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A NEW SPECIES OF THE GENUS *SPATULAPHORUS* (ACARI: HETEROSTIGMATA: PYGMEPHORIDAE) ASSOCIATED WITH *COPRIS LUNARIS* (COLEOPTERA: SCARABAEIDAE) FROM CRIMEA

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ABSTRACT: A new species, *Spatulaphorus copridis* sp. n., phoretic on *Copris lunaris* L. (Coleoptera: Scarabaeidae) is described from Crimea.

KEY WORDS: *Spatulaphorus*, Pygmephoridae, new species, *Copris lunaris*, Crimea

INTRODUCTION

The genus *Spatulaphorus* Rack 1993 presently includes 7 species (Dastych, Rack and Camerik 1997, Khaustov 2005) associated with different dung beetles (Coleoptera: Scarabaeidae). Three species have been described and recorded from Ukraine: *Spatulaphorus geotruporum* Khaustov, 2005, *S. vladimiri* Khaustov, 2005, and *S. geotrupi* (Mahunka, 1970) and all of them were collected from beetles of the genus *Geotrupes* (Khaustov 2005). During study of heterostigmatic mites of Crimea, a new species of *Spatulaphorus copridis* sp. n., was collected from the dung beetle *Copris lunaris* L. (Coleoptera: Scarabaeidae) from Crimea. The purpose of this paper is to describe the new species.

MATERIALS AND METHODS

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

SYSTEMATICS

Family Pygmephoridae Cross, 1965
Genus *Spatulaphorus* Rack, 1993
Spatulaphorus copridis Khaustov sp. n.

Figs. 1–6.

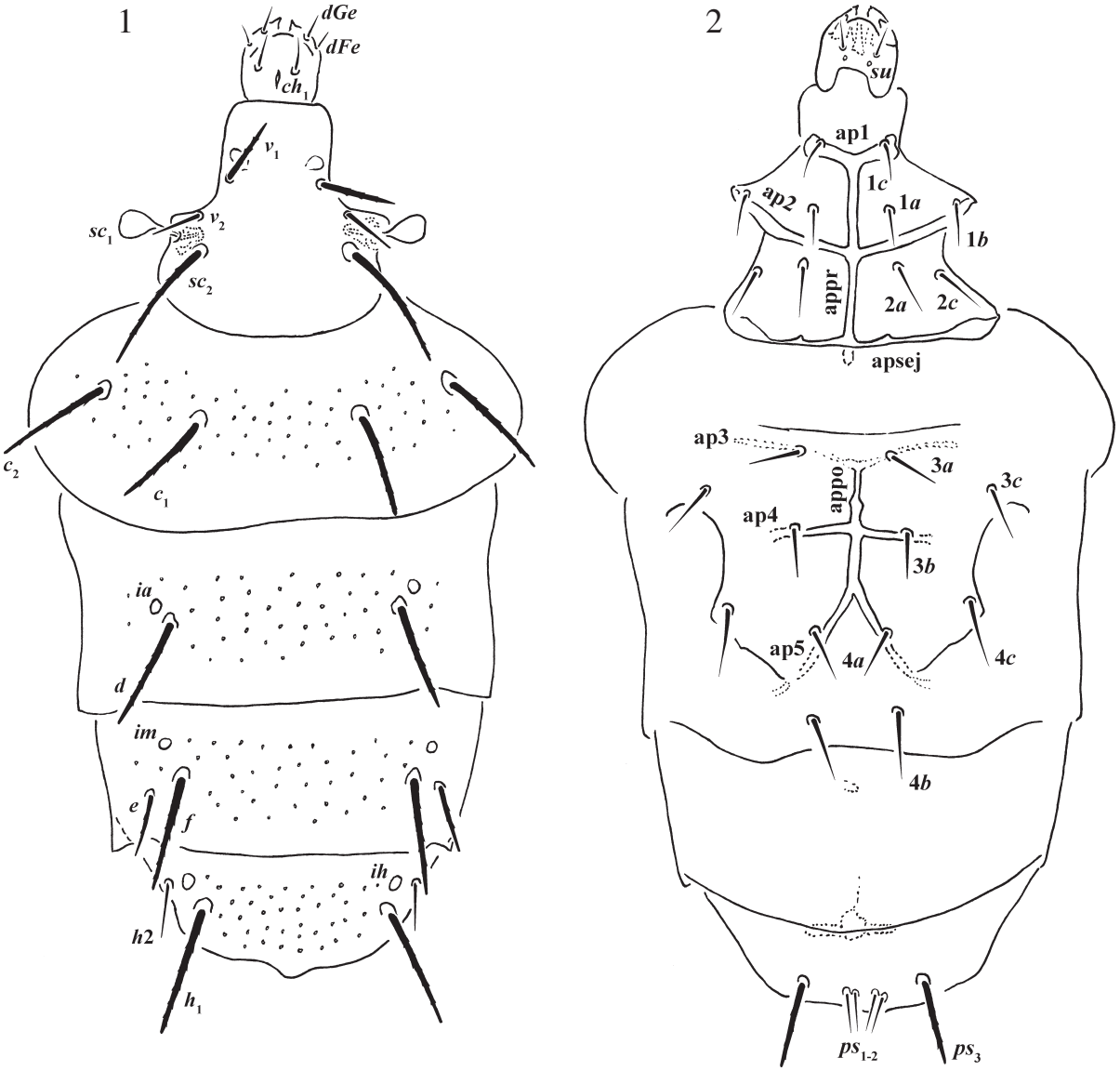
Description. Female. Idiosomal length: 205 (174–227), maximum width 117 (111–120).

