Acarina 16 (2): 159–175

A REVIEW OF THE GENUS *PEDICULASTER* VITZTHUM, 1927 (ACARI: PYGMEPHORIDAE) OF UKRAINE

A. A. Khaustov

Nikita Botanical Gardens — National Scientific Center, Yalta, Crimea 98648, Ukraine; e-mail: alkhaustov@mail.ru

ABSTRACT: Mites of the genus *Pediculaste*r Vitzthum, 1927 (Acari: Pygmephoridae) of Ukraine are reviewed. Five species: *P. martyani* sp. n., *P. montanus* sp. n., *P. camerikae* sp. n., *P. tauricus* sp. n., and *P. confuses* sp. n. are described as new for science; two species: *P. jaltensis* Sevastianov, 1974 and *P. sterculinicola* Sevastianov, 1981 are redescribed; eight species: *P. gautengensis* Camerik, 1996, *P. perottii* Camerik, Goetzee, 1998, *P. portatus* Martin, 1978, *P. pfefferianus* Samsinak, 1984, *P. sellnickianus* (Rack, 1964), *P. ensifer* (Savulkina, 1978), *P. kneeboni* (Wicht, 1970), and *P. pseudomanicatus* Camerik,, 2001 are recorded for the first time for Ukraine. *Pediculaster hispanicus* Samsinak, 1984 considered as junior synonym of *P. jaltensis*.

KEY WORDS: Pygmephoridae, systematics, *Pediculaster*, new species, review, Ukraine

INTRODUCTION

The genus *Pediculaster* Vitzthum, 1927 includes about 90 species in the World fauna and it is the largest genus in the family Pygmephoridae. Mites of this genus are usually phoretic on different Diptera and characterized by the presence of two morphologically different forms of females — phoretic and non-phoretic (Martin 1978). Presently seven species were described and recorded from Ukraine: *P. jaltensis* Sevastianov, 1974, *P. sterculinicola* Sevastianov, 1981, *P. skilarii* Sevastianov et Chydyrov, 1994, *P. calcaratus* (Mahunka, 1965), *P. mesembrinae* (Canestrini, 1881), *P. muscarius* (Martin, 1978), *P. flechtmanni* (Wicht, 1970) (Livshits, Mitrofanov, Sharonov 1986; Sevastianov 1974, 1978, 1981; Sevastianov, Chydyrov 1994). I found five new species and eight species previously unknown for Ukraine. The purpose of this paper is to describe the new species, redescribe *P. jaltensis* Sevastianov, 1974 and *P. sterculinicola*, 1981, and provide new collecting data for described species.

MATERIALS AND METHODS

In the descriptions, the terminology follows Lindquist (1986). All measurements are given in micrometers (μm) for holotype and five paratypes (in parenthesis). In the descriptions number of solenidia is given in parenthesis. The type materials are deposited in the collection of Nikita Botanical Gardens — National Scientific Center, Yalta, Ukraine.

SYSTEMATICS

Family Pygmephoridae Cross, 1965

Type genus: *Pygmephorus* Kramer, 1877.

Genus *Pediculaster* Vitzthum,1927

Pediculaster martyani sp. nov.

Figs. 1–12.

Description. **Phoretic female**. Idiosomal length 300 (233–310), maximum width 150 (111–155). Idiosomal dorsum (Fig. 1). Stigmata distinctly two-chambered. All tergites smooth. All dorsal setae blunt-ended. Setae *e* and h_2 smooth, blade-like. Other dorsal setae distinctly barbed. Length of dorsal setae: v_1 33 (28–33), v_2 33 (27–33), sc_2 56 (45–58), c_1 44 (33–45), c_2 56 (41–61), *d* 47 (37–51), *e* 22 (17–24), *f* 52 (42–56), h_1 47 (39–48), h_2 23 (18–23). Distances between dorsal setae: v_1–v_1 14 (12–15), v_2–v_2 29 (26–29), sc_2–sc_2 44 (38–44), c_1–c_1 50 (40–52), c_1–c_2 33 (26–36), *d*–*d* 89 (74–98), *e*–*f* 7 (6–9), *f*–*f* 92 (73–100), h_1–h_1 78 (60–82), h_1–h_2 9 (7–9). Idiosomal venter (Fig. 2). Ventral plates smooth. Setae of anterior and posterior sternal plates smooth. Apodemes 5 absent. Pseudanal setae distinctly blunt-ended. Setae ps_2 weakly barbed. Posterior margin of posterior sternal plate tripartite. Length of ventral setae: 1*a* 11 (9–11), 1*b* 13 (10–13), 1*c* 11 (10–12), 2*a* 13 (11–15), 2*b* 13 (11–13), 2*c* 11 (9–11), 3*a* 16 (13–17), 3*b* 14 (11–14), 3*c* 17 (16–20), 4*a* 13 (11–13), 4*b* 21 (16–22), 4*c* 17 (13–19), ps_1 12 (8–12), ps_2 28 (19–28), ps_3 14 (10–14).

Legs (Figs. 3–6). Leg I (Fig. 3). Setal formula: Tr1–Fe4–Ge4–TiTa17(4) Solenidia ω_1 14 (12–16) > ω_2 7 (5–7) < φ_1 8 (7–8) > φ_2 7 (7–8). Solenidion φ_1 baculiform. Solenidia ω_1, ω_2 and φ_2 uniformly thin. Setae v′TrI, l′FeI, l′GeI, v′GeI blunt-ended. Leg II (Fig. 4): Tr1–Fe3–Ge3–Ti4(1)–Ta6(1). Setae v′TrII, dFeII, l′FeII, v″FeII blunt-ended. Solenidion ω 9 (9–11) finger-shaped. Solenidia on tibiae II–IV very small, difficult to see. Tarsi II–IV with large padded claws. Leg III (Fig. 5): Tr1–Fe2–Ge2–Ti4(1)–Ta6. Setae v′TrIII, v′FeIII, dFeIII blunt-ended. Leg IV (Fig. 6): Tr1–Fe2–Ge1–Ti4(1)–Ta6. Claws simple. Setae v′TrIV, v′FeIV, dFeIV, v′GeIV, v″TiIV blunt-ended.

