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A DESCRIPTION OF NEW GENUS, *KERDABANIA* GEN. N., WITH FOUR NEW SPECIES (ACARI: HETEROSTIGMATA: NEOPYGMEPHORIDAE)

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ABSTRACT: A new genus *Kerdabania* gen. n. is proposed (Acari: Neopygmephoridae). Four new species: *Kerdabania magnifica* sp. n., *K. elongata* sp. n., *K. minuta* sp. n., and *K. variabilis* sp. n. are described from Ukraine. *Kerdabania longiclavata* (Savulkina, 1977), comb. n. (from *Bakerdania*), *K. kochi* (Krczal, 1959) comb. n. (from *Pygmephorus*), and *K. inconspicuus* (Berlese, 1904) comb. n. (from *Pygmephorus*) are redescribed. The following species were transferred to *Kerdabania*: *K. fatmae* (Sevastianov, Abo-Korah, 1985) comb. n. (from *Bakerdania*), *K. madagassicus* (Mahunka, Mahunka-Papp, 1994) comb. n. (from *Pseudopygmephorus*), *K. dracenae* (Rack et Kaliszewski, 1985) comb. n. (from *Bakerdania*), *K. arctica* (Thor, 1934) comb. n. (from *Pediculoides*). A key to species is given.

KEY WORDS: Neopygmephoridae, *Kerdabania*, new genus, new species, key

INTRODUCTION

During a study of neopygmephorid mites of the genera *Bakerdania* Sasa, 1961 and *Pseudopygmephorus* Cross, 1965, I found group of species which are distinct from typical representatives of these genera. I propose a new genus, *Kerdabania* gen. n. (family Neopygmephoridae), for them. These taxa include previously described species placed in *Bakerdania, Pseudopygmephorus* or *Pygmephorus* (Sevastianov, 1978, Mahunka, Mahunka-Papp, 1990, Kurosa, 1980, Cross, 1965, Mahunka, 1980, 1986, Smiley, 1978) as well as four new species. The purpose of this paper is to describe and diagnose the new genus, describe the new species, redescribe previously known species and provide a key to species. In this paper I follow the system of Pygmephoroidea proposed by Khaustov (2008).

MATERIALS AND METHODS

Mites were extracted from soil samples using Berlese's extraction and mounted on slides (Berlese's medium). In the description, the terminology follows Lindquist (1986). All measurements are given in micrometers (μm) for holotype and, if available, for 5 paratypes (in parenthesis). In descriptions the number of solenidia is given n parenthesis.

SYSTEMATICS

Family Neopygmephoridae Cross, 1965

Genus *Kerdabania* Khaustov gen. n.

Type species: *Kerdabania magnifica* sp. n.

Description. **Female**. Gnathosoma. Gnathosomal capsule longer than width. Dorsal gnathosoma with one pair of setae (ch_2) and one pair of postpalpal setae which usually difficult to see; setae ch_1 absent. Dorsal medial apodeme usually absent. Ventral gnathosoma with 1 pair of setae *su* and sometimes with pair of alveoles of setae su_1. Palps free articulated with gnathosomal capsule, with setae *dFe* and *dGe* dorsolaterally, one small solenidion and accessory setigenous structure ventrally and terminated with small claw. Pharyngeal pump II less than 2 times longer than pump III.

Idiosomal dorsum. Prodorsum with 2 pairs of setae (v_2, sc_2) and pair of capitate trichobothria (sc_1) and pair of oval stigmata. Posterior margin of prodorsal plate usually straight and distinctly separated from tergite C by area of soft cuticle. Posterior margin of tergites C and D usually deeply concave. Two pairs of cupules (*ia*, *ih*) present on tergites D and H respectively. Cupules *im* absent. Sometimes pair of oval pits present near the bases of setae c_1.

Idiosomal venter. Epimeres I and II with two pairs of setae each. Setae 1*b* sometimes bifurcate. Apodemes 2 joined with presternal apodeme or not. Apodemes 3 and 4 usually well developed and form closed areas together with poststernal apodeme. Apodemes 5 absent. Seate 4*a* present or absent. All setae of posterior sternal plate usually smooth, relatively short. Posterior margin of posterior sternal plate divided into 3 parts, median part forms distinct lobus. Three pairs of pseudanal setae (ps_1–ps_3) which usually simple, not modified.

Legs. Leg I. Tibiotarsus of leg I cylindrical, without pinnaculum, tarsal claw small, simple, situated on distinct elongated pretarsus. Modified setae *u'* and *u"* absent. Setae *k* smooth, eupathidium-like. Setae *dFeI* hook-like. Setal formula: Tr1–Fe3–Ge4–TiTa16(4). Leg II. Setal formula: Tr1–Fe3–Ge3–Ti4(1)–Ta6(1). Setae *pl"* and *tc'* sometimes spiniform. Claws simple, empodium

large. Leg III. Setal formula: Tr1–Fe2–Ge2–Ti4(1)–Ta6. Setae *pl"* sometimes spiniform. Claws and empodium as on leg II. Leg IV. Setal formula: Tr1–Fe2–Ge1–Ti4(1)–Ta6. Claws well developed, simple, empodium large. Tarsus IV not extremely long, with short pretarsus.

Male and **larva** not available.

Diagnosis. The new genus is similar to genera *Bakerdania* Sasa, 1961 and *Pseudopygmephorus* Cross, 1965. From both genera it differs by the presence of only one pair of dorsal gnathosomal setae (2 pairs in *Bakerdania* and *Pseudopygmephorus*), by the tripartite posterior margin of the posterior sternal plate (entire in *Bakerdania* and *Pseudopygmephorus*). From *Pseudopygmephorus* the new genus differs by solenidion ω_1 which is not fused with tibiotarsus (in *Pseudopygmephorus* solenidion ω_1 completely fused with tibiotarsus).

Species included. *Kerdabania inconspicuus* (Berlese, 1904) comb. n. (=*Pigmephorus (sic) inconspicuous* Berlese, 1904, *Pygmephorus sellnicki* Krczal, 1958, *Scutacarus centriger* Cooreman, 1951), *K. quadrata* (Ewing, 1917) comb. n. (=*Pigmephorus (sic) quadratus* Ewing, 1917), *K. kochi* (Krczal, 1959) comb. n. (=*Pygmephorus kochi* Krczal, 1959), *K. longiclavata* (Savulkina, 1977) comb. n. (=*Bakerdania longiclavata* Savulkina, 1977), *K. arctica* (Thor, 1934) comb. n. (=*Pediculoides arcticus* Thor, 1934), *K. dracenae* (Rack et Kaliszewski, 1985) comb. n. (=*Bakerdania dracenae* Rack et Kaliszewski, 1985), *K. madagassicus* (Mahunka, Mahunka-Papp, 1994) comb. n., *K. fatmae* (Sevastianov, Abo-Korah, 1985) comb. n. (=*Bakerdania fatmae* Sevastianov, Abo-Korah, 1985, *Kerdabania magnifica* sp. n., *K. elongata* sp. n., *K. minuta* sp. n., and *K. variabilis* sp. n.

Distribution and **habitat**. Worldwide, except for Antarctica. Soil, forest litter, and nests of small mammals. Phoresy unknown.

Etymology. The genus name is an anagram of *Bakerdania* Sasa, of feminine gender.

Kerdabania magnifica Khaustov sp. n.

Figs. 1–6

Description. Female. Idiosomal length: 310 (220–315), width 155 (137–158).

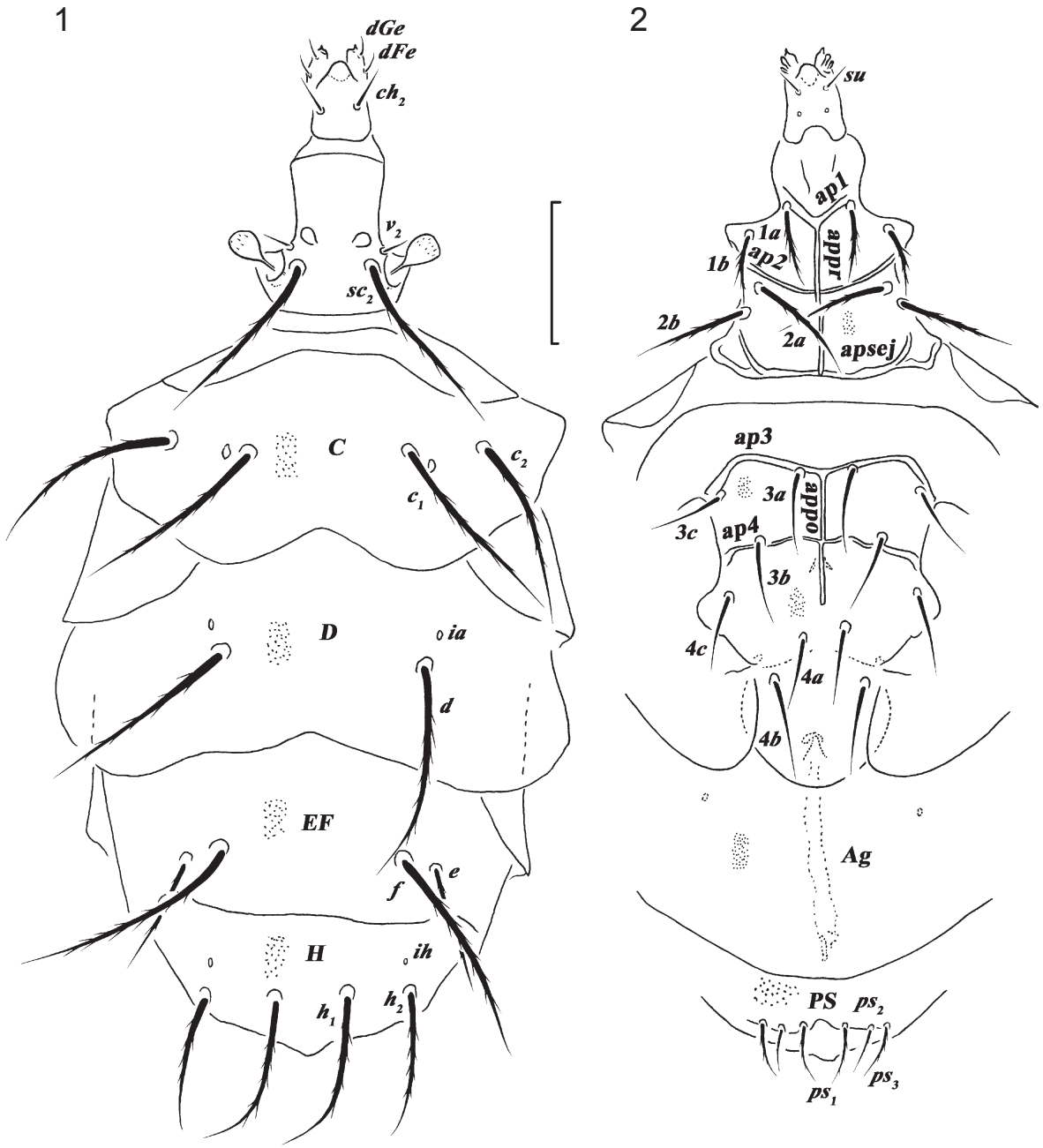
Gnathosoma (Figs. 1–2). One pairs of dorsal setae, ch_2 present. Pair of ventral setae *su* present. Palp with 2 pairs of setae *d*Ge and *d*Fe, small ventral solenidion, and accessory setigenous structure. Dorsal medial apodeme absent.

