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NEW AND LITTLE KNOWN SPECIES OF MITES OF THE GENUS *CAESARODISPUS* (ACARI, HETEROSTIGMATA, MICRODISPIDAE) ASSOCIATED WITH ANTS (HYMENOPTERA, FORMICIDAE) FROM UKRAINE

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New and Little Known Species of Mites of the Genus *Caesarodispus* (Acari, Heterostigmata, Microdispidae) Associated with Ants (Hymenoptera, Formicidae) from Ukraine. Khaustov A. A. — Mites of the genus *Caesarodispus* Mahunka, 1977 of Ukraine are reviewed. *Caesarodispus pusillus* Khaustov, sp. n. from nest of ants *Crematogaster schmidti* Mayr from the Cape Martyan Nature Reserve (Crimea) is described. Type material of *Caesarodispus minutus* (Sevastianov, 1981) comb. n. is redescribed. *Caesarodispus modestus* (Berlese, 1903) collected from ants *Messor rufitarsis* Fabricius is redescribed based on material from Crimea.

Key words: Pygmephoroidea, Microdispidae, *Caesarodispus*, new species, redescription, ants, Ukraine.

Новый и малоизвестные виды клещей рода *Caesarodispus* (Acari, Heterostigmata, Microdispidae), связанные с муравьями (Hymenoptera, Formicidae), из Украины. Хаустов А. А. — Дан обзор клещей рода *Caesarodispus* Mahunka, 1977 с территории Украины. Описан *Caesarodispus pusillus* Khaustov, sp. n., собранный из гнезда муравьев *Crematogaster schmidti* Mayr в заповеднике «Мыс Мартьян» (Крым). Переописан типовой материал *Caesarodispus minutus* (Sevastianov, 1981) comb. n. Приведено описание *Caesarodispus modestus* (Berlese, 1903), собранного с муравьев *Messor rufitarsis* Fabricius из Крыма.

Ключевые слова: Pygmephoroidea, Microdispidae, *Caesarodispus*, новый вид, переописание, муравьи, Украина.

Introduction

Presently the genus *Caesarodispus* Mahunka, 1977 contains 5 described species: *C. gaius* Mahunka, 1977 (type species) from France, from ants *Myrmica sabuleti* Mein (Mahunka, 1977), *C. modestus* (Berlese, 1903) from Italy (Mahunka, 1980), *C. brevipes* Mahunka, 1981 from Hungary, from nest of ants (Mahunka, 1981), *C. mahunkai* Sevastianov et Abo-Korah, 1985 from soil in Egypt (Sevastianov, Abo-Korah, 1985), and *C. klepzigi* Khaustov et Moser 2008 from ants *Solenopsis invicta* Buren from the USA (Khaustov, Moser, 2008). The study of paratypes of *Microdispus minutus* Sevastianov, 1981 revealed that this species also belongs to the genus *Caesarodispus*. In the study of heterostigmatic mites of Cape Martyan Nature Reserve (Crimea, Ukraine) a new species of the genus *Caesarodispus* associated with ants *Crematogaster schmidti* Mayr was found.

Material and methods

Mites were collected from ants and mounted on slides in Berlese medium. Morphological structures were studied in light microscope with phase contrast devise. Drawings made with aid of drawing tube. The morphological terminology follows Lindquist (1986). All measurements are given in micrometers (μm). Type material is deposited in the collection of the Nikita Botanical Gardens, Yalta, Ukraine.

Systematics

Genus *Caesarodispus* Mahunka, 1977

Type species: *Caesarodispus gaius* Mahunka, 1977.

Diagnosis. Female. Gnathosomal capsule elongate, with 2 pairs of dorsal setae, ventrally with 1 pair of setae. Palps with 2 dorsolateral setae *dFe* and *dGe* and small ter-

minal claw. Pharynx well sclerotized, second pharyngeal pump large, transversely striated, pharyngeal pumps 1 and 3 small, vestigial. Prodorsum with 1 pair of short simple setae sc_2 and pair of capitate trichobothriae. Dorsal hysterosomal setae usually weakly barbed or smooth, rarely incrassate. Cupuli *ia* and *ih* small, round. Ventral idiosomal setae usually thin, smooth, apodemes 2 usually weakly developed. Setae 4*a* present, setae ps_2 absent. Posterior margin of posterior sternal plate entire. Leg I distinctly shorter than leg II. Tibiotarsus I without claw. Leg chaetotaxy: leg I: Tr1–Fe3 or 2–Ge4–TiTa16(4), leg II: Tr1–Fe3–Ge3–Ti4(1)–Ta6(1), leg III: Tr1–Fe2–Ge2–Ti4(1)–Ta6, leg IV: Tr1–Fe2–Ge1–Ti4–Ta6. Tibiotarsus I always with seta *s*, 4 solenidia and 5 eupathidia.