Male. Idiosomal length 221, maximum width 139. Gnathosoma oval, with two pairs of short subequal dorsal setae. Ventrally with 1 pair of

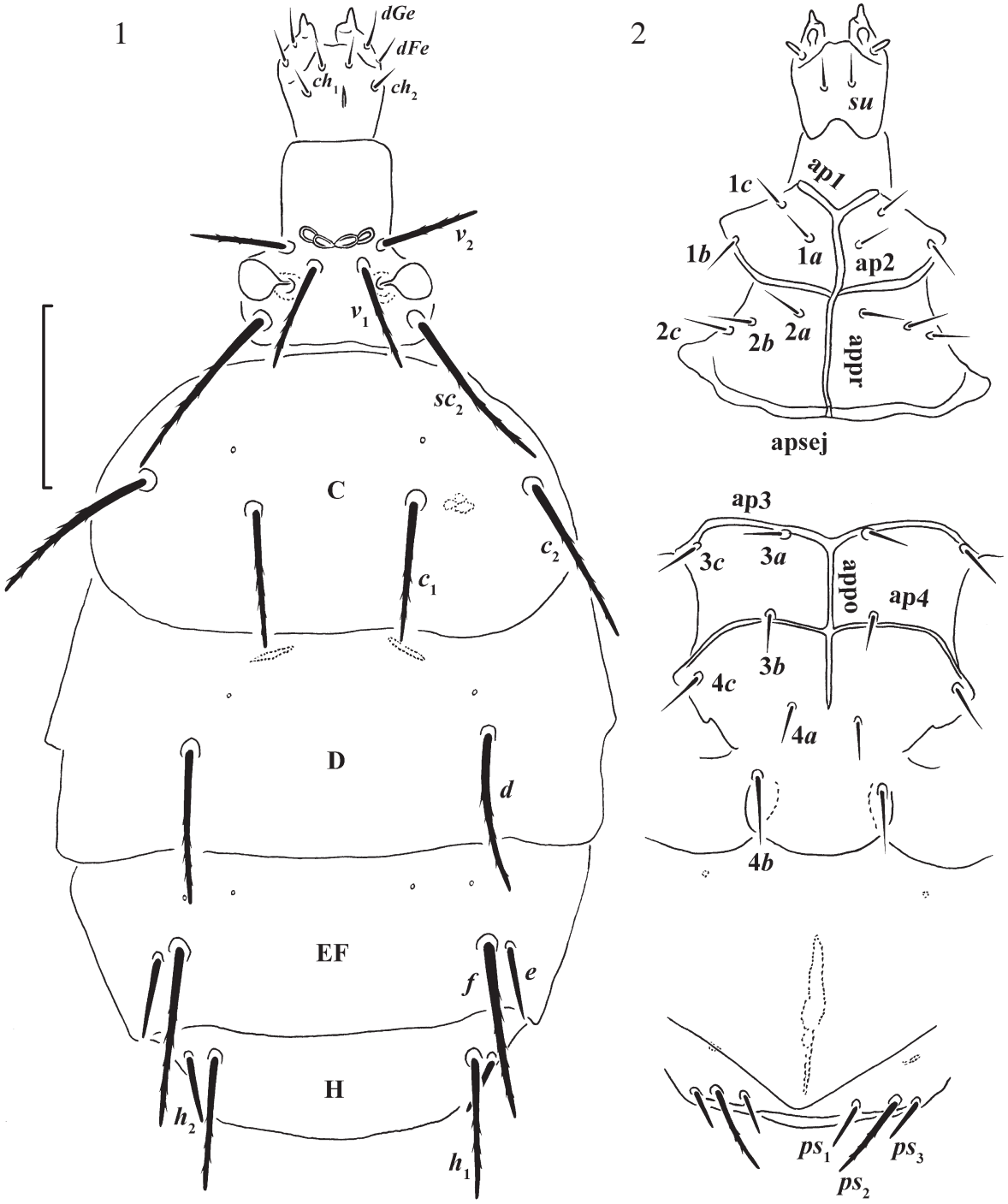
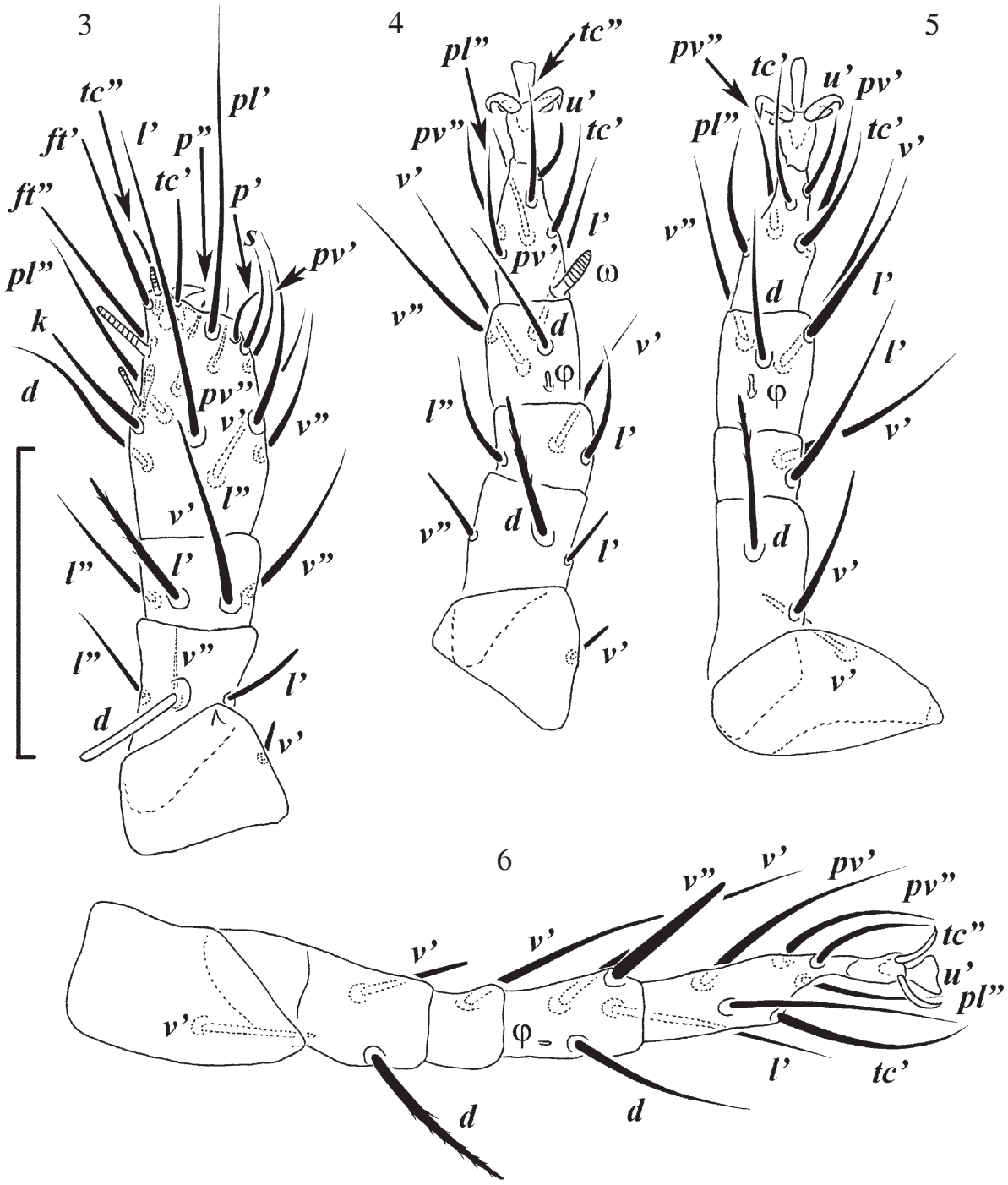


Fig. 1–2. *Pediculaster martyani* sp. n., female: 1 — dorsum, 2 — venter. Scale bar 50 μm.