Gnathosoma (Figs. 1–2). Pair of dorsal setae ch_1 present. Pair of ventral setae *su* present. Palp with 2 pairs of setae *d*Ge and *d*Fe, small ventral solenidion, and accessory setigenous structure. Dorsal medial apodeme weakly developed.

Idiosomal dorsum (Fig. 1). Tergites with distinct dimples distributed mainly in central part. Cupules *ia*, *im*, and *ih* small, round. Dorsal setae strong, barbed, and blunt-ended, except for pointed h_2. Setae *e* posterior to setae *f*. Length of dorsal setae: v_1 19 (18–20), v_2 12 (11–12), sc_2 34 (30–34), c_1 27 (24–27), c_2 30 (29–31), *d* 28 (27–28), *e* 16 (15–16), *f* 28 (28–29), h_1 32 (29–32), h_2 13 (12–14). Distances between dorsal setae: v_1–v_1 20 (18–20), v_2–v_2 32 (31–33), sc_2–sc_2 33 (31–35), c_1–c_1 37 (33–37), c_1–c_2 23 (20–23), *d*–*d* 55 (46–56), *e*–*f* 7 (6–7), *f*–*f* 55 (46–55), h_1–h_1 43 (37–43), h_1–h_2 10 (9–10). Trichobothrium with thin stem, distally spherical.

Idiosomal venter (Fig. 2). All ventral setae smooth, except ps_3, which serrated and blunt-ended. 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 reach beyond bases of setae 3*a*. Apodemes 4 (ap4) well sclerotized and reach beyond setae 3*b*, apodemes 5 (ap5) well developed and joined with poststernal apodeme (appo). Length of ventral setae: 1*a* 8 (7–9), 1*b* 7 (7–8), 1*c* 9 (9–10), 2*a* 10 (9–10), 2*c* 11 (9–11), 3*a* 11 (10–11), 3*b* 10 (9–10), 3*c* 10 (9–10), 4*a* 10 (9–10), 4*b* 16 (13–16), 4*c* 13 (11–13), ps_1, ps_2 10 (9–10), ps_3 19 (17–19).

Legs (Figs. 3–6). Leg I (Fig. 3): Tr 1 – Fe 4 – Ge 1 – Ti+Ta 17 (4) (number of solenidia in parenthesis). Tibiotarsus thickened, with massive claw. Solenidia ω_1 6 > φ_1 5 > ω_2 4 = φ_2 4; ω_1 and φ_1 finger-shaped, distinctly thicker than φ_2 and ω_2. Setae *d*Fe broadened, spatulate. Setae *l′GeI* blunt-ended. Leg II (Fig. 4): Tr 1 – Fe 3 – Ge 1 – Ti 4 (1) – Ta6(1). Tarsus with sickle-like padded claws. Solenidion ω (5) finger-shaped, solenidion φ depressed, weakly visible. Setae *dFeII* blunt-ended. Leg III (Fig. 5): Tr 1 – Fe 2 – Ge 1 – Ti 4 (1) – Ta 6. Claws of same shape as on tarsus II. Solenidion φ not observed. Setae *dFeIII* blunt-ended. Leg IV (Fig. 6): Tr 1 – Fe 2 – Ge 0 – Ti 4 (1) – Ta 6. Tarsus with two well developed simple claws. Solenidion φ not observed. Setae *dFeIV*, *dTiIV*, and *v″ TiIV* blunt-ended.



Figs. 1–2. *Spatulaphorus copridis* sp. n., female: 1 — dorsum, 2 — venter.

