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Morphology of a neglected large-sized species of *Geophilus* from Iran (Chilopoda: Geophilidae)

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Abstract

Geophilus gigas was described briefly by Attems in 1951 from two sites in Iran, but neither reported nor cited subsequently. The original description is inadequate to understand the full morphology and the taxonomic position of the species. Thus it is here redescribed and figured in detail based on the examination of a syntype and newly collected specimens. Furthermore it is compared with the most similar species of the genus *Geophilus*. *G. gigas* can be reliably distinguished from other related species for the maximum body size (more than 6 cm), the arrangement and extent of the sternal pore-fields (with additional groups of pores), the coxal pores number and distribution (tens, scattered), and the size of the ultimate legs (swollen in both sexes).

Key words: *Geophilus gigas*, Geophilomorpha, taxonomy, Western Asia

Introduction

The genus *Geophilus* was first described by Leach in 1814 and currently includes ca. 140 species considered valid (Minelli *et al.* 2006). They are distributed mainly in the Holarctic and the majority of the known species are Palaearctic. The taxonomic condition of this genus is actually unsatisfactory, especially in Asia. Up to now fourteen species, still considered valid today, were described or recorded from temperate Asia. Among them, however, the true identity of seven species has remained uncertain because they have not been described and illustrated adequately, and recorded only once or very few times. *Geophilus gigas* Attems, 1951 is one of such species.

G. gigas was described by Attems (1951) upon few specimens from two localities in Iran (Tab. 1), collected by H. Löffler during an Austrian scientific expedition in Iran in 1949/50. Up to now this species has not been reported from other localities, and - to the best of our knowledge - it has not been cited further in the taxonomic, faunistic and ecological literature. The original description is not adequate either for assessing the actual distinction of this species from the many other species included in *Geophilus* or for identifying other specimens reliably, because it lacks information and illustrations for several characters of primary taxonomic value.

The aims of this study are providing a full redescription and illustration of *G. gigas*, and evaluating its validity as a distinct species, its taxonomic position and the main differences with other known species of the genus.

Material and methods

Four specimens of *Geophilus gigas* have been examined (preserved in 70% ethanol), which include one male syntype from Koohrang mountains, 150 km west of Isfahan, Iran, loaned from the Natural History Museum of Vienna (Ilie *et al.* 2009). Three other specimens (two females and one male) have been newly collected from three different localities in the Alborz mountains, northern Iran: 1 female from Alasht, Mazandaran province,

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