subcapitular setae, accessory setigenous structure and 1 pair of solenidia. Idiosomal dorsum (Fig. 7). All tergites smooth, except H which with large dimples. All dorsal setae blunt-ended. Setae h_1 small, spine-like, setae h_2 vestigial. Length of dorsal setae: v_1 16, v_2 19, sc_1 19, sc_2 41, c_1 28, c_2 39, *d* 33, *e* 15, *f* 39, h_1 6. Distances between dorsal setae: v_1–v_1 9, v_2–v_2 19, sc_1–sc_1 36, sc_2–sc_2 36, c_1–c_1 42, c_1–c_2 26, *d*–*d* 58, *e*–*f* 6, *f*–*f* 31, h_1–h_1 36, h_2–h_2 31. Idiosomal venter (Fig. 8). Ventral plates smooth. All ventral setae smooth. Posterior margin of posterior sternal plate crown-like. Setae ps_1 vestigial. Length of ventral setae: 1*a* 11, 1*b* 10, 1*c* 14, 2*a* 15, 2*b* 15, 2*c* 13, 3*a* 15, 3*b* 12, 3*c* 12, 4*a* 12, 4*b* 12, 4*c* 11, ps_2 10.

Legs (Figs. 9–12). Leg I (Fig. 3). Setal formula: Tr1–Fe4–Ge4–Ti6(2)–Ta13(2) Solenidia ω_1 16 > ω_2 7 < φ_1 8 = φ_2 8. Solenidion φ_1 baculiform. Solenidia ω_1, ω_2 and φ_2 uniformly thin. Setae v′TrI blunt-ended. Leg II (Fig. 10): Tr1–Fe3–



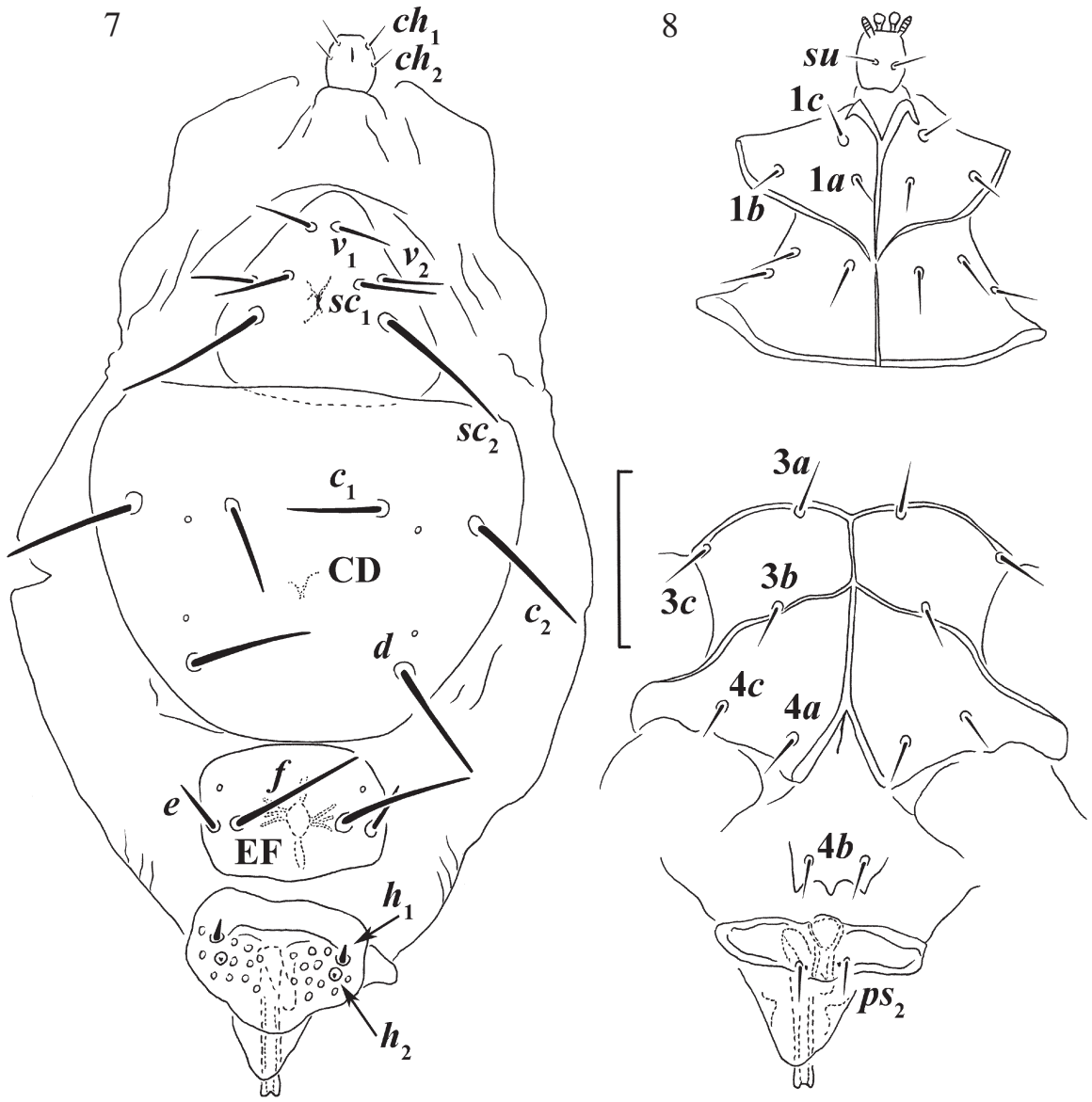
Figs. 3–6. *Pediculaster martyani* sp. n, female: 3–6 — legs I–IV, respectively. Scale bar 50 μm.

Ge3–Ti4(1)–Ta7(1). Setae v′TrII blunt-ended. Solenidion ω 8 finger-shaped. Solenidia φ on tibiae II 5. Tarsi II–IV with large simple claws. Leg III (Fig. 11): Tr1–Fe2–Ge2–Ti4(1)–Ta7. Solenidia φ on tibiae III 5. Setae v′TrIII blunt-ended. Leg IV (Fig. 12): Tr1–Fe1–Ge1–Ti4(1)–Ta6. Claw large. Setae tc′ and tc″ on tarsus IV much longer than other setae on leg IV. Setae v′TrIV, v′GeIV, v′TiIV, pv″TaIV blunt-ended. Solenidion φ on tibiae IV 7.

Non-phoretic female and **larva** unknown.

Type material. Female holotype, UKRAINE: Crimea, «Cape Martyan» Nature Reserve, in wet soil on bank of small stream, 10 June 2007, coll. A.A. Khaustov; paratypes: 12 phoretic females, 3 males with same data as holotype.

Differential diagnosys. The new species is most similar to *P. pseudomanicatus* Camerik, 2001 but differs by the subequal and blade-like setae *e* and h_2 (in *P. pseudomanicatus*, setae h_2 are filiform and distinctly shorter than *e*).



Figs. 7–8. *Pediculaster martyani* sp. n, male: 7 — dorsum, 8 — venter. Scale bar 50 μm.