Idiosomal dorsum (Fig. 1). Tergites with numerous small dimples. Stigmata small, oval. Dorsal setae distinctly barbed, and pointed, except for smooth v_2. Posterior margins of tergites C and D distinctly concave. Tergite Cwith oval pits situated laterally to setae c_1. Length of dorsal setae: v_2 12 (12–13), sc_2 70 (64–74), c_1 70 (66–76), c_2 73 (62–78), *d* 71 (61–82), *e* 44 (35–45), *f* 80 (70–84), h_1 61 (55–64), h_2 56 (50–57). Distances between dorsal setae: v_2–v_2 28 (24–28), sc_2–sc_2 25 (23–25), c_1–c_1 58 (50–68), c_1–c_2 24 (18–28), *d*–*d* 70 (59–78), *e*–*f* 13 (11–13), *f*–*f* 63 (53–70), h_1–h_1 23 (20–23), h_1–h_2 22 (19–23). Trichobothrium with short thin stem, distally spherical, barbed.

Idiosomal venter (Fig. 2). All setae of anterior sternal plate distinctly barbed, pointed. Setae 1*b* not bifurcate. All ventral plates with numerous small dimples. Ap1 and ap2 well developed and joined with presternal apodeme (appr); presternal and sejugal (apsej) apodemes well developed; apodemes 3 (ap3) well sclerotized, arch-like and reach bases of setae 3*c*. Apodemes 4 (ap4) well sclerotized and protruding setae 4*c*, apodemes 5 (ap5) not developed. Posterior margin of posterior sternal plate with large lobus. All setae of posterior sternal plate smooth, pointed. Pseudanal setae weakly barbed. Distance between bases of setae ps_1 and ps_2 subequal with distance between ps_2 and ps_3. Length of ventral setae: 1*a* 30 (29–33), 1*b* 23 (22–26), 2*a* 43 (40–44), 2*b* 42 (41–44), 3*a* 28 (23–29), 3*b* 29 (25–30), 3*c* 27 (24–28), 4*a* 25 (24–28), 4*b* 36 (30–37), 4*c* 28 (27–29), ps_1 28 (23–28), ps_2 20 (16–22), ps_3 25 (20–25).

Legs (Figs. 3–6). Leg I (Fig. 3). Tibiotarsus not thickened, with small terminal claw situated on long pretarsus. Solenidia ω_1 10 (8–11) > ω_2 8 (7–9) = ϕ_1 8 (6–8) > ϕ_2 6 (5–6); ω_2 and ϕ_2 uniformly thin, ϕ_1 baculiform, ω_1 finger-shaped. Solenidion ω_2 situated slightly anterior to base of setae *ft'*. Eupathidium *ft"* distinctly shorter than *ft'*. Setae *dFe* broadened, hook-like. Leg II (Fig. 4). Tarsus with sickle-like non-padded claws and large empodium. Solenidion ω 7 (7–8) finger-shaped, solenidion ϕ weakly visible. Setae *dFeII* pointed. Setae *pl"* spiniform, smooth, setae *tc'* spiniform, slightly curved and weakly barbed. Leg III (Fig. 5). Claws of same shape as on tarsus II. Solenidion ϕ weakly visible. Setae *dFeIII* pointed. Setae *pl"* not modified. Leg IV (Fig. 6). Tarsus with two well developed simple claws. Solenidion ϕ weakly visible. All setae of leg IV pointed, setae *v"TiIV* smooth.

Male and **larva** unknown.

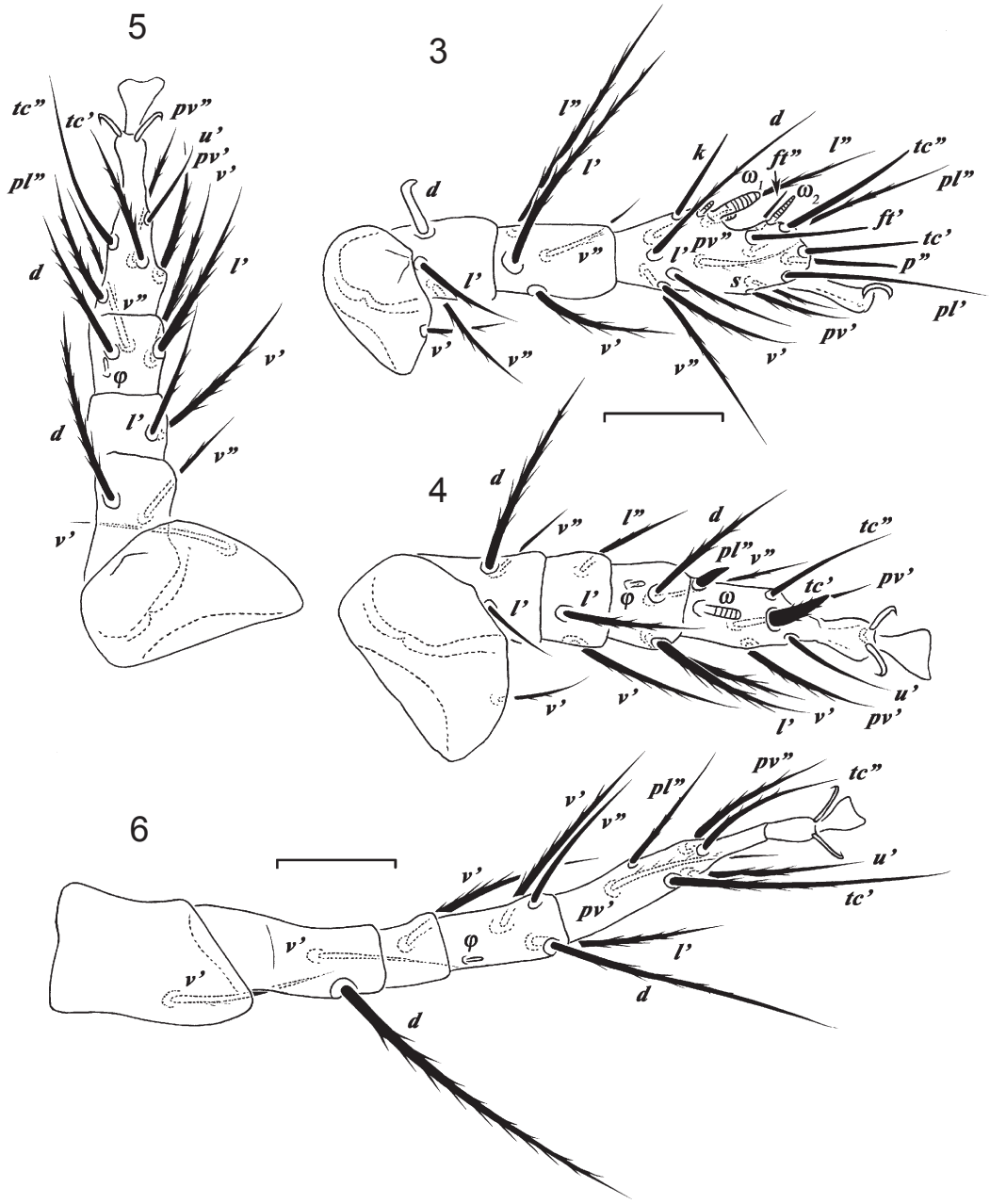


Figs. 1–2. *Kerdabania magnifica* sp. n., female, 1 — dorsum, 2 — venter. Scale bar 50 μm.

Type material. Female holotype, slide # AK170601, UKRAINE, Crimea, Yalta Mountain-forest Nature Reserve, vicinity of Uchan-Su waterfall, in rotten oak log, 17 June 2001, coll. A.A. Khaustov; paratypes: 23 females, same data. Additional material: 1 female, RUSSIA, St.-Petersburg, litter under *Picea abies*, 5 September 2004, coll. M.Y. Mandelshtam, 1 female, UKRAINE, Crimea, Yalta mountain pasture, in nest of small mammal, 11 August 2002, coll. A.A. Khaustov, 1 female, UKRAINE, Kharkov distr., Lozovaya reg., settl. Novoivanovka, in soil, 7 March 2004, coll. A.A. Khaustov, 2 females, UKRAINE, Crimea, Nikita mountain pasture, in nest of ants *Formica pratensis*, 10 November 2002, coll. A.A. Khaustov, 1 female, UKRAINE, Crimea, Nikita mountain pasture, in nest of small mammal, 20 November 2000, coll. A.A. Khaustov, 6 females, UKRAINE, Crimea, Yalta, litter under *Fagus orientalis*, 8 July 2001, coll. A.A. Khaustov.

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

Etymology. The name *magnifica* refers to the relatively large size of the body of the new species.



Figs. 3–6. *Kerdabania magnifica* sp. n., female, 3–6 — legs I–IV, respectively. Scale bar 20 μm.

Differential diagnosis. The new species is similar to *K. quadrata* (Ewing, 1917) redescribed by Smiley (1978), but differs by much longer setae *dFeIV* and *dTiIV*, by pointed dorsal setae (blunt-ended in *K. quadrata*).

Kerdabania elongata Khaustov sp. n.

Figs. 7–12

Gnathosoma. Similar to that of *K. magnifica* sp. n.

Description. **Female**. Idiosomal length 250 (238), width 113 (110).