Caesarodispus modestus (Berlese, 1903) (fig. 1, 2)

Materaial studied. 10 ♀, Crimea, vicinity of Yalta, on ants *Messor rufitarsis* F., 1.02.2000 (Khaustov); 21 ♀, Crimea, vicinity of Yalta, on ants *Messor rufitarsis*, 19.01.2002 (Coll. A. A. Khaustov).

Female. Idiosoma 160–170 length, maximum width 110–115.

Gnathosoma (fig. 1, *1–2*) about 1.5 times longer that its width, dorsally with two pairs of cheliceral setae. Dorsal medial apodeme absent. Palps with subequal setae *dFe* and *dGe*. Gnathosoma ventrally with 1 pair of subcapitular setae. Pharyngeal pumps 1 and 3 small, vestigial, pharyngeal pump 2 large, well sclerotized, transversely striated.

Idiosomal dorsum (fig. 1, *1*). All tergites smooth. Stigmata oval. Trichobothriae capitate. All dorsal setae pointed and weakly barbed, except very short and smooth sc_2. Bases of setae *e* associated with small oblique aligned apodemes. Posterior part of tergite EF with distinct transverse scleritized line. Length of dorsal setae: sc_2 10–12,

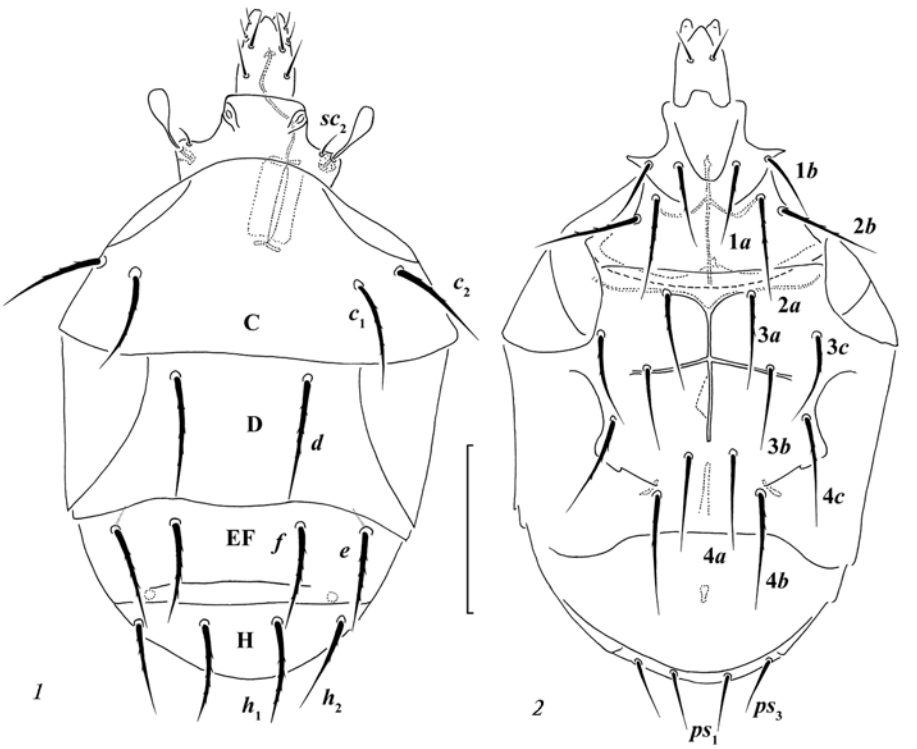

Fig. 1. *Caesarodispus modestus*, ♀: *1* — dorsum of the body; *2* — venter of the body. Scale bar 50 μm.

