

**NEW SPECIES OF THE GENUS *GEHOLASPIS* BERLESE, 1918
(ACARI: MESOSTIGMATA: MACROCHELIDAE) FOR TURKISH
FAUNA FROM KELKIT VALLEY**

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ABSTRACT: *Geholaspis longispinosus* (Kramer, 1876) collected from Kelkit Valley were described as a new species for Turkish fauna. Females, deutonymphs and protonymphs of *G. longispinosus* are presented here with diagnosis, descriptions and original drawings.

KEY WORDS: Acari, Mesostigmata, Macrochelidae, *Geholaspis*, Kelkit valley, Turkey.

The family Macrochelidae was created by Vitzthum (1930) and included 470 species in the world (Emberson, 2010). It is a predatory and cosmopolitan mesostigmatic mite feeding on other small invertebrates (Krantz, 1998). Macrochelid mites are not well known in Turkey but are represented by four genera (*Longicheles* Valle, *Macrocheles* Latreille, *Nothrolaspis* Berlese, *Glyptholaspis* Filipponi and Pegazzano) and 15 species have been determined up to now (Bayram and Çobanoğlu, 2005; Erman et al., 2007; Kılıç et al. 2012; Özbek and Bal, 2012, 2013).

The genus *Geholaspis* created by Berlese (1918) and widely distributed in the Palearctic region, especially in Europe, but also recorded in New Zealand by human agency (Emberson, 1973). Eleven species of macrochelid mites belong to the genus *Geholaspis* (Emberson, 2010). *G. longispinosus* is the most recognised species throughout the European zone, but it has not been mentioned in Turkey for about 140 years. We determined that it has a very common species throughout valley.

MATERIALS AND METHODS

Mites were extracted from samples of decomposing matter, debris and moss using compound Berlese funnels. After clearing in lactic acid or Nesbitt's solution, examples of each species were dissected for detailed examination of some structures and mounted in Hoyer's medium for identification. Drawings and examination were attained with drawing tube Nikon Y-IDT and Nikon E-600 type research microscopes. Measurements were made using a Leica DM 4000 B phase-contrast microscope. All type specimens are deposited in the Erzincan University's Acarology Laboratory, Turkey. Notation of the dorsal setae follows Halliday (1986, 1987).

RESULTS AND DISCUSSION

Family Macrochelidae Vitzthum, 1930
Subfamily Macrochelinae Vitzthum, 1930
Tribe Geholaspini Emberson, 2010

Genus *Geholaspis* Berlese, 1918

Type species *Geholaspis longispinosus* (Kramer, 1876)

Dorsal shield having 28 pairs of simple or distally pilose setae; j1 short and densely pilose; some medial dorsal setae aciculate or simple (e.g. j5, j6, z5, z6 and J2). Setae j5 displaced normal position. Sternal shields well sclerotised. Metasternal shields free. Ventrianal shield longer than wide and bearing five pairs of preanal setae. Cheliceral digits short and having fewer than six teeth. Epistome unipart, triangular and apically furcated. Males mostly unknown. (Valle, 1953; Mašan, 2003; Emberson, 2010).

***Geholaspis longispinosus* (Kramer, 1876)**

Examined materials: Ten females and two deutonymphs from moss, Gümüşhane, Köse, 40° 16' 962" N, 39° 37' 858" E, alt. 1867 m, 01 May 2012; five females from moss and grass Gümüşhane, Köse, 40° 16' 618" N, 39° 37' 962" E, alt. 1767 m, 10 May 2012; two females from moss near stream, Gümüşhane, Köse, 40° 18' 562" N, 39° 38' 196" E, alt. 1866 m, 19 May 2012; twelve females and deutonymphs, and a protonymph from moss near stream, Gümüşhane, Köse, 40° 17' 345" N, 39° 38' 316" E, alt. 1899 m, 19 May 2012; twelve females and four deutonymphs from moss in water Gümüşhane, Köse, 40° 17' 342" N, 39° 38' 313" E, alt. 1897 m, 19 May 2012; two females and deutonymphs from grass, Gümüşhane, Köse, 40° 16' 969" N, 39° 37' 866" E, alt. 1862 m, 19 May 2012.

