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A new species of *Geholaspis* Berlese (Acari: Mesostigmata: Macrochelidae) from Northern Iran

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Abstract

Geholaspis (*Geholaspis*) *pennulatus* **sp. nov.** is described from females and males collected from forest leaf litter in Northern Iran. The new species can be easily recognised by its barbed setae *j2* and *z1*, dorsal shield seta *j5* located posterior to *j6* and *z6*, a very wide ventri-anal shield, and the shape of the epistome. *Geholaspis* (*G.*) *comelicensis* Lombardini, 1962 is considered as a junior synonym of *G. (G.) pauperior* (Berlese, 1918). A new key for the separation of females of known species of *Geholaspis* (*Geholaspis*) is presented.

Key words: Acari, Macrochelidae, *Geholaspis*, description, new species, identification key, Iran

Introduction

Mites in the family Macrochelidae are predators and found wherever organic matter is decomposing, such as in soil, leaf-litter, dung, carrion and compost. Many species are phoretic on arthropods that occur in these substrates, especially on insects (reviewed by Hyatt & Emberson, 1988; Krantz, 1998; Halliday, 2000; Mašán, 2003).

The first attempt to produce a systematic classification of the family was by Berlese (1918). Since then various authors have sorted the species into genera and subgenera according to varying criteria, for example Evans (1956), Evans & Browning (1956), Krantz (1962), Evans & Hyatt (1963), Bregetova (1977) and Mašán (2003). The family includes at least 470 known species, which are currently arranged in 20 genera (Emberson, 2010; Krantz & Moser, 2012).

The genus *Geholaspis* Berlese, 1918 was initially described as a subgenus of a broadly conceived genus *Macrocheles* Latreille, 1829, with *Gamasus longispinosus* Kramer, 1876 as its type species. Falconer (1923) accepted Berlese's classification, but Oudemans (1931) elevated *Geholaspis* to generic rank. Valle (1953) revised *Geholaspis*, described or re-described several species, and divided the genus into three subgenera, namely *Geholaspis* s. str., *Cyrtocheles* Valle, 1953, and *Longicheles* Valle, 1953. The main criteria for this classification were the length of the chelicera compared with the length of the dorsal shield, the distance between dorsal shield setae *j5* and *z5* compared with the length of the dorsal shield, and the dentition of the movable digit of the chelicera. The subgenus *Cyrtocheles* was further recognised by the fusion of the metasternal shields to the endopodal plates. In *Geholaspis* (*Geholaspis*) the metasternal plates are free in the soft integument, and carry the metasternal setae and pores. Most subsequent authors accepted Valle's classification (Evans & Browning, 1956; Bregetova, 1977; Hyatt & Emberson, 1988; Karg, 1993; Mašán, 2003). Emberson (2010) then raised *Longicheles* to generic level, but kept *Geholaspis* (*Geholaspis*) and *Geholaspis* (*Cyrtocheles*) as subgenera of *Geholaspis*. In this classification, *Geholaspis* s. lat. is a small genus of soil mites distributed throughout the Palaearctic region, especially in Europe and Asia (Valle, 1953; Bregetova & Koroleva, 1960; Valle & Mazzoleni, 1967; Krauss, 1970; Hyatt & Emberson, 1988; Mašán, 2003; Özbek & Bal, 2014). The genus appears to represent an unspecialised non-phoretic basal stock from which the rest of the Macrochelidae developed (Krantz, 1998; Emberson, 2010).

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