A new macrochelid mite (Acarina: Mesostigmata) associated with *Trox sabulosus* (Coleoptera: Scarabaeidae)

PETER MAŠÁN
Institute of Zoology and Ecosozology, Slovak Academy of Sciences, Mánesovo nám. 2, 851 01 Bratislava, Slovakia

**Taxonomy, Acarina, mite, Macrocheles trogicolis sp. n., Trox sabulosus, phoresy, Slovakia**

**Abstract.** *Macrocheles trogicolis* sp. n., a new macrochelid mite (Acarina: Mesostigmata: Macrochelidae) has been described on the basis of collections from the scarabaeid beetle *Trox sabulosus* (L., 1758) in Slovakia.

**INTRODUCTION**

The adults and larvae of the scarabaeid beetle, *Trox sabulosus* (L.) are necrophagous or saprophagous. In comparison with coprophilous scarabaeids, on which many phoretic macrochelid mites have been found and studied [e.g., Evans & Hyatt (1963); Costa (1966, 1967); Krantz & Mellott (1972); Krantz (1991)], knowledge of the macrochelid associates of the genus *Trox* is limited. Sixl (1971) found phoresy of females of *Macrocheles penicilliger* (Berlese) on *Trox scaber* (L.) in Austria and Mašán (1993) found the same species on *Trox sabulosus* (L.) in Slovakia. Phoresy of *M. penicilliger* on *T. scaber* was observed also by Evans & Browning (1956) in England. Recent studies upon *T. sabulosus* in Slovakia revealed a new species of *Macrocheles*.

*Macrocheles trogicolis* sp. n.

**Female:** Idiosoma length: 710–745 μm, width: 455–480 μm. Dorsum (Fig. 1): Body elongate, elliptical, widest at the level of setae s6. Dorsal shield with 28 pairs of setae, differing in length and form; setae z1, s2, j2, j3, j5, j6, z5, z6, j2 and J5 simple, needle-shaped, setae z1 and j2 very short and indistinct (setal signatures according to Halliday, 1987). Setae z2 thicker than the preceding, similarly needle-shaped, but produced distally into 3–5 needle-like points. Setae r3, r4, s6, S1, Z5 and often S2 thicker basally, narrowed uniformly toward apex, curved moderately, their convex side pubescent. Setae j4, z4, r2, s4, s5, Z1, Z3, Z4, S4 and S5 long, thickened and pubescent distally. Setae j1 only thickened moderately, with denticulated margins, smooth. Dorsum generally reticulated, with 22 pairs of pores.

Venter (Fig. 2): Sternal shield 155–170 μm long and 170–180 μm wide (on the level of setae St2: n = 10), with three pairs of short, needle-like sternal setae, granulated finely laterally. Metasternal shields rounded, each with one seta, genital shield unadorned and with one pair of setae. Ventral anal shield 240–255 μm long and 230–245 μm wide, with three pairs of preanal setae; paranal setae longer than preanal, postanal setae smooth, shield...
Figs 1–5: Macrocheles trogicola** sp. n., female. 1 – dorsum; 2 – venter; 3 – tarsus II; 4 – tectum; 5 – chelicera.

Reticulate as illustrated. With one pair of small metapodal shields and ten pairs of short needle-like opisthogastric setae.
Gnathosoma typical for genus. Chaetotaxy on legs normal, only tarsi II (Fig. 3) with strong spines. Tectum (Fig. 4) with free lateral processes, median process bifurcate distally. Both digits of chelicerae tridentate (Fig. 5). The sacculus complex is not well visible.

Differential Diagnosis: According to the chaetotaxy of the dorsum, *Macrocheles trigosicollis* sp. n. is most similar to *Macrocheles lagodekhensis* Bregetova & Koroleva, 1960, in which the following setae are distally pubescent: j1, j4, z4, z1, z3, z4, s5, s2, s4, s5, s5 and r2 (Bregetova & Koroleva, 1960). The essential difference is in the presence of setae j1 in *M. lagodekhensis*, which are absent in *M. trigosicollis* sp. n. Further differences are in the form of the lateral dorsal setae and in the ornamentation of the sternite shield.

DISTRIBUTION: The species name is derived from the generic name of the phoront beetle on which this species was found for the first time.

MATERIAL EXAMINED: Holotype - 1 ♀: Jakubov (Zahorska nizina lowland), Slovakia, 21 VII 1992, on *Trox sabulosus* (L.) found in decaying felt; paratypes - 3 ♀: & 1 ♂ with the same data, 3 ♀: & 22 IV 1992, Jakubov, 1 ♀: Podunajské Biskupice (Podunajská nizina lowland), Slovakia, 6 V 1992, on *Trox sabulosus* found on remains of a roe-deer cadaver (all leg. author). Holotype and paratypes are deposited in the authors' collection in the Institute of Zoology and Ecoscience of the Slovak Academy of Sciences in Bratislava.

ACKNOWLEDGMENTS: I express my deep thanks to Prof. G.W. Krantz, Department of Entomology, Oregon State University, Corvallis, USA for his criticism and suggestions during the preparation of this paper.

REFERENCES


Received December 6, 1993; accepted January 21, 1994.