

**A NEW SPECIES OF THE GENUS *PYGMEPHORELLUS* (ACARI:
HETEROSTIGMATA: PYGMEPHORIDAE) ASSOCIATED WITH *GEOTRUPES
STERCORARIUS* (COLEOPTERA: GEOTRUPIDAE) FROM CRIMEA**

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ABSTRACT: A new species, *Pygmephorellus tauricus* sp. n., phoretic on *Geotrupes stercorarius* (L.) (Coleoptera: Geotrupidae) is described from Crimea.

KEY WORDS: *Pygmephorellus*, Pygmephoridae, new species, *Geotrupes stercorarius*, Crimea

INTRODUCTION

The genus *Pygmephorellus* Cross et Moser, 1971 *sensu stricto* presently includes two species: *P. ceratophyi* (Krczal 1959) and *P. punctatus* Khaustov, 2005 (Khaustov 2005). Only one species, *P. punctatus*, collected from the dung beetle *Geotrupes stercorarius* (L.) (Coleoptera: Geotrupidae) has been recorded from Ukraine (Khaustov 2005). A new species, *Pygmephorellus tauricus* sp. n., from the beetle *Geotrupes stercorarius* (L.) from Crimea is described in this paper.

MATERIALS AND METHODS

Mites were collected from the coxae of the beetles and mounted on slides in Berlese's medium. In the description, the terminology follows Lindquist (1986). All measurements are given in micrometers (μm) for holotype and five paratypes (in parenthesis).

SYSTEMATICS

Family Pygmephoridae Cross, 1965

Genus *Pygmephorellus* Cross et Moser, 1971

Pygmephorellus tauricus Khaustov sp. n.

Figs. 1–6.

Description. Female. Idiosomal length: 236 (194–233), maximal width 127 (105–128).

Gnathosoma (Figs. 1,2). Two pairs of dorsal setae ch_1 and ch_2 present. Pair of ventral setae su present. Palp with 2 pairs of setae (dGe and dFe), small ventral solenidion, and accessory setigenous structure. Dorsal medial apodeme weakly developed.

Idiosomal dorsum (Fig. 1). Tergites with large dimples distributed mainly in central part. Cupules ia , im , and ih large, oval. Dorsal setae strong, except for smooth v_1 , e , and h_2 . Setae sc_2 , c_2 , and h_1 pointed. Setae e slightly posterior to setae f . Length of dorsal setae: v_1 12 (11–13), v_2 14 (14–15), sc_2 54 (49–58), c_1 29 (27–29), c_2 58 (48–59), d 33 (30–33), e 15 (15–16), f 44 (38–43), h_1 56 (49–60), h_2 11 (11–12). Distances between dorsal setae: v_1-v_1 18 (18–20),

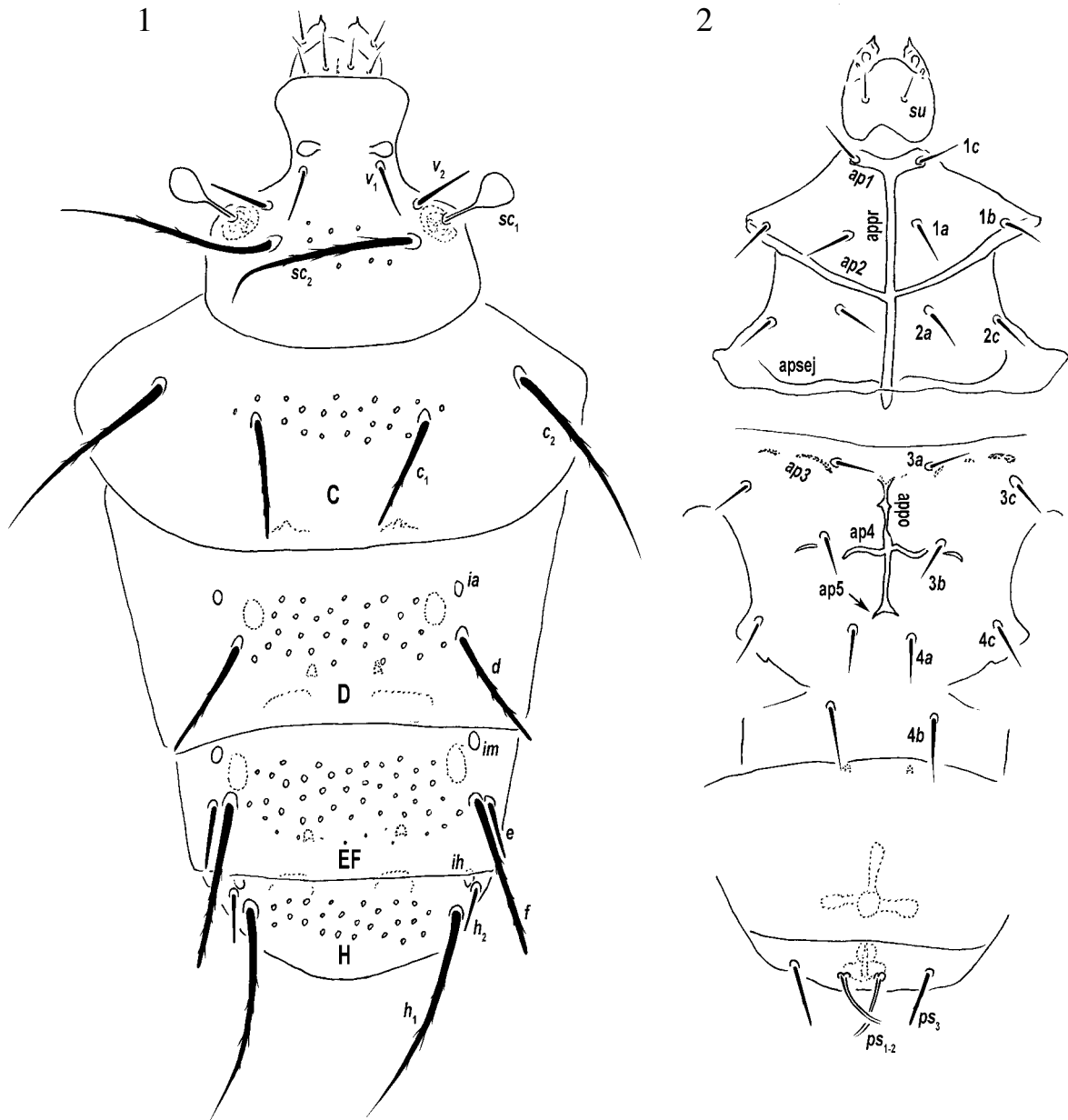
v_2-v_2 37 (36–38), sc_2-sc_2 36 (33–37), c_1-c_1 42 (36–40), c_1-c_2 28 (20–28), $d-d$ 56 (48–57), $e-f$ 5 (4–5), $f-f$ 62 (50–59), h_1-h_1 52 (44–53), h_1-h_2 7 (7–8). Trichobothrium with thin stem, distally spherical.