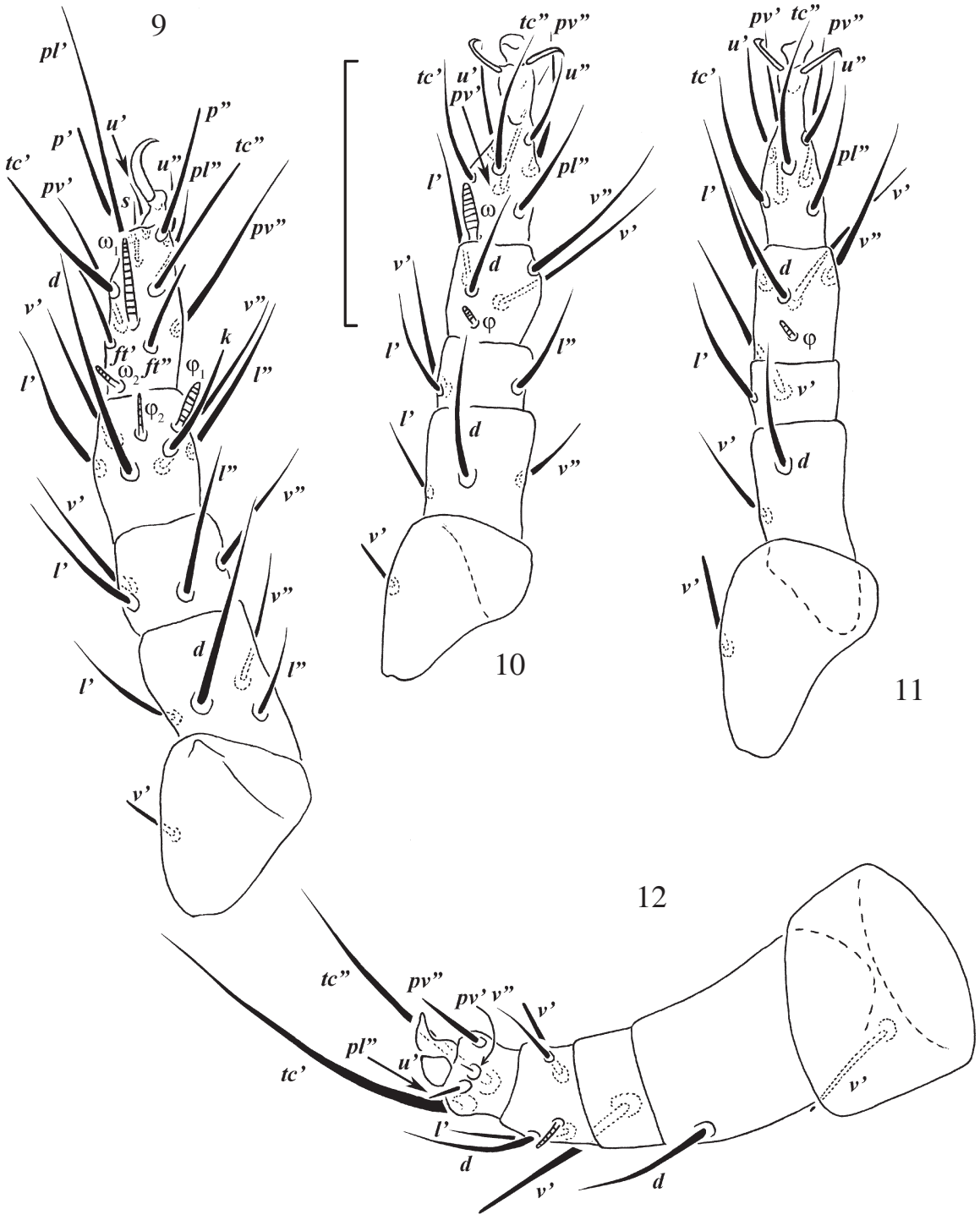
Etymology. The name of new species derived from the name of the cape Martyan.

Pediculaster montanus sp. nov.

Figs. 13–24.

Description. **Phoretic female**. Idiosomal length 278 (200–310), maximum width 135 (94–150). Idiosomal dorsum (Fig. 13). Stigmata one-chambered. All tergites with small dimples. All dorsal setae blunt-ended and barbed, except smooth and pointed h_2. Pharyngeal pumps as on fig 15. Length of dorsal setae: v_1 30 (23–30), v_2 23 (17–23), sc_2 41 (33–45), c_1 44 (34–45), c_2 44 (36–45), *d* 43 (33–44), *e* 22 (16–24), *f* 40 (29–42), h_1 34 (26–35), h_2 16 (12–17). Distances between dorsal setae: v_1–v_1 10 (7–11), v_2–v_2 20 (17–22), sc_2–sc_2 37 (31–39), c_1–c_1 36 (27–38), c_1–c_2 29 (24–31), *d*–*d* 67 (53–72), *e*–*f* 11 (8–14), *f*–*f* 59 (48–62), h_1–h_1 68 (51–75), h_1–h_2 6 (5–6). Idiosomal venter (Fig. 14). Ventral plates with small dimples. Setae of anterior and posterior sternal plates smooth. Apodemes 5 absent. Setae ps_2 weakly barbed and blunt-ended. Setae ps_3 distinctly longer than ps_1. Posterior margin of posterior sternal plate tripartite. Length of ventral setae: 1*a* 9 (8–9), 1*b* 10 (9–10), 1*c* 13 (11–13), 2*a* 15 (10–15), 2*b* 14 (11–14), 2*c* 10 (8–10), 3*a* 12 (9–12), 3*b* 12 (8–12), 3*c* 14 (10–14), 4*a* 11 (9–12), 4*b* 19 (14–19), 4*c* 14 (10–14), ps_1 7 (5–7), ps_2 22 (17–23), ps_3 11 (8–11).