Idiosomal dorsum (Fig. 7). Body distinctly elongate. All tergites smooth. All dorsal setae weakly barbed. Dorsal setae *d* blunt-ended, other setae pointed. Stigmata very small, round. Trichobothria barbed, capitate, distally with long spine. Tergites C and D distinctly concave. Length of dorsal setae: v_2 15 (14), c_1 38 (44), c_2 53 (60), *d* 34 (36), *e* 19 (20), *f* 67 (81), h_1 55 (68), h_2 53 (58). Distances between dorsal setae: v_2–v_2 20 (19), c_1–c_1 36 (34), c_1–c_2 19 (19), *d*–*d* 40 (44), *e*–*f* 8 (6), *f*–*f* 42 (44), h_1–h_1 18 (18), h_1–h_2 12 (13).

Idiosomal venter (Fig. 8). All ventral plates smooth. Ventral setae 1*a*, 2*a*, 2*b* weakly barbed, other ventral setae smooth. Setae 1*b* smooth, not bifurcate. Setae 3*a* and 3*b* needle-like. Apodemes 2 joined with appr on one side and not reach appr

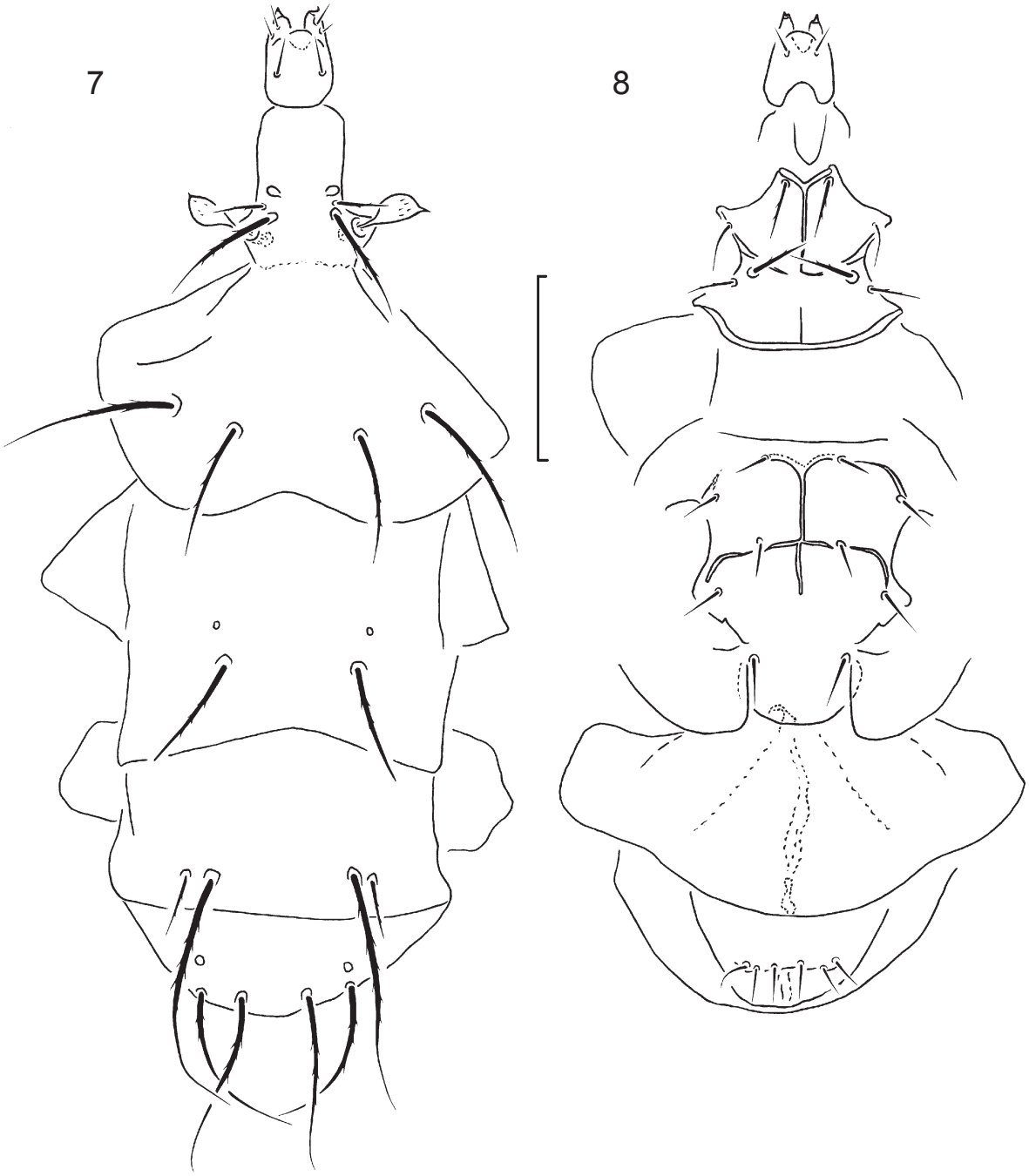
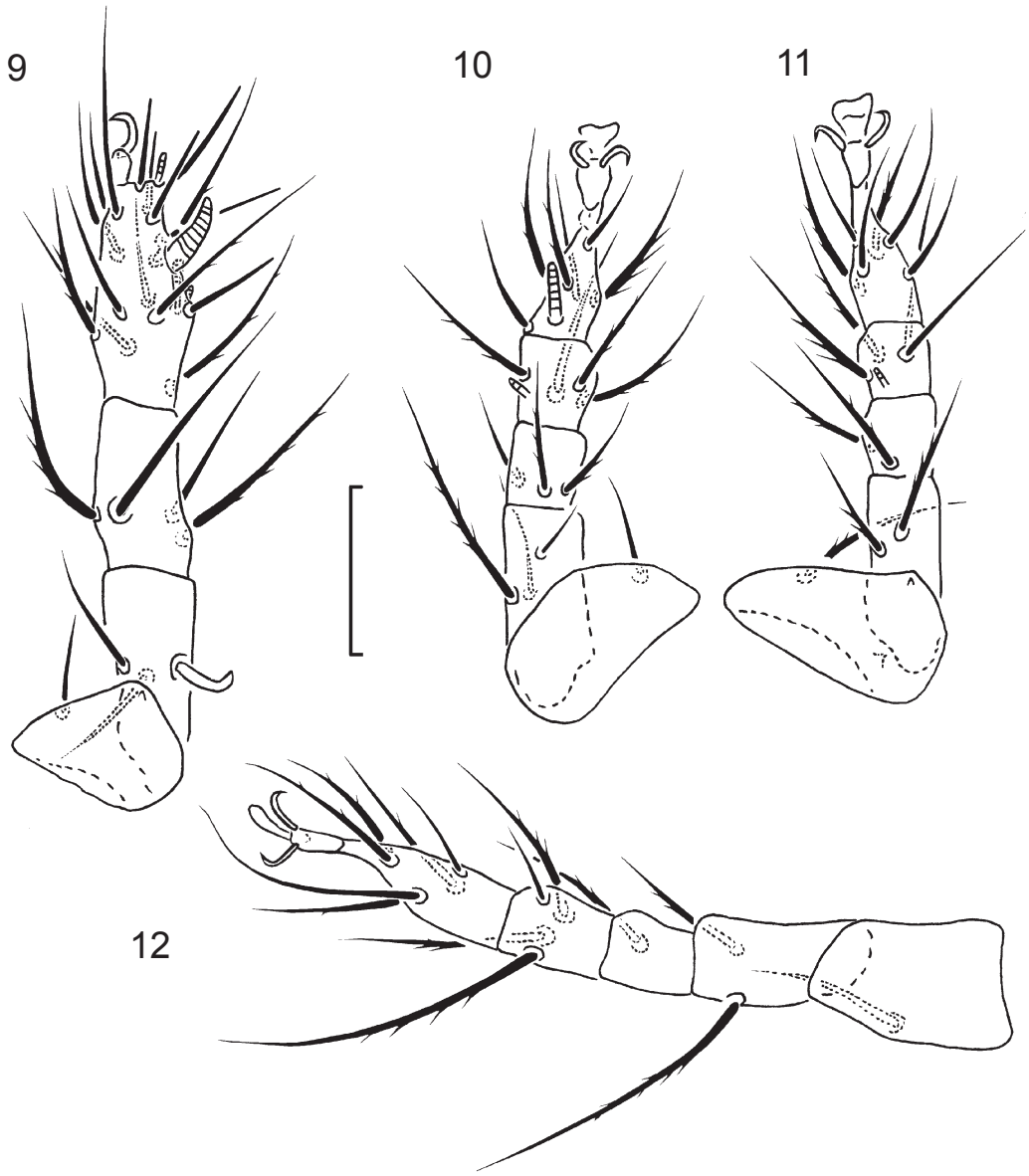


Fig. 7–8. *Kerdabania elongata* sp. n., female, 7 — dorsum, 8 — venter. Scale bar 50 μm.

on another side of the same specimen (in both available specimens). Appr weakly sclerotized, indistinct in medial part. Apsej well sclerotized. Apodemes 3 weakly sclerotized, diffuse. Apodemes IV long, protruding setae 4*c*. Apodemes 5 absent. Setae 4*a* absent. Length of ventral setae: 1*a* 16, 1*b* 15, 2*a* 20, 2*b* 14, 3*a* 12, 3*b* 11, 3*c* 13, 4*b* 14, 4*c* 13, ps_1 12, ps_2 10, ps_3 12.

Legs (Figs. 9–12). Tarsi II and III without modified setae. Leg I (Fig. 9). Tibiotarsus not thickened, with small terminal claw situated on elongate pretarsus. Solenidia ω_1 9 > ω_2 6 < ϕ_1 7 > ϕ_2 5; ω_2 and ϕ_2 uniformly thin, ϕ_1 baculiform, ω_1 finger-shaped. Solenidion ω_2 situated near base of setae *tc'*. Eupathidium *ft"* subequal with *ft'*. Setae *dFe* broadened, hook-like. Leg II (Fig. 10). Tarsus with sickle-like non-padded claws and empodium of medium size. Solenidion ω 9 finger-shaped, solenidion ϕ weakly visible. Leg III (Fig. 11). Claws of same shape as on tarsus II. Solenidion ϕ weakly visible. Setae *dFeIII* pointed. Leg IV (Fig. 12). Tarsus with two well developed simple claws and thin elongated empodium. Solenidion ϕ not evident. All setae of leg IV pointed, setae *v"TiIV* smooth.

Male and **larva** unknown.



Figs. 9–12. *Kerdabania elongata* sp. n., female, 9–12 — legs I–IV, respectively. Scale bar 20 μm.

Type material. Female holotype, slide # AK100302, UKRAINE, Crimea, vicinity of Yalta, in sod near small lake, 10 March 2002, coll. A.A. Khaustov; paratype: 1 female, same data as holotype.