Idiosomal venter (Fig. 2). All ventral setae smooth, except ps_3 , which serrated and blunt-ended. All ventral plates smooth. $Ap1$ and $ap2$ well developed and joined with presternal apodeme ($appr$); sejugal apodeme ($apsej$) well developed in medial part and strong laterally; apodemes 3 ($ap3$) weakly developed and consist of two separated sclerites. Apodemes 4 ($ap4$) well sclerotized and reach beyond setae $3b$, apodemes 5 ($ap5$) weakly developed, short and joined with poststernal apodeme ($appo$). Length of ventral setae: $1a$ 9 (9–10), $1b$ 14 (13–15), $1c$ 14 (13–15), $2a$ 11 (10–12), $2c$ 11 (10–12), $3a$ 11 (11–12), $3b$ 11 (11–12), $3c$ 10 (10–11), $4a$ 10 (10–12), $4b$ 18 (17–22), $4c$ 13 (12–15), ps_1 , ps_2 16 (15–17), ps_3 14 (12–14).

Legs (Figs. 3–6). Leg I (Fig. 3): Tr 1 – Fe 4 – Ge 4 – Ti+Ta 17 (4) (number of solenidia in parenthesis). Tibiotarsus thickened, with massive claw. Solenidia ω_1 9(7–8) > ϕ_1 7(6–7) > ω_2 6(4–5) = ϕ_2 5(4–5); ω_1 and ϕ_1 finger-shaped, distinctly thicker than ϕ_2 and ω_2 . Setae dFe widened, hook-like. Setae $l''GeI$ blunt-ended. Leg II (Fig. 4): Tr 1 – Fe 3 – Ge 3 – Ti 4 – Ta 6. Tarsus with sickle-like non-padded claws. Solenidion ω 8(5–7) finger-shaped. Setae tc' spine-like, with few barbs. Leg III (Fig. 5): Tr 1 – Fe 2 – Ge 2 – Ti 4 – Ta 6. Claws of same shape as on tarsus II. Setae tc' spine-like, with few barbs. Leg IV (Fig. 6): Tr 1 – Fe 2 – Ge 1 – Ti 4 – Ta 6. Tarsus with two well developed simple claws. Setae $v''TrIV$, $v''FeIV$, $v''GeIV$, $pl''TaIV$, and $v''TiIV$ blunt-ended.

Male, non-phoretic female, and larva unknown.

Type material. Female holotype, slide AK240607, UKRAINE, Crimea, Yalta, on coxae of *Geotrupes stercorarius* (L.), 24 June 2007, coll.



Figs. 1, 2. *Pygmephorellus tauricus* sp. n., female: 1 — dorsum, 2 — venter.

A.A. Khaustov; paratype: 5 females, with same data as holotype.

Type depositories. Holotype is deposited in the collection of the Department of Acarology, Shmalgausen Institute of Zoology, Kiev, Ukraine; paratypes are in the collection of Nikita Botanical Gardens, Yalta, Ukraine.

Etymology. The name of the new species refers to its geographical distribution.

Differential diagnosis. The new species most similar to *P. punctatus* Khaustov, 2005, but differs by smooth ventral plates (with large dimples in *P. punctatus*), by position of setae h_2 distinctly anterior to h_1 (h_2 and h_1 on the same level in *P. punctatus*), and by much shorter distance between bases of setae h_1 – h_2 .

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