Рис. 1. *Caesarodispus modestus*, ♀: *1* — дорсальная сторона тела; *2* — вентральная сторона тела. Масштабная линейка 50 мкм.

c_1 32–34, c_2 32–38, *d* 36–39, *e* 31–33, *f* 31–34, h_1 31–33, h_2 29–34. Distances between dorsal setae: sc_2-sc_2 32–34, c_1-c_1 61–63, c_1-c_2 12–14, *d*-*d* 35–37, *e*-*f* 15–18, *f*-*f* 36–39, h_1-h_1 20–22, h_1-h_2 19–21.

Idiosomal venter (fig. 1, *2*). Apodemes 1 not developed. Apodemes 2 joined with presternal apodeme to form ω-like structure. All ventral plates smooth. Ventral setae 1*a*, 2*a*, 3*a*, and 3*c* weakly barbed, other ventral setae smooth. Posterior margin of posterior sternal plate concave in middle part. Apodemes 3 well developed, long. Apodemes 4 long, reaching beyond bases of setae 3*b*. Apodemes 5 absent. Posterior margin of aggenital plate rounded. Length of ventral setae: 1*a* 29–32, 1*b* 17–21, 2*a* 26–29, 2*b* 34–37, 3*a* 28–30, 3*b* 25–28, 3*c* 34–36, 4*a* 28–30, 4*b* 39–42, 4*c* 29–33, ps_1 16–18, ps_3 17–18.

Legs (fig. 2, *1–3*). Leg I (fig. 2. *1*) distinctly shorter than leg II. Setation of legs I (number of solenidia in parenthesis): Tr1–Fe3–Ge4–TiTa16(4). Tibiotarsus I without claws. Solenidia ω_1 9–10, ω_2 8–9, φ_1 5–6, φ_2 10–11. Solenidion ω_1 cylindrical. Solenidion φ_1 baculiform. Solenidia ω_2 and φ_2 uniformly thin. Leg II (fig. 2, *2*): Tr1–Fe3–Ge3–Ti4(1)–Ta6(1). Tarsus with sickle-like simple claws. Solenidion ω (7–8) cylindrical. Solenidion φ small, difficult to see. Leg III: Tr1–Fe2–Ge2–Ti4(1)–Ta6. Solenidion φ small, difficult to see. Leg IV (fig. 2, *3*): Tr1–Fe2–Ge1–Ti4–Ta6. Pretarsus short, with small simple claws. Setae *d* on tibia IV strongly barbed.

Male and larva unknown.