Type depositories. Holotype deposited at the collection of the Department of Acarology, Shmalgausen Institute of Zoology, Kiev, Ukraine; one paratype in the collection of Nikita Botanical Gardens, Yalta, Ukraine.

Etymology. The name of the new species refers to the elongated body.

Differential diagnosis. The new species is similar to *K. longiclavata* (Savulkina, 1977) but differs by the shape of the posterior margins of tergites C and D (see redescription of *K. longiclavata*), by the pointed setae c_1 (blunt-ended in *K. longiclavata*), and by the position of solenidion ω_2 near the base of setae *tc'* (in *K. longiclavata* ω_2 is situated near solenidion ω_1).

Kerdabania minuta Khaustov sp. n.

Figs. 13–19

Description. Female. Idiosomal length: 205 (196–227), width 109 (102–118).

Gnathosoma. Similar to that of *K. magnifica* sp. n.

Idiosomal dorsum (Fig. 13). Tergites smooth. Stigmata relatively large, oval. Dorsal setae distinctly barbed, and pointed, except for smooth v_2. Posterior margins of tergites C and D distinctly concave. Length of dorsal setae: v_2 10 (10–12), sc_2

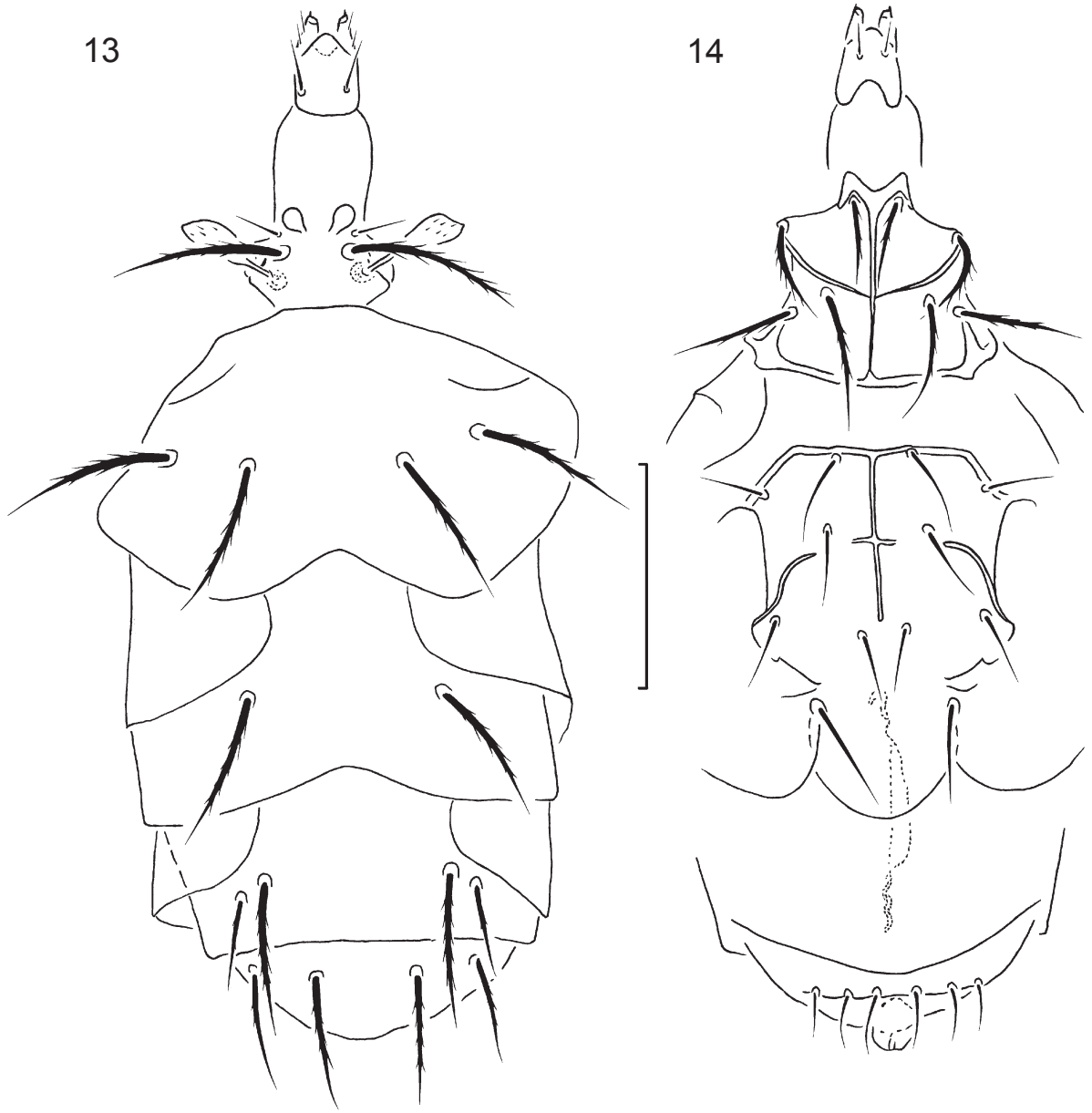
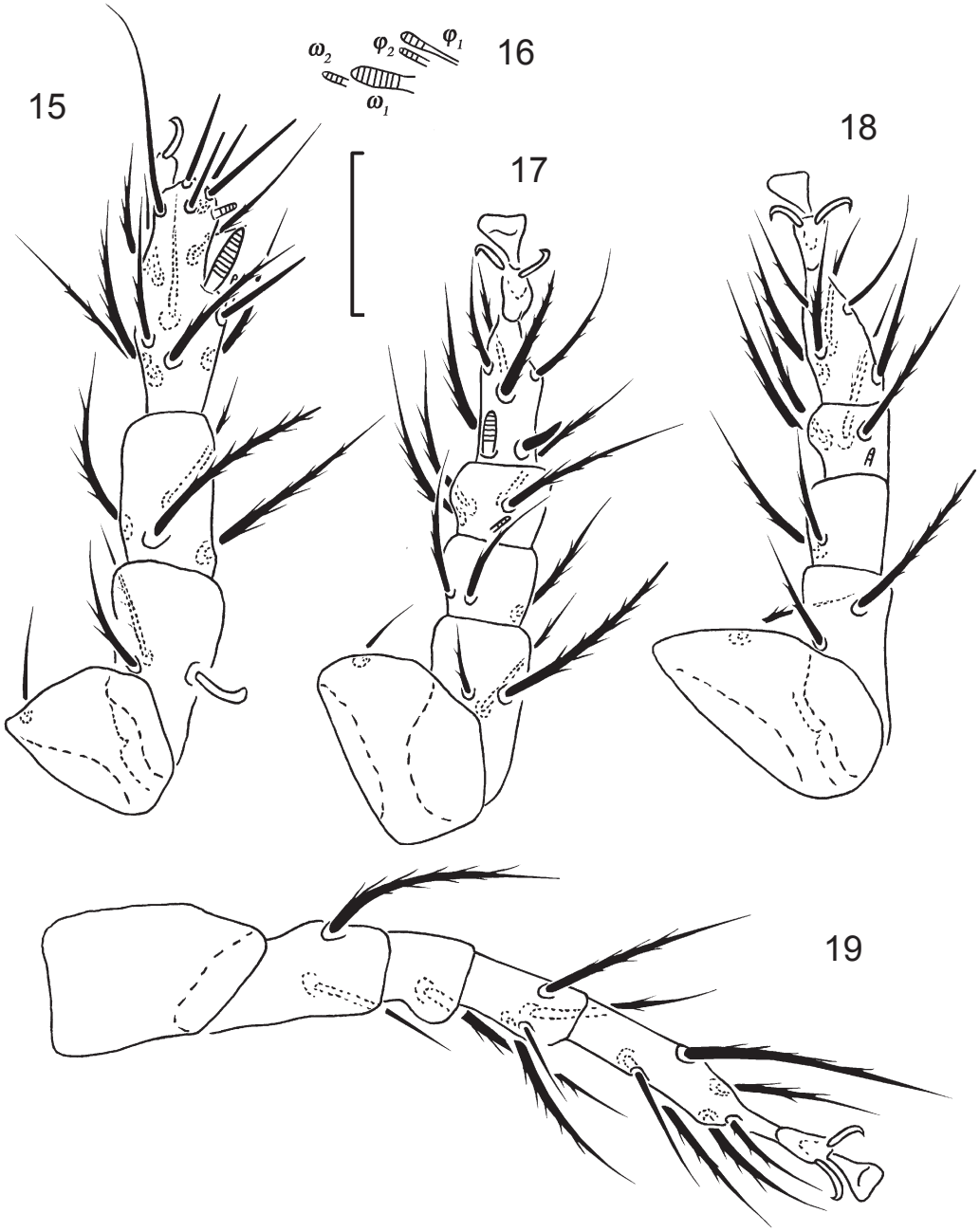


Fig. 13–14. *Kerdabania minuta* sp. n., female, 13 — dorsum, 14 — venter. Scale bar 50 μm.

49 (42–53), c_1 44 (34–45), c_2 43 (37–44), *d* 34 (30–35), *e* 25 (20–25), *f* 38 (29–40), h_1 36 (30–36), h_2 32 (27–32). Distances between dorsal setae: v_2–v_2 15 (15–17), sc_2–sc_2 14 (14–16), c_1–c_1 38 (36–38), c_1–c_2 16 (16–20), *d*–*d* 44 (42–47), *e*–*f* 8 (7–8), *f*–*f* 43 (35–44), h_1–h_1 22 (20–24), h_1–h_2 14 (13–15). Trichobothrium with short thin stem, distally spherical, barbed.

Idiosomal venter (Fig. 14). All setae of anterior sternal plate distinctly barbed, pointed. Setae 1*b* not bifurcate. All ventral plates smooth. Ap1 and ap2 well developed and joined with appr; appr and apsej well developed; apodemes 3 well scleritized, arch-like and reach bases of setae 3*c*. Apodemes 4 well sclerotized and protruding setae 4*c*, but broken on level of setae 3*b*, apodemes 5 not developed. Posterior margin of posterior sternal plate with large lobus. All setae of posterior sternal plate smooth, pointed. Setae 4*a* in some specimens absent. Pseudanal setae smooth. Distance between bases of setae ps_1 and ps_2 subequal with distance between ps_2 and ps_3. Length of ventral setae: 1*a* 22 (20–23), 1*b* 25 (22–26), 2*a* 32 (27–36), 2*b* 33 (28–34), 3*a* 23 (15–24), 3*b* 20 (14–20), 3*c* 17 (14–18), 4*a* 17 (13–17), 4*b* 29 (22–29), 4*c* 20 (15–22), ps_1 17 (13–17), ps_2 16 (12–16), ps_3 15 (11–15).