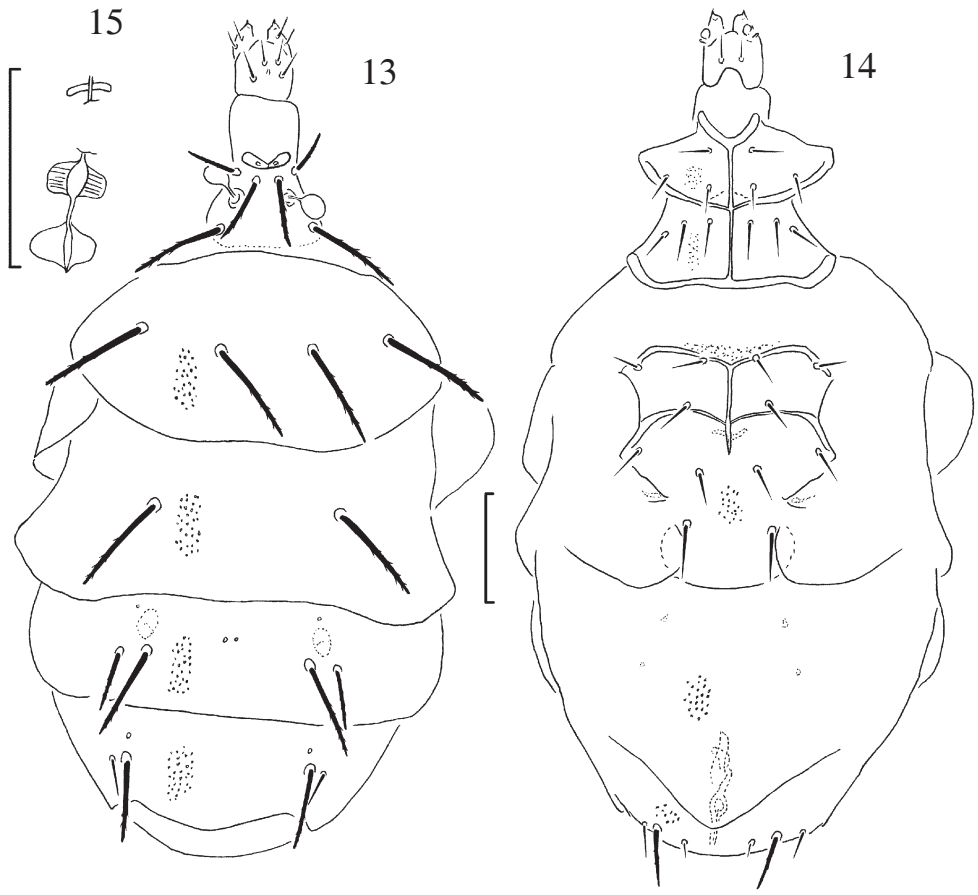
Legs (Figs. 16–18). Leg chaetotaxy as in previous species. Leg I (Fig. 16). Solenidia ω_1 9 (8–9) > ω_2 4 (3–4) < φ_1 5 (5–6) = φ_2 5 (5). Solenidion ω_1 finger-shaped. Solenidion φ_1 baculiform. Solenidia ω_2 and φ_2 uniformly thin. Setae l′GeI, v′GeI



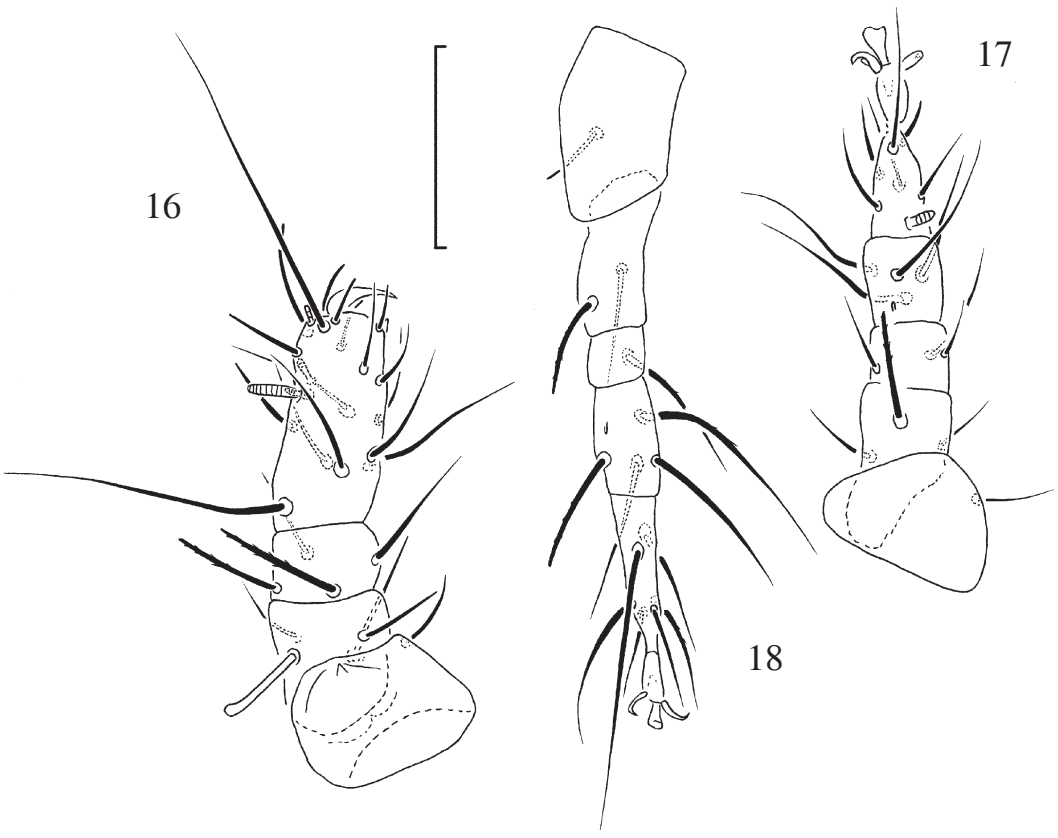
Figs. 9–12. *Pediculaster martyani* sp. n, male: 9–12 — legs I–IV, respectively. Scale bar 50 μm.

blunt-ended. Leg II (Fig. 17): Setae dFeII blunt-ended. Solenidion ω 7 (6–8) finger-shaped. Solenidia on tibiae II–IV very small, difficult to see. Tarsi II–IV with large padded claws. Leg III: setae dFeIII blunt-ended. Leg IV (Fig. 18): claws simple. Setae v′TrIV, dTiIV blunt-ended.

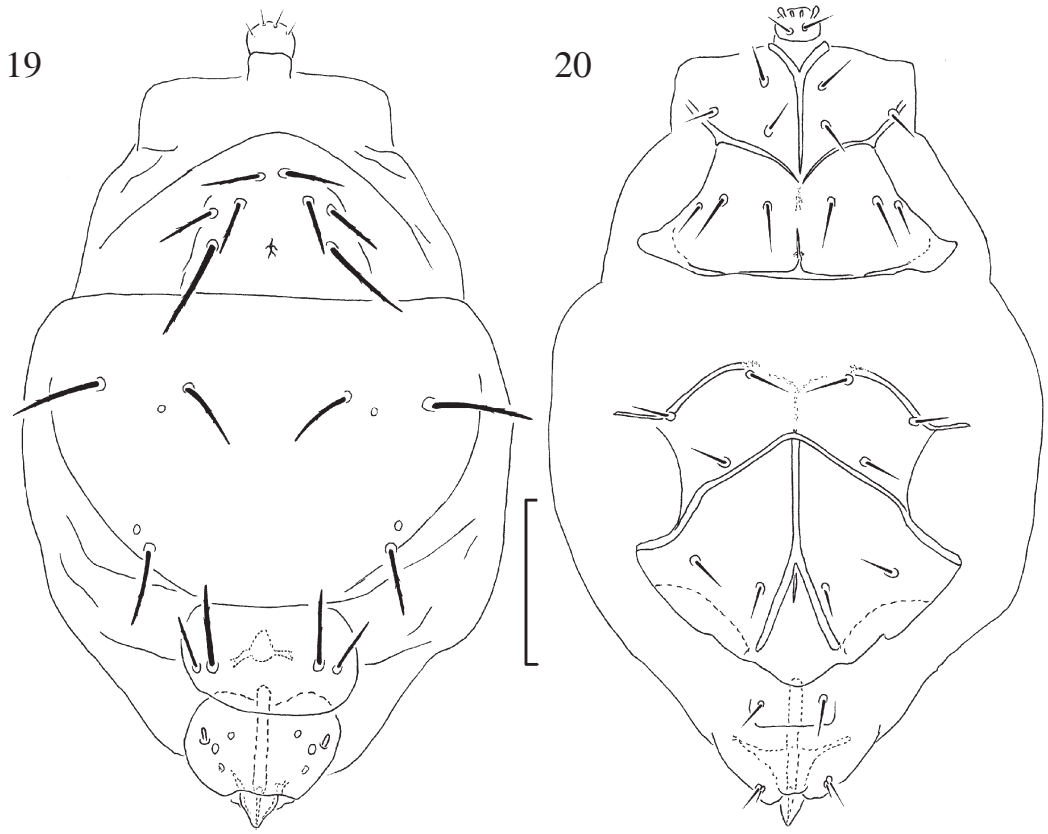
Male. Idiosomal length 194, maximum width 128. Gnathosoma oval, with two pairs of short subequal dorsal setae. Ventrally with 1 pair of subcapitular setae, accessory setigenous structure and 1 pair of solenidia. Idiosomal dorsum (Fig. 19). All tergites smooth. All dorsal setae blunt-ended and weakly barbed, except small, rod-like h_1, setae h_2 vestigial. Length of dorsal setae: v_1 15, v_2 15, sc_1 17, sc_2 28, c_1 17, c_2 28, *d* 22, *e* 16, *f* 22, h_1 4. Distances between dorsal setae: v_1–v_1 4, v_2–v_2 16, sc_1–sc_1 32, sc_2–sc_2 30, c_1–c_1 39, c_1–c_2 24, *d*–*d* 61, *e*–*f* 5, *f*–*f* 28, h_1–h_1 28. Idiosomal venter (Fig.