Diagnosis: Dorsal setae j2, j5, j6, z1, z5, z6, s2, J2 and J5 smooth and spine-like, other setae pilose; preanal setae Jv1 short, other preanal setae long; deutosternal groove with six row denticles.

Description. Females (Figure 1. A-F)

Dorsal shield 940-1040 µm long, 500-600 µm wide at the level setae r4, rounded, posteriorly reticulated and bearing 28 pairs of setae. Dorsal setae j2, j5, j6, z1, z5, z6, s2, J2 and J5 simple and spine-like, other setae distally pilose (Figure 1. A). Sternal shield ornamented with polygonal pattern and small punctuates. Shield bearing three pairs of simple setae. Metasternal shield small, oval, free and carrying single simple seta. Genital shield ornamented with small cavities, helmet-like and having a pair of simple setae. Ventrianal shield 395-450 µm long, 490-570 µm wide, reticulated with lines, preanal setae Jv1 short, other preanal setae fairly long, all of the preanal setae simple and spine like (Figure 1. B). Gnathosoma having three pairs of hypostomatic setae and a pair of palpecoxal setae present, all simple; h1 longest, h2 equal length to pc, corniculus slim and long, horn-like (Figure 1. C). Epistome unipart, median process distally furcated (Figure 1. D). Chelicerae well developed, movable digit of chelicerae 85-90 µm long, fixed digit 80-85 µm long at the level base of cheliceral dorsal seta; fixed digit with pilus dentilis and a simple dorsal seta. Arthroal brush densely pilose (Figure 1. E). Tarsus II as in Figure 1. F.

Male: Unknown

Deutonymphs (Figure 2. A-B)

Dorsal shield 655-690 µm long, 375-395 µm wide at the level setae r4, oblong, posteriorly reticulated with punctuate and having 28 pairs of setae. Setae j5, j6, z1, z5, z6, J2 and J5 simple and spine-like, other setae distally pilose (Figure 2. A). Sternal shield narrow, long, bearing a pair of pores and four pairs of setae, setae st1 and st2 distally pilose, other sternal setae simple. Anal shield with a pair of anal setae and a postanal seta (Figure 2. B).

Protonymphs (Figure 3. A-B)

Dorsal shield separated with podonotal and opistosomal shields. Podonotal shield 280-290 μm long, 260-270 μm wide and having 11 pairs of distally pilose setae. Opistosomal shield 170-190 μm long, 230-240 μm wide and having 8 pairs of setae, J2 and J5 simple, other opistosomal setae distally pilose (Figure 3. A). Anal shield with a pair of anal setae and a postanal seta (Figure 3. B).

Distribution: *G. longispinosus* widely distributed in Europe (Valle, 1953; Balogh, 1958; Bregetova and Koraleva, 1960; Krantz, 1972; Hyatt and Emberson, 1988; Mařán, 2003) and recorded in New Zealand (Emberson, 1973).

Notes: *G. longispinosus* is an edaphic mite with widely ecological tolerance (Mařán, 2003). This species is widely distributed in Europe (Valle, 1953) and very common in moss, litter and humus (Evans and Browning, 1956). It has also been recorded in the nests of small mammals (Bregetova and Koraleva, 1960). In Kelkit Valley, this species is one of very common macrochelid mites found in stream deposits and moss in localities at altitudes between 1700 and 1900 m.