Legs (Figs. 15–19). Leg I (Figs. 15–16). Tibiotarsus not thickened, with small terminal claw situated on long pretarsus. Solenidia (Fig. 16) ω_1 8 (7–10) > ω_2 4 (3–5) < ϕ_1 7 (6–9) > ϕ_2 4 (3–5); ω_2 and ϕ_2 uniformly thin, ϕ_1 baculiform, ω_1 finger-shaped. Solenidion ω_2 situated slightly anterior to base of



Figs. 15–19. *Kerdabania minuta* sp. n., female, 15 — leg I, 16 — solenidia of tibiotarsus I, 17–19 — legs II –IV, respectively. Scale bar 20 μm.

setae *ft'*. Eupathidium *ft"* distinctly shorter than *ft'*. Setae *dFe* broadened, hook-like. Leg II (Fig. 17). Tarsus with sickle-like non-padded claws and large empodium. Solenidion ω 7 (6–8) finger-shaped, solenidion ϕ weakly visible. Setae *dFeII* blunt-ended. Setae *pl"* spiniform, smooth, setae *tc'* slightly incrassate and weakly barbed. Leg III (Fig. 18). Claws of same shape as on tarsus II. Solenidion ϕ weakly visible. Setae *dFeIII* blunt-ended. Setae *pl"* not thickened. Leg IV (Fig. 19). Tarsus with two well developed simple claws. Solenidion ϕ not evident. All setae of leg IV pointed, setae *v"TiIV* smooth. Trochanter IV in some specimens without seta.

Male and **larva** unknown.

Type material. Female holotype, slide # AK201299, UKRAINE, Crimea, Yalta, settl. Nikita, in soil under large stone, 20 December 1999, coll. A.A. Khaustov; paratypes: 10 females, same data.

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

Etymology. The name *minuta* refers to the small body size of the new species.

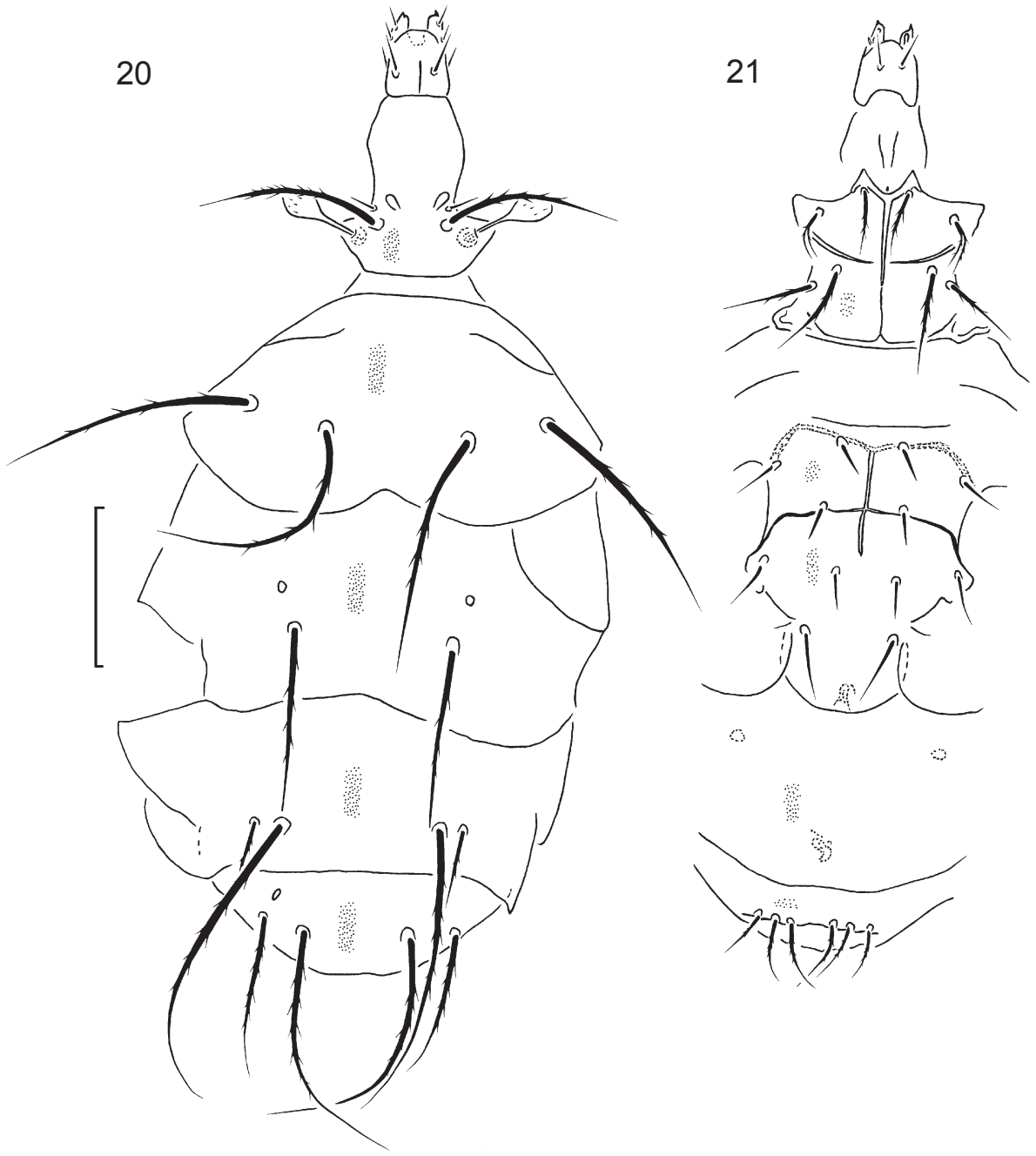


Fig. 20–21. *Kerdabania variabilis* sp. n., female, 20 — dorsum, 21 — venter. Scale bar 50 μm.

Differential diagnosis. The new species is similar to *K. magnifica* sp. n. but differs by the distinctly longer and non spiniform setae *tc'* (distinctly spiniform in *K. magnifica*), by the broken medially apodemes 4 (not broken in *K. magnifica*) and by the absence of oval pits on tergite C (present in *K. magnifica*).

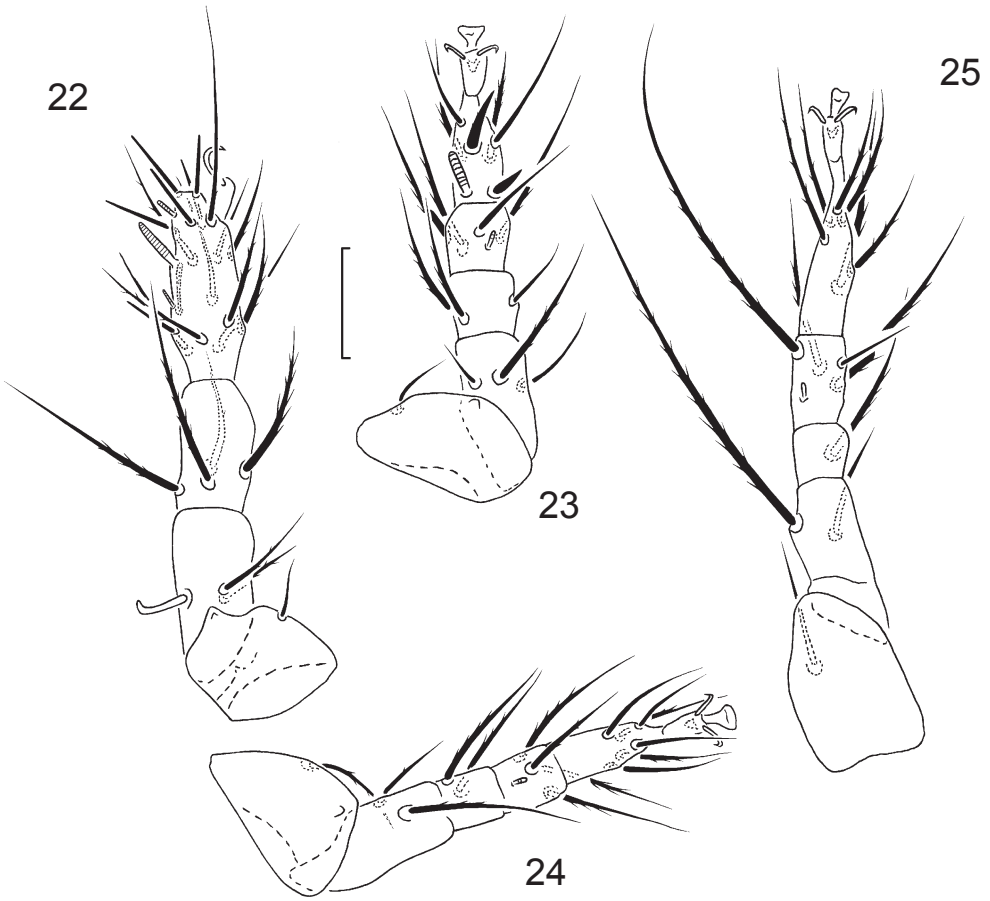
Kerdabania variabilis Khaustov sp. n.

Figs. 20–25

Description. Female. Idiosomal length: 291 (209–292), width 140 (110–142).

Gnathosoma. Similar to that of *K. magnifica* sp. n. but with distinct postpalpal setae.

Idiosomal dorsum (Fig. 20). Tergites with numerous small dimples. Stigmata small, oval. Dorsal setae distinctly barbed, except for smooth v_2. Setae *d* blunt-ended, other dorsal setae pointed. Posterior margins of tergites C and D distinctly concave. Length of dorsal setae: v_2 10 (10–12), sc_2 68 (58–68), c_1 85 (63–85), c_2 87 (61–87), *d* 57 (57–72), *e* 29 (19–29), *f* 110 (89–110), h_1 91 (69–91), h_2 58 (44–58). Distances between dorsal setae: v_2–v_2 24 (17–24), sc_2–sc_2 22 (18–22), c_1–c_1



Figs. 22–25. *Kerdabania variabilis* sp. n., female, 22–25 — legs I–IV, respectively. Scale bar 20 μm.

46 (38–46), c_1–c_2 26 (19–26), *d–d* 52 (44–52), *e–f* 9 (7–9), *f–f* 52 (45–53), h_1–h_1 34 (32–40), h_1–h_2 12 (11–12). Trichobothrium with short thin stem, distally spherical, barbed.