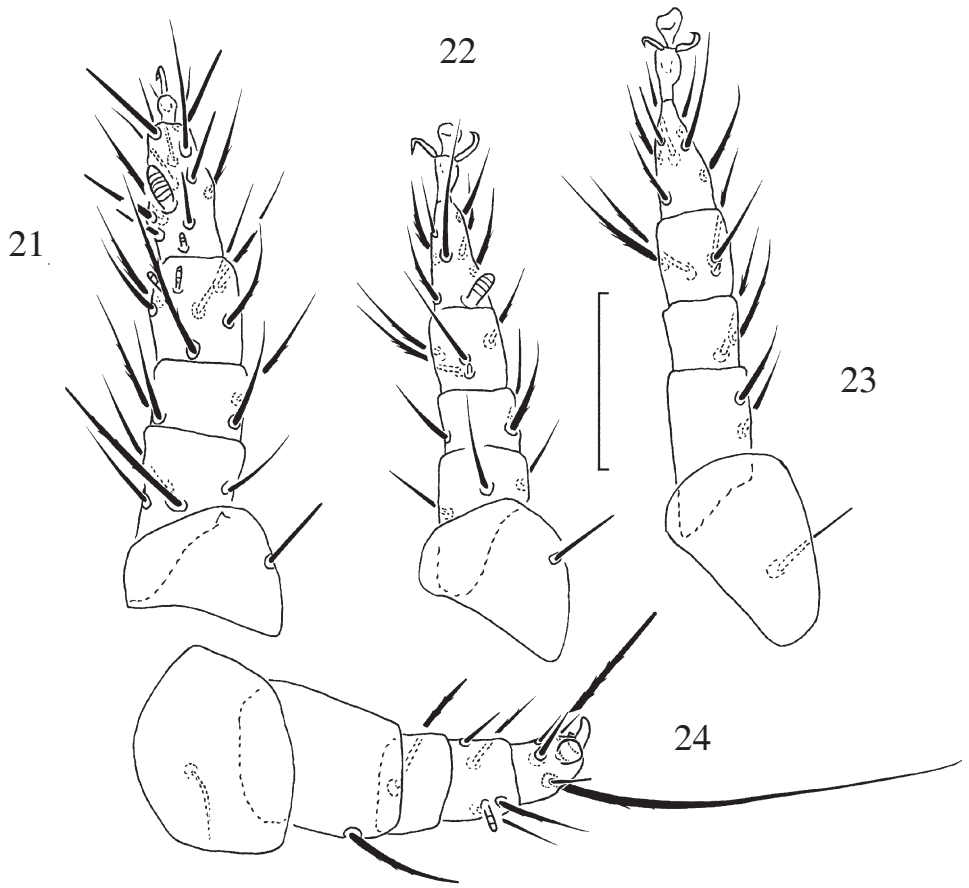
Figs. 13–15. *Pediculaster montanus* sp. n., female: 13 — dorsum, 14 — venter, 15 — pharyngeal pumps. Scale bar 50 μm.



Figs. 16–18. *Pediculaster montanus* sp. n., 14–16 — legs I, II, IV, respectively. Scale bar 20 μm.



Figs. 19–20. *Pediculaster montanus* sp. n., male: 19 — dorsum, 20 — venter. Scale bar 50 μm.



Figs. 21–24. *Pediculaster montanus* sp. n., male: 21–24 — legs I–IV, respectively. Scale bar 50 μm.

20). Ventral plates smooth. All ventral setae smooth. Posterior margin of posterior sternal plate straight. Setae ps_1 distinct. Presternal apodeme broken in posterior part. Poststernal apodeme weakly developed in anterior part. Length of ventral setae: 1*a* 9, 1*b* 10, 1*c* 11, 2*a* 12, 2*b* 12, 2*c* 8, 3*a* 11, 3*b* 12, 3*c* 12, 4*a* 12, 4*b* 11, 4*c* 10, ps_1 7, ps_2 12.

Legs (Figs. 21–24). Leg chaetotaxy as in previous species. Leg I (Fig. 21).Solenidia ω_1 8 > ω_2 3 < φ_1 6 < φ_2 7. Solenidion φ_1 baculiform. Solenidia ω_1, ω_2 and φ_2 uniformly thin. Setae v′TrI, dFeI blunt-ended. Leg II (Fig. 22). Setae v′TrII blunt-ended. Solenidion ω 6 finger-shaped. Solenidia φ on tibiae II 3. Tarsi II–IV with large simple claws. Leg III (Fig. 23). Solenidia φ on tibiae III 3. Setae v′TrIII blunt-ended. Leg IV (Fig. 24). Claw large. Setae tc′ and tc″ on tarsus IV much longer than other setae on leg IV. Setae v′TrIV, dFeIV, v′GeIV, v′TiIV, pv″TaIV, tc″TaIV blunt-ended. Solenidion φ on tibiae IV 8.

Non-phoretic female and **larva** unknown.

Type material. Female holotype, UKRAINE: Crimea, Nikita mountain pasture, cow dung, 27 September 2005, coll. A.A. Khaustov; paratypes: 62 phoretic females, 1 male with same data as holotype.

Differential diagnosis. The new species is most similar to *P. moravicus* Samsinak, 1984 and *P. luriei* Camerik et Goetzee, 1998 but differs from both species by equal setae c_1 and c_2 (in *P. moravicus* and *P. luriei* setae c_1 shorter than c_2) and by setae ps_1 distinctly shorter than ps_3 (in *P. moravicus* and *P. luriei* setae ps_1 longer than ps_3).

