kedrovayensis* sp. nov. are superficially very similar to each other in dorsal chaetotaxy, and differ in number of ordinary chaetae De on abd. IV, trochanter and labium, and in the presence/absence of microchaetae on furcal remnant. *P. setosa* sp. nov. can be easily identified by one or two additional chaetae on central area of head, a character unknown in other species of the genus. *P. conjuncta* sp. nov. is characterised by the fusion of tubercles Di on abdomen V, the presence of microchaetae on furcal remnant and developed tubercle on central area of head. In addition, *P. mjohjangensis* Deharveng & Weiner, 1984 is newly recorded from Russia. An updated key to all world species of *Paranura* is also provided.

Key words: taxonomy, springtails, *Paranura reticulata* sp. nov., *Paranura oregonensis* sp. nov., *Paranura reducta* sp. nov., *Paranura cassagnai* sp. nov., *Paranura microchaetosa* sp. nov., *Paranura kedrovayensis* sp. nov., *Paranura setosa* sp. nov., *Paranura conjuncta* sp. nov., *Paranura mjohjangensis*, Asia, North America, saproxylic

Introduction

Within the family Neanuridae, Neanurinae belongs to the most species-rich, widespread and diverse subfamilies (Bellinger *et al.* 1996–2015). A remarkable character present in most species of this subfamily is the development of strong cuticular tubercles on the dorsal surface of the body. Nevertheless, there are a few genera where these structures are reduced or absent. Amongst them, the genus *Paranura* Axelson, 1902 was the earliest established as a subgenus, in 1902, by the Finnish collembologist Axelson. Until much later, in 1982, *Paranura* was elevated to genus rank by Cassagnau (1982). Interestingly, the genus was created for *P. sexpunctata*, presently the most widespread species within the taxon, distributed on a huge area from Europe to Canada. Nowadays, *Paranura* comprises 37 species that are distributed mainly in Asia and both Americas, with some species diversity hot spots e. g. in Mexico (6 known species) or northern Thailand (8 known species) (Palacios-Vargas & Deharveng 1987, Deharveng 1989, Palacios-Vargas & Peñaranda-Parada 2005, Simón Benito & Palacios-Vargas 2008). It should be noted, however, that the picture of its diversity may be not quite reliable as there are many poorly explored or