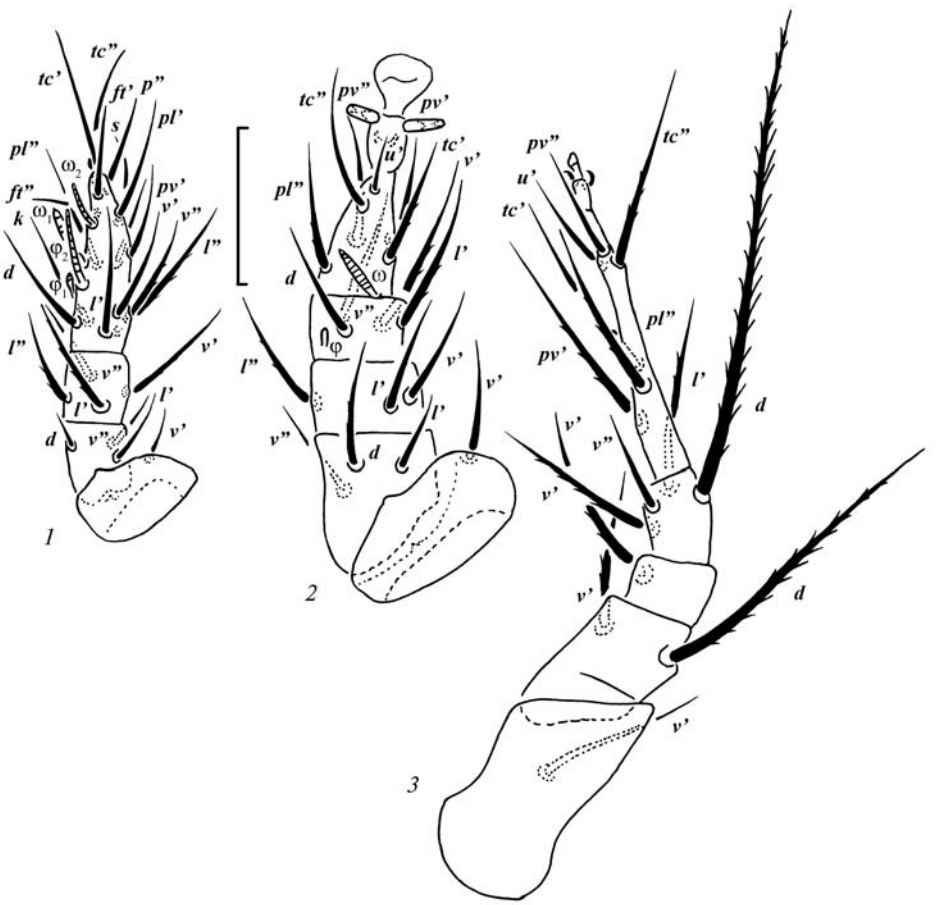

Fig. 2. *Caesarodispus modestus*, ♀: *1–3* — legs I, II and IV, respectively. Scale bar 20 μm.

Рис. 2. *Caesarodispus modestus*, ♀: *1–3* — ноги I, II и IV соответственно. Масштабная линейка 20 мкм.

Distribution. This species was described from Italy (Berlese, 1903) from ants *Messor barbarus* Linnaeus. First record from Ukraine.

Remarks. Mahunka (1980) redescribed holotype of this species from the Berlese collection, but provided only figures of dorsal and ventral side of idiosoma. In this paper I redescribe this species based on materials from Crimea.

Caesarodispus minutus (Sevastianov, 1981) **comb. n.** (fig. 3, 4)

Materiale studied. 6 female paratypes, Ukraine, vicinity of Odessa, bank of Kuyalnik estuary, on ants *Tetramorium caespitum*, 2.05.1962 (Coll. V. D. Sevastianov).

Female. Idiosoma 133 length, maximum width 88.

Gnathosoma (fig. 3, *1–2*). Gnathosomal capsule similar with that of *C. modestus*.

Idiosomal dorsum (fig. 3, *1*). All tergites smooth. Stigmata oval. Trichobothriae lanceolate. All dorsal setae pointed and barbed, except very short and smooth sc_2. Length of dorsal setae: sc_2 5, c_1 28, c_2 33, *d* 43, *e* 35, *f* 42, h_1 31, h_2 25. Distances between dorsal setae: sc_2-sc_2 23, c_1-c_1 37, c_1-c_2 13, *d*-*d* 34, *e*-*f* 11, *f*-*f* 28, h_1-h_1 13, h_1-h_2 12.

Idiosomal venter (fig. 3, *2*). Apodemes 1 not developed. Apodemes 2 absent. Presternal apodeme disrupted. All ventral plates smooth. All ventral setae weakly barbed. Posterior margin of posterior sternal plate convex in middle part. Apodemes 3 well developed, long. Apodemes 4 long, reaching beyond bases of setae 3*b*. Apodemes 5 absent. Posterior margin of aggenital plate rounded. Length of ventral setae: 1*a* 24, 1*b* 18, 2*a* 29, 2*b* 25, 3*a* 30, 3*b* 22, 3*c* 30, 4*a* 28, 4*b* 36, 4*c* 23, ps_1 18, ps_3 21.

Legs (fig. 4, *1–2*). Leg chaetotaxy as in *C. modestus*. Leg I (fig. 4, *1*) almost two times shorter than leg II. Tibiotarsus I without claws. Solenidia ω_1 10, ω_2 4, φ_1 4, φ_2 8.