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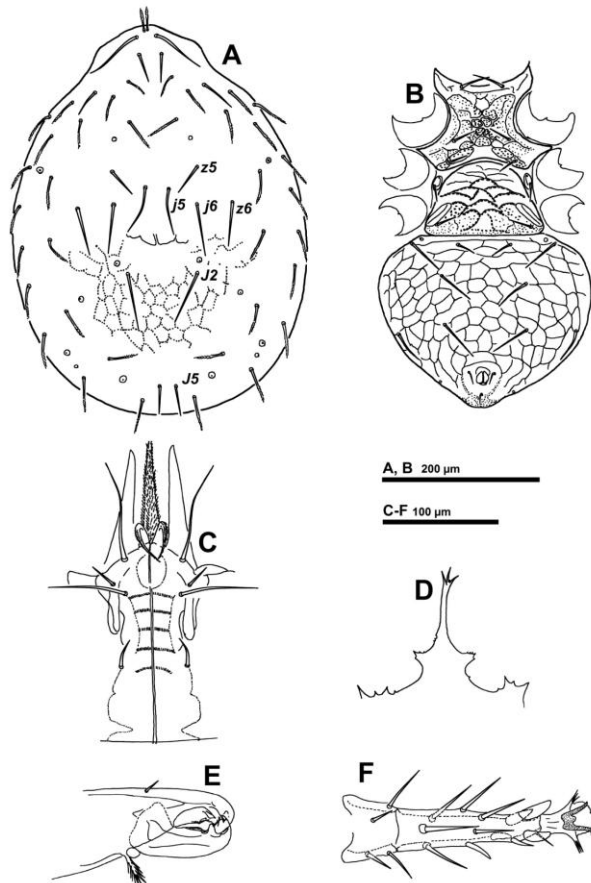


Figure 1. *Geholaspis longispinosus*, Female. A. Dorsal shield, B. Ventral shields, C. Epistome, D. Gnathosoma, E. Chelicera, F. Tarsus II

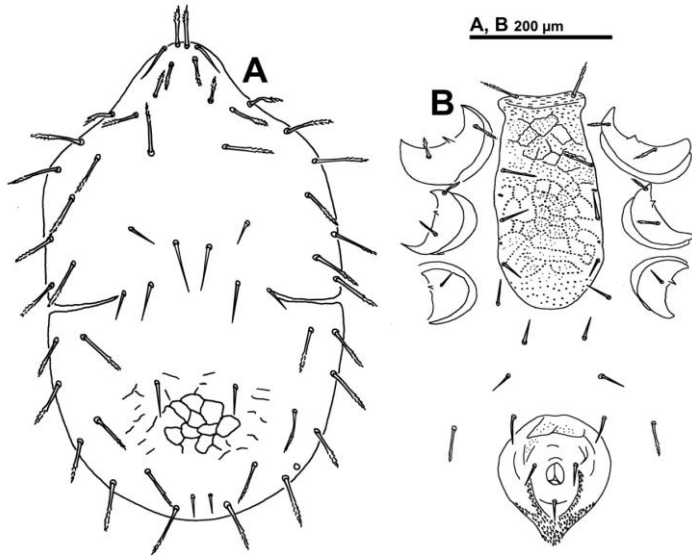


Figure 2. *Geholaspis longispinosus*, deutonymph. A. Dorsal shield, B. Ventral shields.

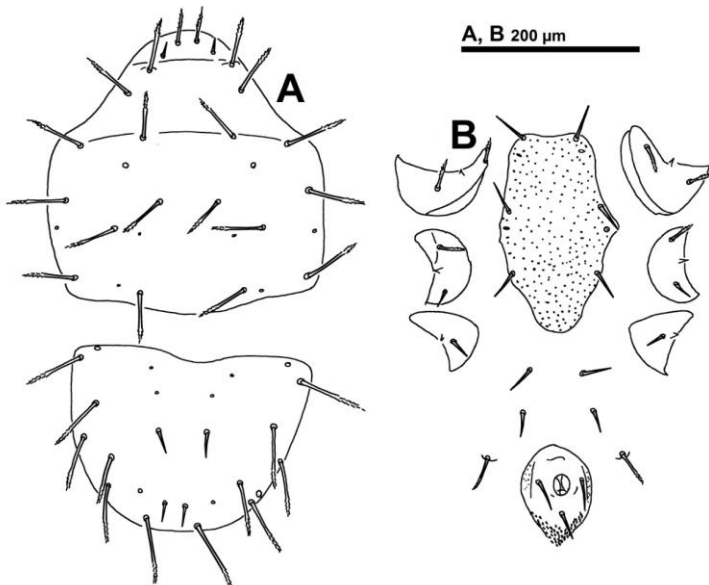


Figure 3. *Geholaspis longispinosus*, protonymph. A. Dorsal shield, B. Ventral shields.