Etymology. The name of new species refers to its montane distribution.

Pediculaster camerikae sp. nov.

Figs. 25–29.

Description. Phoretic female. Idiosomal length 272 (216–297), maximum width 133 (144–150). Idiosomal dorsum (Fig. 25). Stigmata one-chambered. All tergites with small dimples. All dorsal setae blunt-ended and barbed, except short, pointed and smooth v_2, *e*, and h_2. Length of dorsal setae: v_1 27 (22–24), v_2 7 (7–8), sc_2 51 (45–51), c_1 51 (45–51), c_2 52 (42–51), *d* 51 (45–56), *e* 13 (11–13), *f* 52 (45–52), h_1 54 (46–53), h_2 12 (11–14). Distances between dorsal setae: v_1–v_1 11 (10–12), v_2–v_2 22 (22–26), sc_2–sc_2 41 (34–39), c_1–c_1 41 (33–44), c_1–c_2 29 (22–31), *d*–*d* 74 (66–86), *e*–*f* 7 (7), *f*–*f* 76 (70–84), h_1–h_1 65 (58–72), h_1–h_2 9 (7–10). Idiosomal venter (Fig. 26). Ventral plates with small dimples. Setae of anterior and posterior sternal plates smooth. Apodemes 5 absent. Setae ps_2 weakly barbed and blunt-ended. Setae ps_3 as long as ps_1. Posterior margin of posterior sternal plate tripartite. Length of ventral setae: 1*a* 10 (8–9), 1*b* 10 (9–10), 1*c* 14 (12–15), 2*a* 15 (14–15), 2*b* 15 (14–15), 2*c* 10 (9–10), 3*a* 13 (12–14), 3*b* 13 (12–14), 3*c* 18 (15–18), 4*a* 13 (11–12), 4*b* 17 (16–18), 4*c* 16 (13–16), ps_1 5 (5–6), ps_2 23 (19–23), ps_3 6 (5–6).

Legs (Figs. 27–29). Leg chaetotaxy as in previous species. Leg I (Fig. 27). Solenidia ω_1 10 (9–10) > ω_2 7 (6–7) = φ_1 6 (6) = φ_2 6 (5–6). Solenidion ω_1 finger-shaped. Solenidion φ_1 baculiform. Solenidia ω_2 and φ_2 uniformly thin. Setae v′TrI, l′GeI, l″GeI blunt-ended. Leg II (Fig. 28). Setae v′TrII, dFeII blunt-ended. Solenidion ω 7 (6–7) finger-shaped. Solenidia on tibiae II–IV very small, difficult to discern. Tarsi II–IV with relatively small padded claws. Leg III: setae v′TrIII, dFeIII blunt-ended. Leg IV (Fig. 29): claws simple. Setae v′TrIV, dFeIV, dTiIV blunt-ended.

Non-phoretic female, **male** and **larva** unknown.

Type material. Female holotype, UKRAINE: Crimea, Kara-Dag Nature Reserve, cow dung, 7 October 2004, coll. A.A. Khaustov; paratypes: 3 phoretic females with same data as holotype.

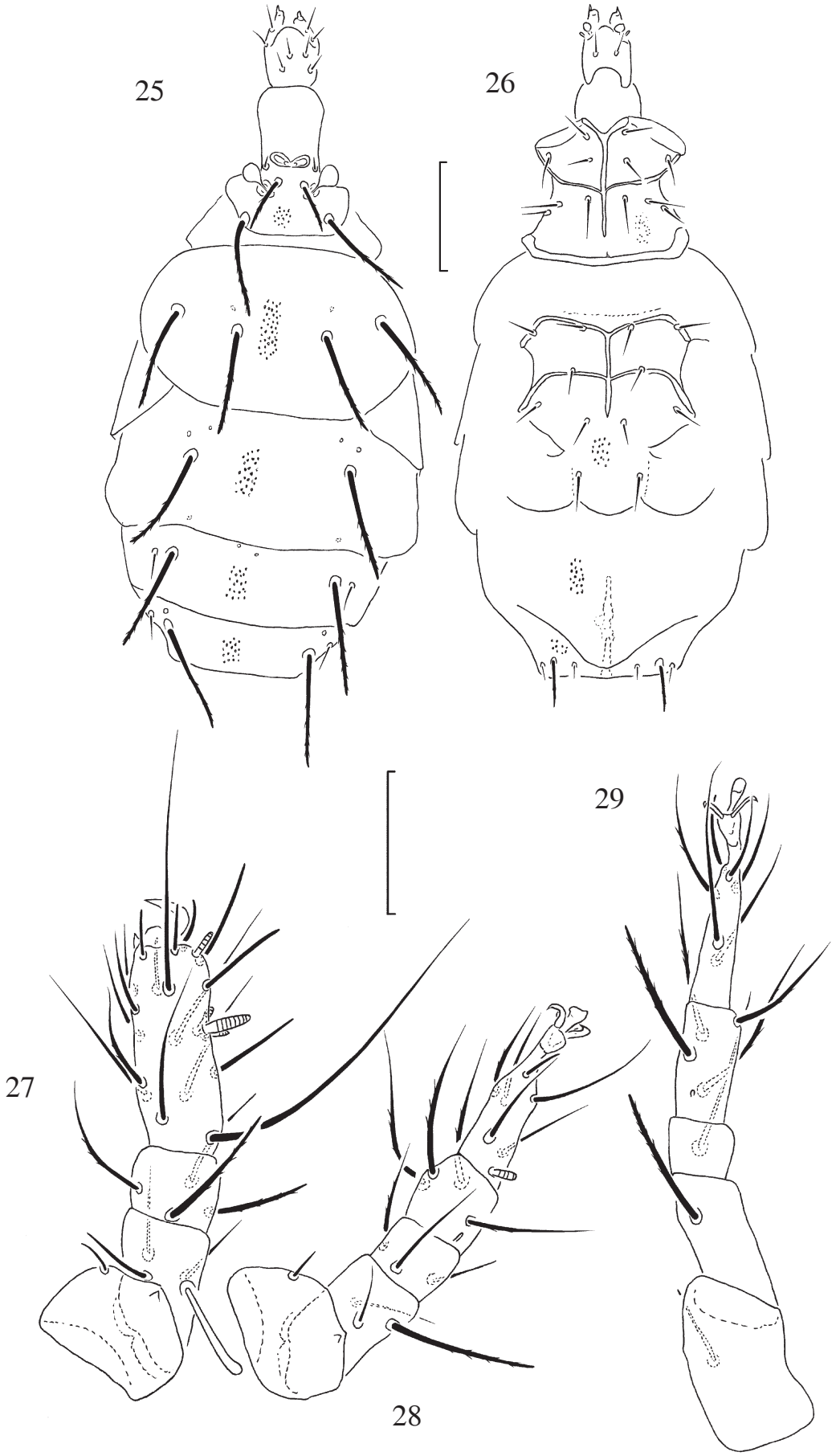
Differential diagnosis. The new species is most similar to *P. kneeboni* (Wicht, 1970) but differs by the absence of apodemes 5 (well-developed in *P. kneeboni*), by the subequal setae ps_1 and ps_3 (setae ps_3 are vestigial in *P. kneeboni*).