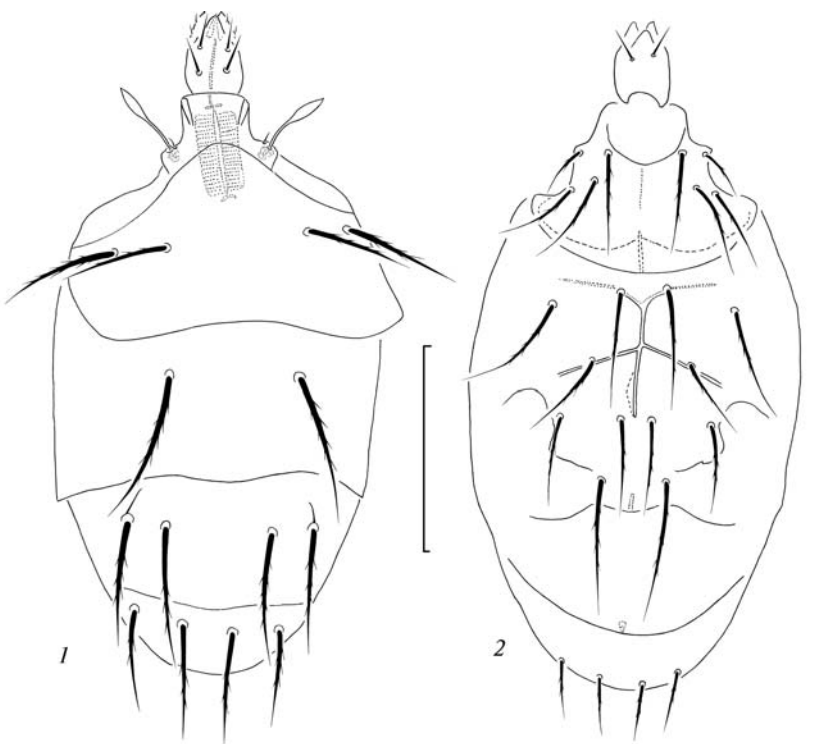

Fig. 3. *Caesarodispus minutus* comb. n., ♀: *1* — dorsum of the body; *2* — venter of the body. Scale bar 50 μm.

Рис. 3. *Caesarodispus minutus* comb. n., ♀: *1* — дорсальная сторона тела; *2* — вентральная сторона тела. Масштабная линейка 50 мкм.

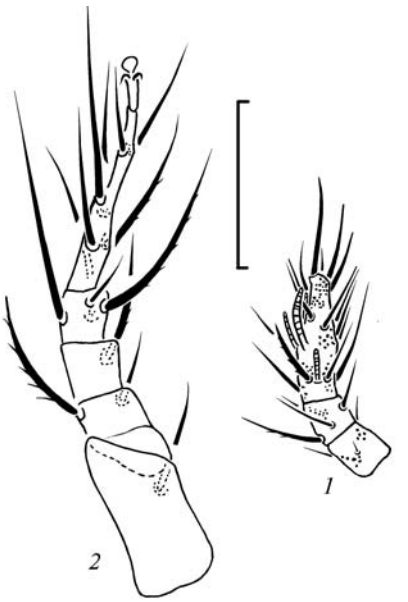

Fig. 4. *Caesarodispus minutus* comb. n., ♀: *1–2* — legs I and IV, respectively. Scale bar 20 μm.

Рис. 4. *Caesarodispus minutus* comb. n., ♀: *1–2* — ноги I и IV соответственно. Масштабная линейка 20 мкм.

Solenidia ω_1 cylindrical. Solenidion φ_1 baculiform. Solenidia ω_2 and φ_2 uniformly thin. Leg II. Tarsus with sickle-like simple claws. Solenidion ω (7) cylindrical. Solenidion φ small, difficult to see. Leg III. Solenidion φ small, difficult to see. Leg IV (fig. 4, *2*). Pretarsus short, with small simple claws. Setae *d* on femur IV distinctly barbed and blunt-ended.

Male and larva unknown.

Distribution. This species was described from Ukraine (Sevastianov, 1981) from ants *Tetramorium caespitum*.

Remarks. Sevastianov (1981) described this species in the genus *Microdispus* Paoli, 1911 but it considerably differs from *Microdispus* by the following characters: leg I much shorter than leg II (in *Microdispus* legs I and II are subequal), pharyngeal pump 2 very large (small in *Microdispus*). Based on these characters I transfer this species into the genus *Caesarodispus*.