Male, non-phoretic female, and larva unknown.

Type material. Female holotype, slide # AK210506, UKRAINE, Crimea, Yalta, under elytra of *Copris lunaris* L., 21 May 2006 (coll. A. A. Khaustov); paratypes: 17 females, with same data as holotype.

Type depositories. The holotype is deposited at 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 new species refers to the generic name of its host beetle.

DIFFERENTIAL DIAGNOSIS

The new species considerably differs from all known species of the genus *Spatulaphorus* by having one setae on genu I (two in other species).

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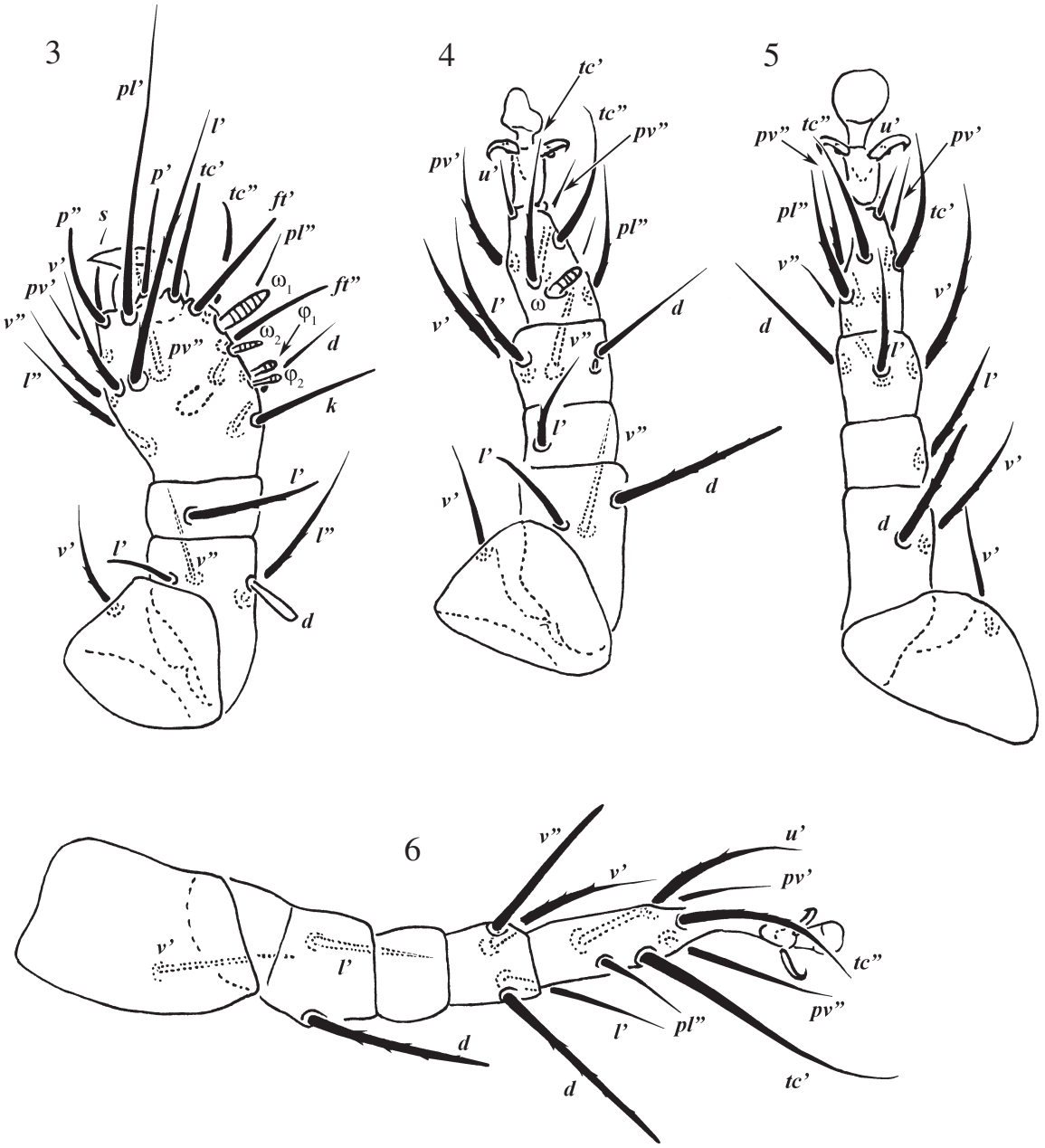

Figs. 3–6. *Spatulaphorus copridis* sp. n., female legs I–IV, respectively.

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