Idiosomal venter (Fig. 21). All setae of anterior sternal plate distinctly barbed, pointed. Setae 1*b* bifurcate. All ventral plates with numerous small dimples. Ap1 well developed and joined with appr; ap2 not reach to appr, appr and apsej well developed; apodemes 3 weakly scleritized, diffuse, arch-like and reach bases of setae 3*c*. Apodemes 4 well sclerotized and protruding setae 4*c*, apodemes 5 not developed. Posterior margin of posterior sternal plate with large lobus. All setae of posterior sternal plate smooth. Setae 3*a* and 3*b* needle-like. Setae 4*a* in some specimens absent. Pseudanal setae weakly barbed. Distance between bases of setae ps_1 and ps_2 subequal with distance between ps_2 and ps_3. Length of ventral setae: 1*a* 25 (20–25), 1*b* 22 (16–23), 2*a* 38 (24–38), 2*b* 32 (25–32), 3*a* 14 (11–14), 3*b* 14 (12–14), 3*c* 19 (14–19), 4*a* 13 (10–13), 4*b* 28 (19–28), 4*c* 23 (20–24), ps_1 31 (16–31), ps_2 29 (15–17), ps_3 22 (12–22).

Legs (Figs. 22–25). Leg I (Fig. 22). Tibiotarsus not thickened, with small terminal claw situated on long pretarsus. Solenidia ω_1 12 (9–12) > ω_2 6 (5–6) < ϕ_1 10 (7–10) > ϕ_2 5 (4–5); ω_2 and ϕ_2 uniformly thin, ϕ_1 baculiform, ω_1 finger-shaped. Solenidion ω_2 situated slightly anterior to base of setae *ft'*. Eupathidium *ft"* subequal with *ft'*. Setae *dFe* broadened, hook-like. Leg II (Fig. 23). Tarsus with sickle-like non-padded claws and large empodium. Solenidion ω 10 (8–10) finger-shaped, solenidion ϕ weakly visible. Setae *dFeII* pointed. Setae *pl"* spiniform, smooth, setae *tc'* spiniform and weakly barbed. Leg III (Fig. 24). Claws of same shape as on tarsus II. Solenidion ϕ weakly visible. Setae *dFeIII* pointed. Setae *pl"* not thickened. Leg IV (Fig. 25). Tarsus with two well developed simple claws. Solenidion ϕ not evident. All setae of leg IV pointed, setae *v"TiIV* smooth.

Male and **larva** unknown.

Type material. Female holotype, slide # AK021103, UKRAINE, Crimea, Nikita mountain pasture, in sod, 2 November 2003, coll. A.A. Khaustov; paratypes: 5 females, UKRAINE, Crimea, vicinity of Gurzuf, litter under beech, 7 July

Fig. 26–27. *Kerdabania kochi* (Krczal, 1959) comb. n., female, 26 — dorsum, 27 — venter. Scale bar 50 μm.

2002, coll. A.A. Khaustov, 7 females, UKRAINE, Crimea, Simferopol, litter under willow, 3 February 2001, coll. A.A. Khaustov, 6 females, UKRAINE, Crimea, Chelebi Yaurn Beli mount., in sod, 31 March 2002, coll. A.A. Khaustov, 6 females, Ukraine, Kharkov distr., Lozovaya reg., settl. Novoivanovka, in soil, 10 August 2004, coll. A.A. Khaustov.

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

Etymology. The name *variabilis* refers to the highly variable length of setae in the new species.

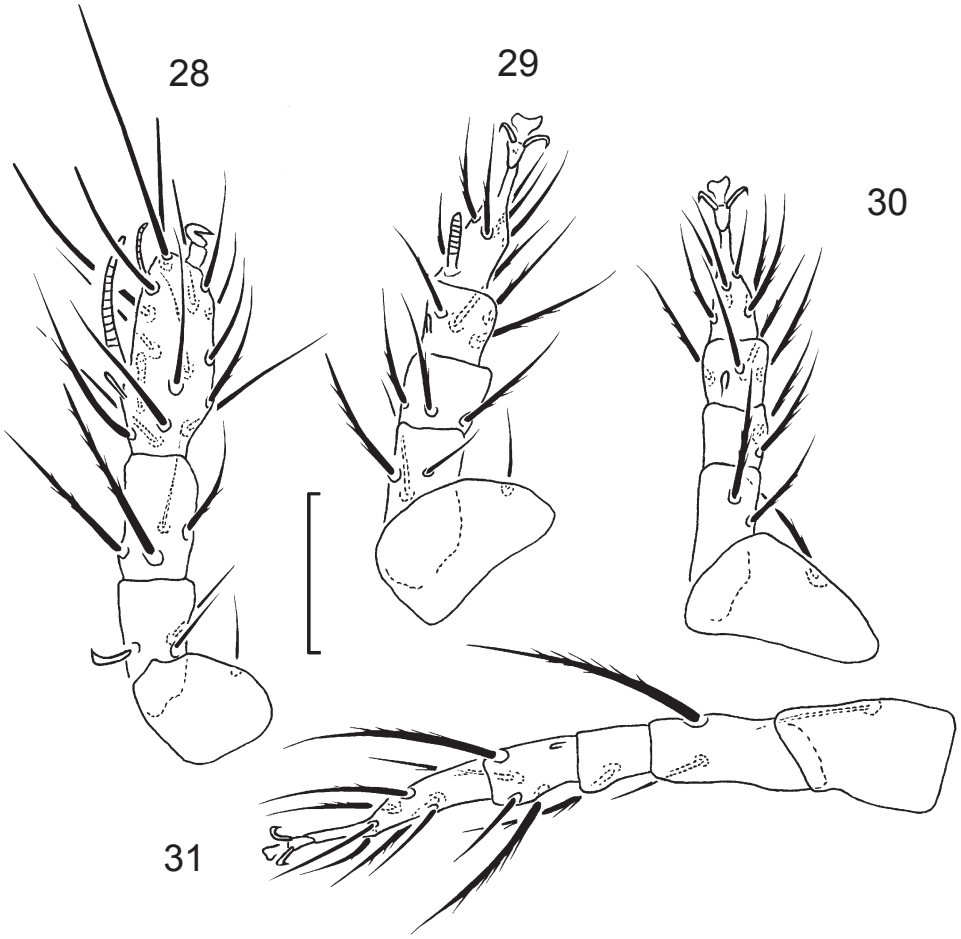
Differential diagnosis. The new species is similar to *K. fatmae* Sevastianot et Abo-Korah, 1985 comb. n. but differs by the presence of arch-like apodemes 3 (completely absent in *K. fatmae*).

***Kerdabania kochi* (Krczal, 1959), comb. n.**

Pygmephorus kochi Krczal, 1959, p. 201, fig. 47.

Figs. 26–31

Description. Female. Idiosomal length: 213, width 89.



Figs. 28–31. *Kerdabania kochi* (Krczal, 1959) comb. n., female, 28–31 — legs I–IV, respectively. Scale bar 20 μm.

Gnathosoma. Similar to that of *K. magnifica* sp. n.

Idiosomal dorsum (Fig. 26). Tergites smooth. Stigmata very small, oval. Dorsal setae weakly barbed, except for smooth v_2 and *e*. Setae *d* blunt-ended, other dorsal setae pointed. Posterior margins of tergites C and D indistinct in studied specimen. Length of dorsal setae: v_2 15, sc_2 35, c_1 32, c_2 36, *d* 25, *e* 17, *f* 30, h_1 35, h_2 44. Distances between dorsal setae: v_2–v_2 15, sc_2–sc_2 17, c_1–c_1 33, c_1–c_2 16, *d*–*d* 44, *e*–*f* 6, *f*–*f* 48, h_1–h_1 24, h_1–h_2 12. Trichobothrium with short thin stem, distally spherical, weakly barbed.

Idiosomal venter (Fig. 27). All setae of anterior sternal plate weakly barbed, pointed. Setae 1*b* not bifurcate. All ventral plates smooth. Ap1 indistinct, ap2 well developed and not joined with appr; appr and apsej well developed; apodemes 3 vestigial, diffuse, situated anterieot to setae 3*a*. Apodemes 4 well sclerotized and relatively short, protruding bases of setae 4*b*, apodemes 5 not developed. Posterior margin of posterior sternal plate with large lobus. All setae of posterior sternal plate smooth, pointed. Pseudanal setae smooth. Distance between bases of setae ps_1 and ps_2 much shorter than distance between ps_2 and ps_3. Length of ventral setae: 1*a* 18, 1*b* 20, 2*a* 22, 2*b* 31, 3*a* 19, 3*b* 23, 3*c* 19, 4*a* 16, 4*b* 22, 4*c* 19, ps_1 14, ps_2 10, ps_3 12.

Legs (Figs. 28–31). Leg I (Fig. 28). Tibiotarsus weakly thickened, with small terminal claw situated on pretarsus. Solenidia ω_1 18 > ω_2 9 > ϕ_1 8 > ϕ_2 5; ω_2 and ϕ_2 uniformly thin, ϕ_1 baculiform, ω_1 very long, thin and curved. Solenidion ω_2 situated slightly anterior to base of setae *ft'*. Eupathidium *tc'* very long. Setae *dFe* broadened, hook-like. Leg II (Fig. 29). Tarsus with sickle-like non-padded claws and large empodium. Solenidion ω 10 finger-shaped, solenidion ϕ weakly visible. Setae *dFeII* blunt-ended. Setae *pl"* and *tc'* not modified. Leg III (Fig. 30). Claws of same shape as on tarsus II. Solenidion ϕ weakly visible. Setae *dFeIII* blunt-ended. Setae *pl"* not modified. Leg IV (Fig. 31). Tarsus with two well developed simple claws. Solenidion ϕ weakly visible.

Male and **larva** unknown.