Caesarodispus pusillus Khaustov, **sp. n.** (fig. 5, 6)

Type material. Holotype ♀, Crimea, "Cape Martyan" Nature Reserve, in nest of ants *Crematogaster schmidti* Mayr under bark of *Pinus pallasiana* D. Don., 11.01.2000 (Coll. A. A. Khaustov). Paratypes: 14 ♀, with same data as holotype.

Female. Idiosoma 155 (146–160) length, maximum width 90 (85–95).

Gnathosoma (fig. 5, *1–2*). Gnathosomal capsule similar to that of *C. modestus*.

Idiosomal dorsum (fig. 5, *1*). All tergites with numerous small dimples. Stigmata oval. Trichobothriae capitate. All dorsal setae incrassate, pointed and sparsely barbed, except very short and smooth sc_2. Bases of setae *e* associated with small oblique aligned apodemes. Length of dorsal setae: sc_2 7 (6–7), c_1 33 (32–34), c_2 38 (35–38), *d* 39 (37–39), *e* 29 (26–30), *f* 34 (32–34), h_1 24 (23–28), h_2 22 (20–23). Distances between dorsal setae: sc_2-sc_2 26 (24–26), c_1-c_1 25 (24–26), c_1-c_2 13 (12–14), *d-d* 34 (33–35), *e-f* 16 (15–17), *f-f* 24 (23–25), h_1-h_1 14 (13–15), h_1-h_2 13 (12–14).

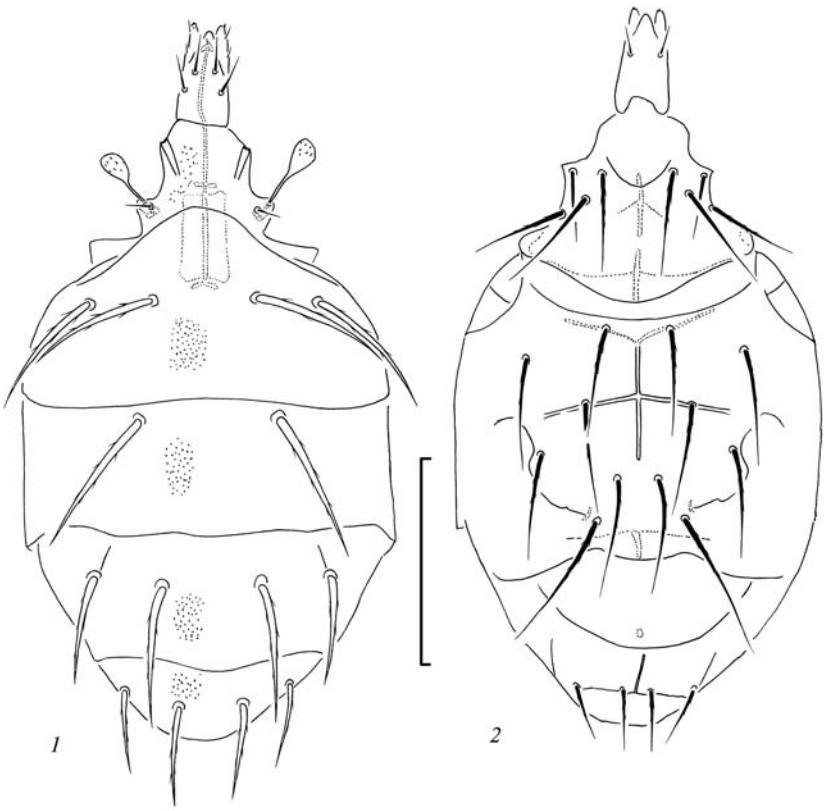

Fig. 5. *Caesarodispus pusillus*, ♀: *1* — dorsum of the body; *2* — venter of the body. Scalebar — 50 μm.

Рис. 5. *Caesarodispus pusillus*, ♀: *1* — дорсальная сторона тела; *2* — вентральная сторона тела. Масштабная линейка 50 мкм.

Idiosomal venter (fig. 5, *2*). Apodemes 1 not developed. Apodemes 2 vestigial and joined with presternal. Presternal apodeme disrupted. All ventral plates smooth. Ventral setae 1*b*, 2*a*, smooth, other ventral setae weakly barbed. Posterior margin of posterior sternal plate conxex in middle part. Apodemes 3 well developed, long. Apodemes 4 long, reaching beyond bases of setae 3*b*. Apodemes 5 absent. Posterior margin of aggenital plate rounded. Length of ventral setae: 1*a* 24 (23–26), 1*b* 14 (13–16), 2*a* 31 (29–32), 2*b* 24 (23–25), 3*a* 28 (26–32), 3*b* 33 (30–34), 3*c* 32 (28–33), 4*a* 27 (26–29), 4*b* 39 (36–42), 4*c* 28 (28–29), ps_1 14 (13–15), ps_3 13 (13–15).

Legs (fig. 6, *1–3*). Leg I (fig. 6, *1*) much shorter than leg II. Setation of legs as in *C. modestus*. Solenidia ω_1 8 (7–8), ω_2 6 (6–7), φ_1 6 (5–6), φ_2 5 (4–5). Solenidion ω_1 cylindrical. Solenidion φ_1 baculiform, situated dorsally. Solenidia ω_2 and φ_2 uniformly thin. Setae *v'GeI* thickened, strongly barbed. Leg II (fig. 6, *2*). Tarsus with sickle-like padded claws. Solenidion ω 5 (5–6) cylindrical. Solenidion φ small, difficult to see. Leg III. Solenidion φ small, difficult to see. Leg IV (fig. 6, *3*). Pretarsus short, with small simple claws. Setae *d* on femur IV strongly barbed, thickened.

Male and larva unknown.

Etymology. The name of new species refers to its extremely small size.

Differential diagnosis. The new species most similar to *C. minutus* (Sevastianov, 1981) comb. n. but differs by thicker dorsal setae, spherical trichobothriae (lanceolate in *C. minutus*), presence of minute apodemes 2 (absent in *C. minutus*), and thick and strongly barbed setae *v'GeI* (simple in *C. minutus*).

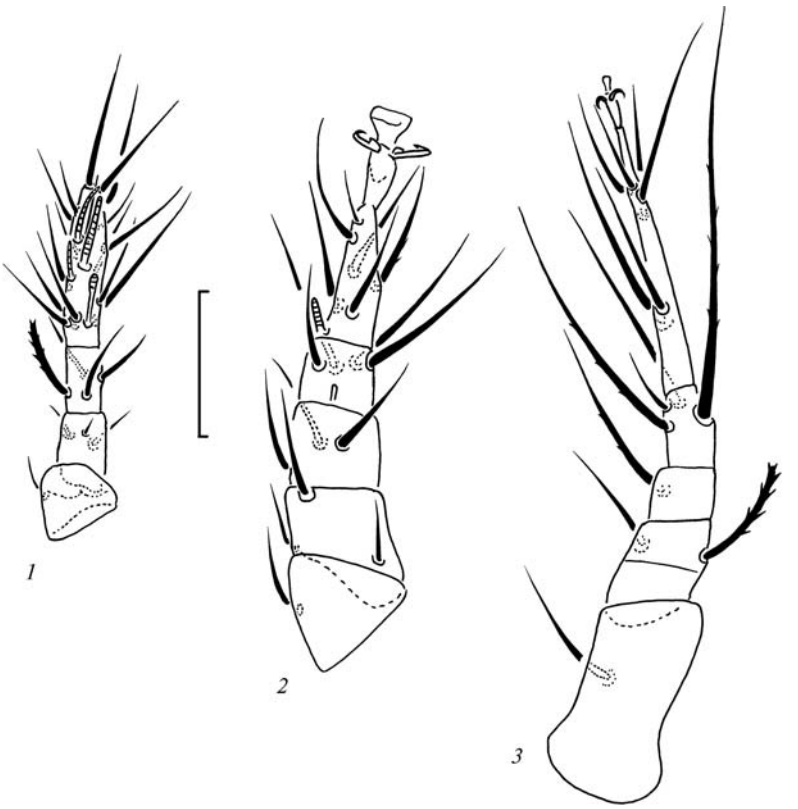

Fig. 6. *Caesarodispus pusillus*, ♀: *1–3* — legs I, II and IV, respectively. Scale bar 20 μm.

Рис. 6. *Caesarodispus pusillus*, ♀: *1–3* — ноги I, II и IV соответственно. Масштабная линейка 20 мкм.

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