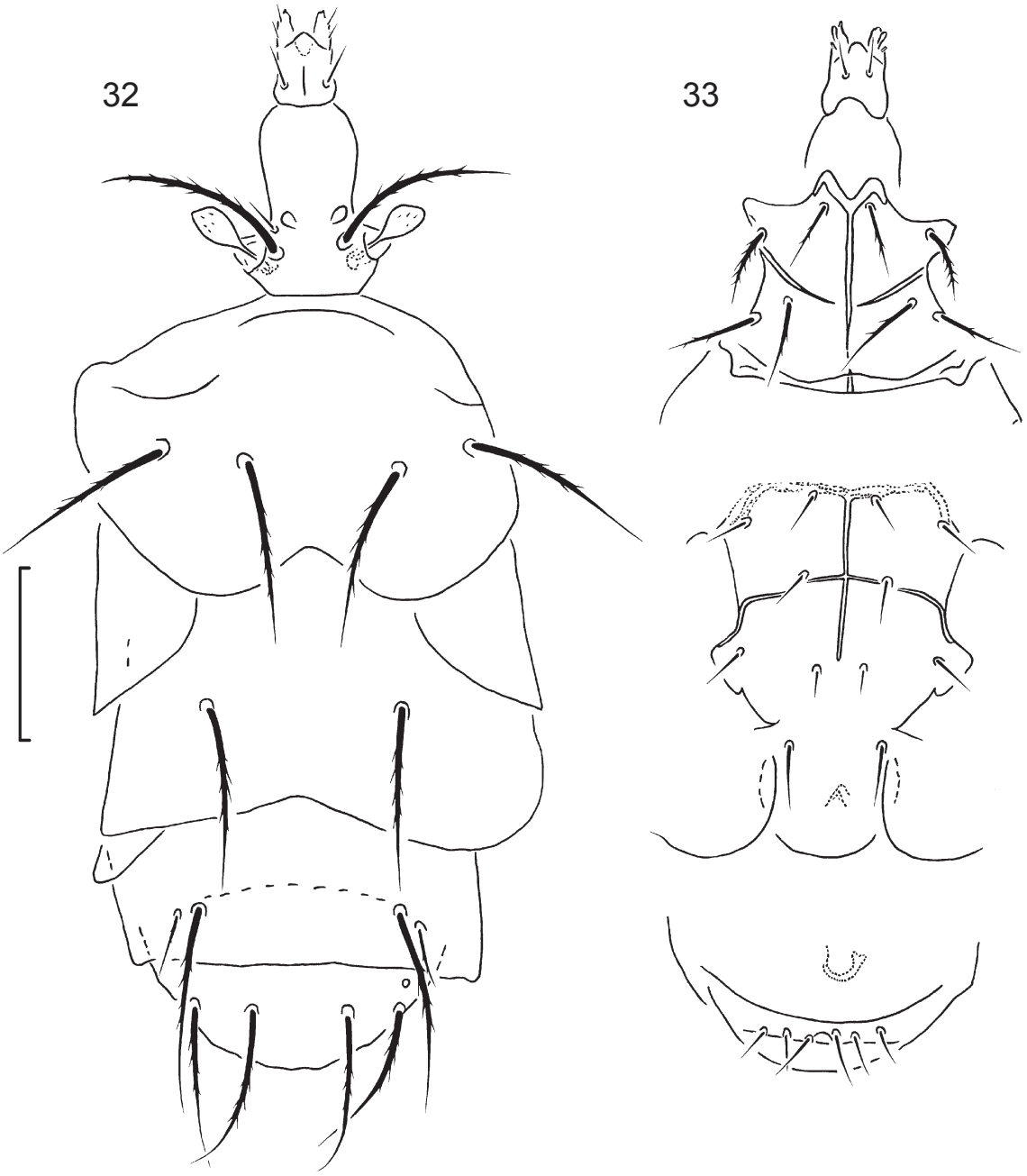


Fig. 32–33. *Kerdabania inconspicuus* (Berlese, 1904) comb. n., female, 32 — dorsum, 33 — venter. Scale bar 50 μm.

Material studied. 1 female, UKRAINE, Lvov distr., "Roztochye" Nature Reserve, in forest litter, 18 August 2005, coll. A.A. Khaustov.

Distribution. France (type locality) (Krczal, 1959); Germany (Rack, 1965, 1967).

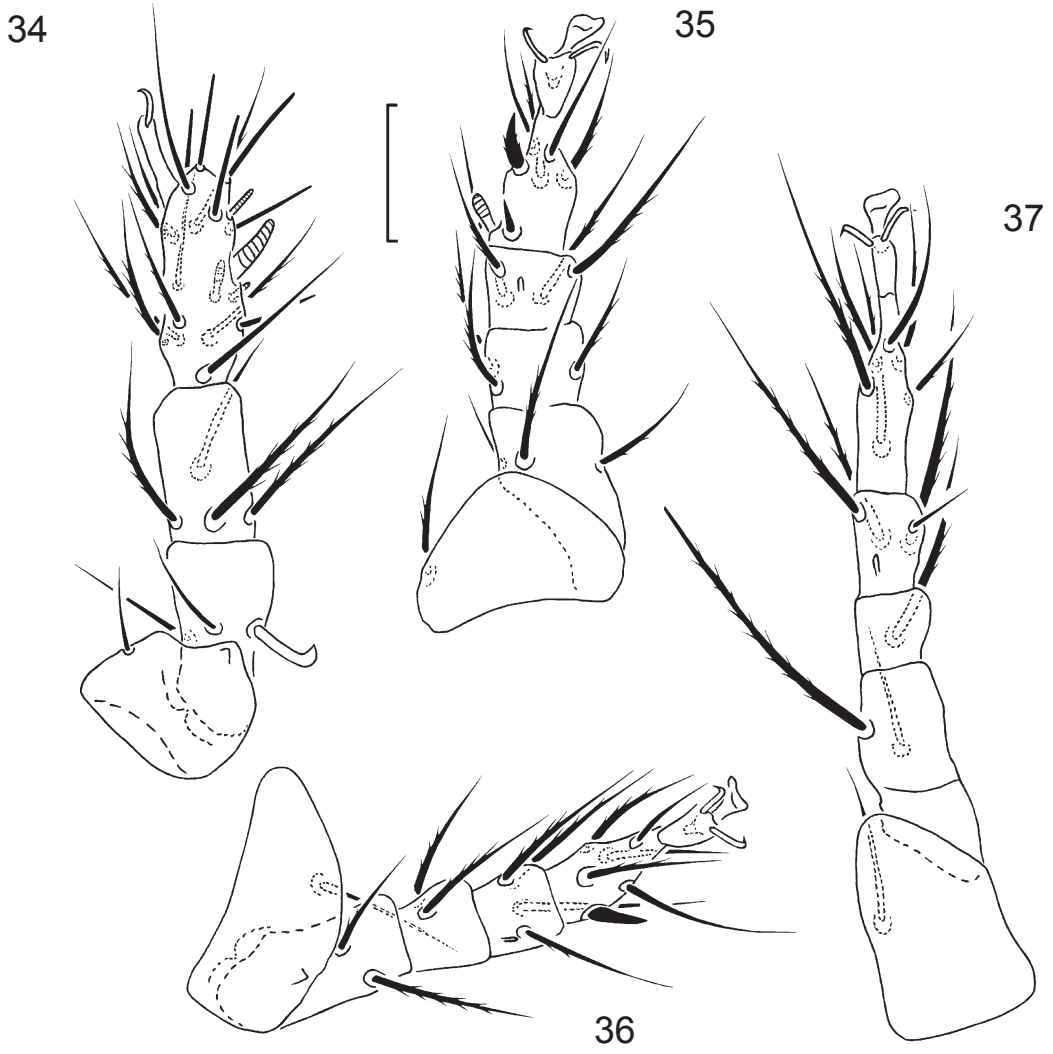
***Kerdabania inconspicuus* (Berlese, 1904) comb. n.**
Pigmephorus inconspicuous Berlese, 1904, p. 12, fig. 9. (=*Pygmephorus sellnicki* Krczal, 1958, p. 69, figs. 23–26, *Scutacarus centriger* Cooreman, 1951, p. 1, fig. 1, synonymy of Mahunka (1980)).

Figs. 32–37

Description. Female. Idiosomal length: 209–275, width 111–137.

Gnathosoma. Similar to that of *K. magnifica* sp. n.

Idiosomal dorsum (Fig. 32). Tergites with numerous small dimples. Stigmata small, oval. Dorsal setae pointed and barbed, except for smooth v_2. Posterior margins of tergites C and D distinctly concave. Length of dorsal setae: v_2 11–13, sc_2 48–60, c_1 44–57, c_2 53–62, *d* 44–56, *e* 17–24, *f* 59–64, h_1 49–60, h_2 46–55. Distances between dorsal setae: v_2–v_2 16–22, sc_2–sc_2 14–19, c_1–c_1 33–46, c_1–c_2 22–26, *d*–*d* 47–58, *e*–*f* 6–9, *f*–*f* 44–58, h_1–h_1 19–27, h_1–h_2 16–19. Trichobothrium with short thin stem, distally spherical, weakly barbed.



Figs. 34–37. *Kerdabania inconspicuus* (Berlese, 1904) comb. n., female, 34–37 — legs I–IV, respectively. Scale bar 20 μm.

Idiosomal venter (Fig. 33). All setae of anterior sternal plate distinctly barbed, pointed. Setae 1*b* not bifurcate. All ventral plates with numerous small dimples. Ap1 well developed and joined with appr, ap2 well developed and not joined with appr; appr and apsej well developed; apodemes 3 weakly sclerotized, diffuse, arch-like. Apodemes 4 well sclerotized and protruding setae 4*c*, apodemes 5 not developed. Posterior margin of posterior sternal plate with large lobus. All setae of posterior sternal plate smooth, pointed. Pseudanal setae smooth. Setae 4*a* absent in some specimens. Distance between bases of setae ps_1 and ps_2 subequal with distance between ps_2 and ps_3. Length of ventral setae: 1*a* 19–22, 1*b* 20–26, 2*a* 29–31, 2*b* 31–34, 3*a* 12–18, 3*b* 12–17, 3*c* 11–16, 4*a* 9–15, 4*b* 17–29, 4*c* 14–20, ps_1 16–18, ps_2 12–16, ps_3 13–16.

Legs (Figs. 34–37). Leg I (Fig. 34). Tibiotarsus not thickened, with small terminal claw situated on long pretarsus. Solenidia ω_1 9–11 > ω_2 5–6 < ϕ_1 7–8 > ϕ_2 4–5; ω_2 and ϕ_2 uniformly thin, ϕ_1 baculiform, ω_1 finger-shaped. Solenidion ω_2 situated slightly anterior to base of setae *ft'*. Eupathidium *ft"* subequal with *ft'*. Setae *dFe* broadened, hook-like. Leg II (Fig. 35). Tarsus with sickle-like non-padded claws and large empodium. Solenidion ω 7–9 finger-shaped, solenidion ϕ weakly visible. Setae *dFeII* pointed. Setae *pl"* and *tc'* spiniform. Leg III (Fig. 36). Claws of same shape as on tarsus II. Solenidion ϕ weakly visible. Setae *dFeIII* pointed. Setae *pl"* spiniform. Leg IV (Fig. 37). Tarsus with two well developed simple claws. Solenidion ϕ weakly visible. Setae *dFeIV* blunt-ended. Setae *v"TiIV* smooth.

Male and **larva** not available in author's collection.

Material studied. 27 females, UKRAINE, vicinity of Poltava, soil under straw, 27 April 1998, coll. V.E. Sklyar, 4 females, UKRAINE,

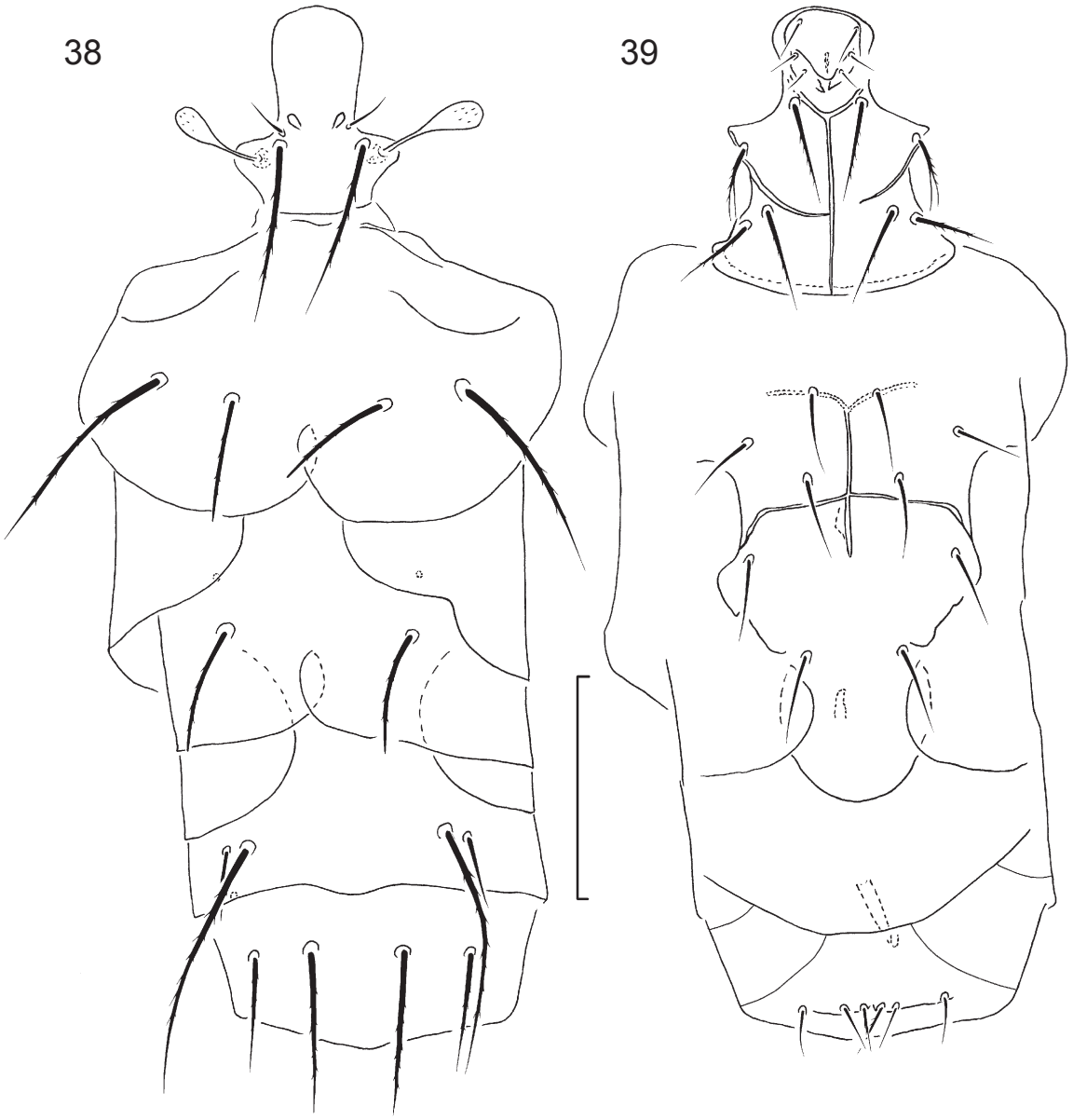


Fig. 38–39. *Kerdabania longiclavata* (Savulkina, 1977) comb. n., female, 38 — dorsum, 39 — venter. Scale bar 50 μm.

Crimea, Yalta, in sod, 7 December 2001, coll. A.A. Khaustov.

Distribution. Italy (Berlese, 1904), USA, England (Smiley, 1978), Sweden (Krczal, 1958), Japan (Kurosa, 1980), Germany (Rack, 1965), Ukraine (Sevastianov, 1978), Hungary (Mahunka, 1986), Greece (Mahunka, 1974), Mongolia (Mahunka, 1969), Korea (Mahunka, 1971).

Remarks. Mahunka (1980) studied type material of *K. inconspicuus* deposited in Berlese's collection and found that it conspecific with *Pygmephorus sellnicki* (Krczal, 1958) and *Scutacarus centriger* Cooreman, 1951. Synonyms of *Scutacarus centriger* with *K. inconspicuus* is surprising because only male of *S. centriger* was described (Cooreman, 1951). In his later publications by unexplained reason Mahunka mentioned *K. centriger* and *K. sellnicki* as separate species (Mahunka, 1986, Mahunka, Mahunka-Papp, 1990). In this paper I accept synonymy of Mahunka (1980).

Kerdabania longiclavata (Savulkina, 1977) comb. n.

Bakerdania longiclavata Savulkina, 1977, p. 455, figs. 13–16.

Figs. 38–37

Description. Female. With measurements given by Savulkina (1977).

Gnathosoma. Similar to that of *K. magnifica* sp. n.

Idiosomal dorsum (Fig. 38). Tergites smooth. Stigmata small, oval. Dorsal setae weakly barbed,

Figs. 40–42. *Kerdabania longiclavata* (Savulkina, 1977) comb. n., female, 40–42 — legs I, II, and IV, respectively. Scale bar 20 μm.

except for smooth v_2 and *e*. Setae c_1 and *d* blunt-ended, other dorsal setae pointed. Posterior margins of tergites C and D deeply concave and lateral margins of excavations overlapping each other. Trichobothrium with long thin stem, distally spherical, weakly barbed.

Idiosomal venter (Fig. 39). All setae of anterior sternal plate weakly barbed, pointed. Setae 1*b* bifurcate. All ventral plates smooth. Ap1 well developed and joined with appr, ap2 well developed and joined with appr on right side of both studied specimens, but not joined with appr on left side;

appr and apsej well developed; apodemes 3 weakly sclerotized, diffuse, relatively short. Apodemes 4 well sclerotized and protruding setae 4*c*, apodemes 5 not developed. Posterior margin of posterior sternal plate with large lobus. All setae of posterior sternal plate smooth, pointed. Pseudanal setae smooth. Setae 4*a* absent Distance between bases of setae ps_1 and ps_2 shorter than distance between ps_2 and ps_3.

Legs (Figs. 40–42). Leg I (Fig. 40). Tibiotarsus not thickened, with small terminal claw situated on pretarsus. Solenidia ω_2 and ϕ_2 uniformly thin, ϕ_1 baculiform, ω_1 finger-shaped. Solenidion ω_2 inserted on the same level as solenidion ω_1. Eupathidium *ft"* subequal with *ft'*. Setae *dFe* broadened, hook-like. Leg II (Fig. 41). Tarsus with sickle-like non-padded claws and large empodium. Solenidion ω finger-shaped, solenidion ϕ weakly visible. Setae *dFeII* pointed. Setae *pl"* and *tc'* not modified. Leg III. Claws of same shape as on tarsus II. Solenidion ϕ weakly visible. Setae *dFeIII* pointed. Setae *pl"* not modified. Leg IV (Fig. 42). Tarsus with two well developed simple claws. Solenidion ϕ weakly visible. Setae *dFeIV* blunt-ended. Setae *v"TiIV* smooth.

Male and **larva** unknown.

Material studied. Female holotype and one female paratype, Bulgaria, Struma river valley, in nest of *Microtus arvalis* Pall., 2 October 1960, coll. L. Khristov.

Distribution. Bulgaria (Savulkina, 1977).

Key to species of the genus *Kerdabania* of the world (based on females)[1]

1. Setae 1*b* bifurcate 2
— Setae 1*b* not bifurcate 4
2. Setae *pl*" and *tc*' on tarsus II spiniform 3
— Setae *pl*" and *tc*' on tarsus II not modified ..... *K. longiclavata* (Savulkina, 1977)
3. Apodemes 3 completely absent ..... *K. fatmae* Sevastianov et Abo-Korah, 1985
— Apodemes 3 well developed, arch-like .... *K. variabilis* sp. n.
4. Setae *pl*" on tarsus III spiniform 5
— Setae *pl*" on tarsus III not modified 7
5. Setae h_1 blunt-ended, about 2 times shorter than h_2 6
— Setae h_1 pointed and little longer than h_2 ..... *K. inconspicuus* (Berlese, 1904)
6. Eupathidia *ft*' and *ft*" subequal on tarsus I, setae 3*a*, 3*b*, 4*b* and pseudanal setae smooth .... *K. dracenae* (Rack et Kaliszewski, 1985)
— Eupathidion *ft*' much shorter than *ft*", setae 3*a*, 3*b*, 4*b* and pseudanal setae barbed ..... *K. madagassica* (Mahunka et Mahunka-Papp, 1994)
7. Distance between bases of setae ps_1 and ps_2 subequal with distance between ps_2 and ps_3, eupathidion *tc*' on tarsus I much shorter than tibiotarsus I 8
— Distance between bases of setae ps_1 and ps_2 much shorter than distance between ps_2 and ps_3, eupathidion *tc*' on tarsus I subequal with tibiotarsus I ..... *K. kochi* (Krczal, 1959)
8. At least some of dorsal hysterosomal setae pointed 9
— All dorsal hysterosomal setae blunt-ended .... *K. quadrata* (Ewing, 1917)
9. Setae *pl*" on tarsus II modified, spiniform ... 10
— Setae *pl*" on tarsus II not modified .... *K. elongata* sp. n.
10. Apodemes 3 broken medially, setae *tc*' on tarsus II weakly incrassate, relatively long, reaching bases of claws of tarsus III ..... *K. minuta* sp. n.
— Apodemes 3 not broken medially, setae *tc*' on tarsus II spiniform, relatively short, reaching top of tarsus III ..... *K. magnifica* sp. n.

[1] in the key not included *K. arctica* (Thor, 1934) because of incomplete description

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