Etymology. This species is named after the well known specialist on the genus *Pediculaster*, Dr. A.M. Camerik.

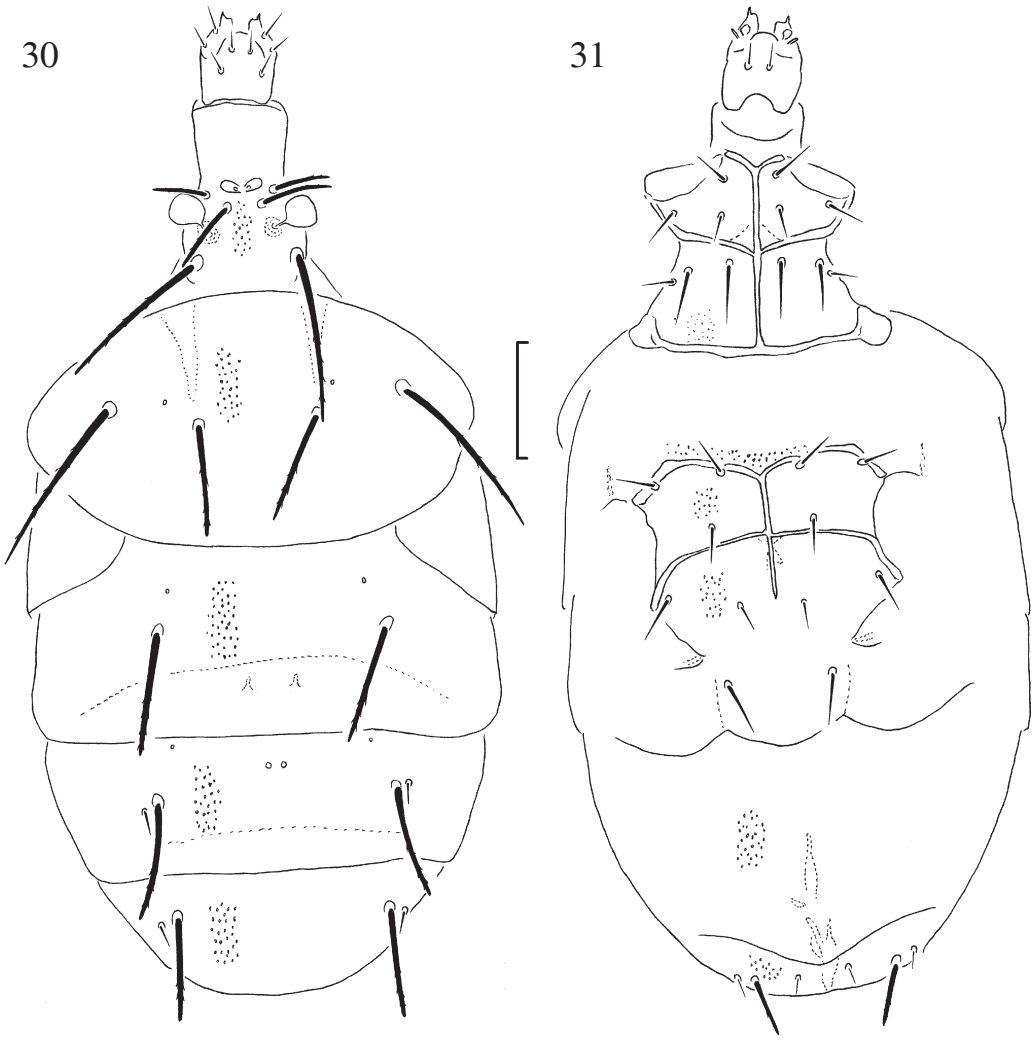
Pediculaster tauricus sp. nov.

Figs. 30–34.

Description. **Phoretic female**. Idiosomal length 333 (300–335), maximum width 155 (150–160). Idiosomal dorsum (Fig. 30). Stigmata one-chambered. All tergites with small dimples. All dorsal setae blunt-ended and barbed, except short, pointed and smooth *e* and h_2. Length of dorsal setae: v_1 28 (27–30), v_2 22 (21–24), sc_2 61 (61–67), c_1 44 (40–45), c_2 67 (62–71), *d* 49 (44–46), *e* 11 (10–11), *f* 47 (44–47), h_1 44 (41–44), h_2 10 (8–10). Distances between dorsal setae: v_1–v_1 14 (11–15), v_2–v_2 27 (26–27), sc_2–sc_2 39 (38–39), c_1–c_1 47 (45–47), c_1–c_2 36 (31–37), *d*–*d* 93 (83–93), *e*–*f* 6 (5–6), *f*–*f* 85 (82–91), h_1–h_1 75 (72–81), h_1–h_2 6 (5–6). Idiosomal venter (Fig. 31). Ventral plates with small dimples. Setae of anterior and posterior sternal plates smooth. Apodemes 5 absent. Setae



Figs. 25–29. *Pediculaster camerikae* sp. n., female: 25 — dorsum, 26 — venter, 27–29 — legs I, II, IV, respectively. Scale bar 50 μm.



Figs. 30–31. *Pediculaster tauricus* sp. n., female: 30 — dorsum, 31 — venter. Scale bar 50 μm.

ps_2 weakly barbed and blunt-ended. Setae ps_3 as long as ps_1. Posterior margin of posterior sternal plate tripartite. Length of ventral setae: 1*a* 11 (10–11), 1*b* 11 (10-11), 1*c* 15 (13–15), 2*a* 15 (15–18), 2*b* 16 (15–17), 2*c* 11 (8–12), 3*a* 14 (13–14), 3*b* 13 (12–14), 3*c* 17 (17–18), 4*a* 14 (11–14), 4*b* 22 (39–41), 4*c* 19 (17–19), ps_1 9 (8–9), ps_2 32 (30–32), ps_3 9 (8–9).

Legs (Figs. 32–34). Leg chaetotaxy as in previous species. Leg I (Fig. 32).Solenidia ω_1 8 (8–9) > ω_2 5 (5–6) < φ_1 7 (6–7) > φ_2 5 (4–6). Solenidion ω_1 finger-shaped. Solenidion φ_2 situated in the space between setae pl″ and l″. Solenidia ω_2 and φ_1 uniformly thin. Setae v′TrI, l′FeI, l′GeI, l″GeI blunt-ended. Leg II (Fig. 33). Setae v′TrII, dFeII blunt-ended. Solenidion ω 7 (6–7) finger-shaped. Solenidia on tibiae II–IV very small, difficult to see. Tarsi II–IV with large padded, distinctly bifurcate claws. Leg III: setae v′TrIII, dFeIII, v′FeIII, l′GeIII blunt-ended. Leg IV (Fig. 34): claws simple. Setae v′TrIV, dFeIV, v′GeIV, dTiIV blunt-ended.

Non-phoretic female, **male** and **larva** unknown.

Type material. Female holotype, UKRAINE: Crimea, vicinity of Yalta, cow dung, 28 November 2001, coll. A.A. Khaustov; paratypes: 125 phoretic females with same data as holotype.

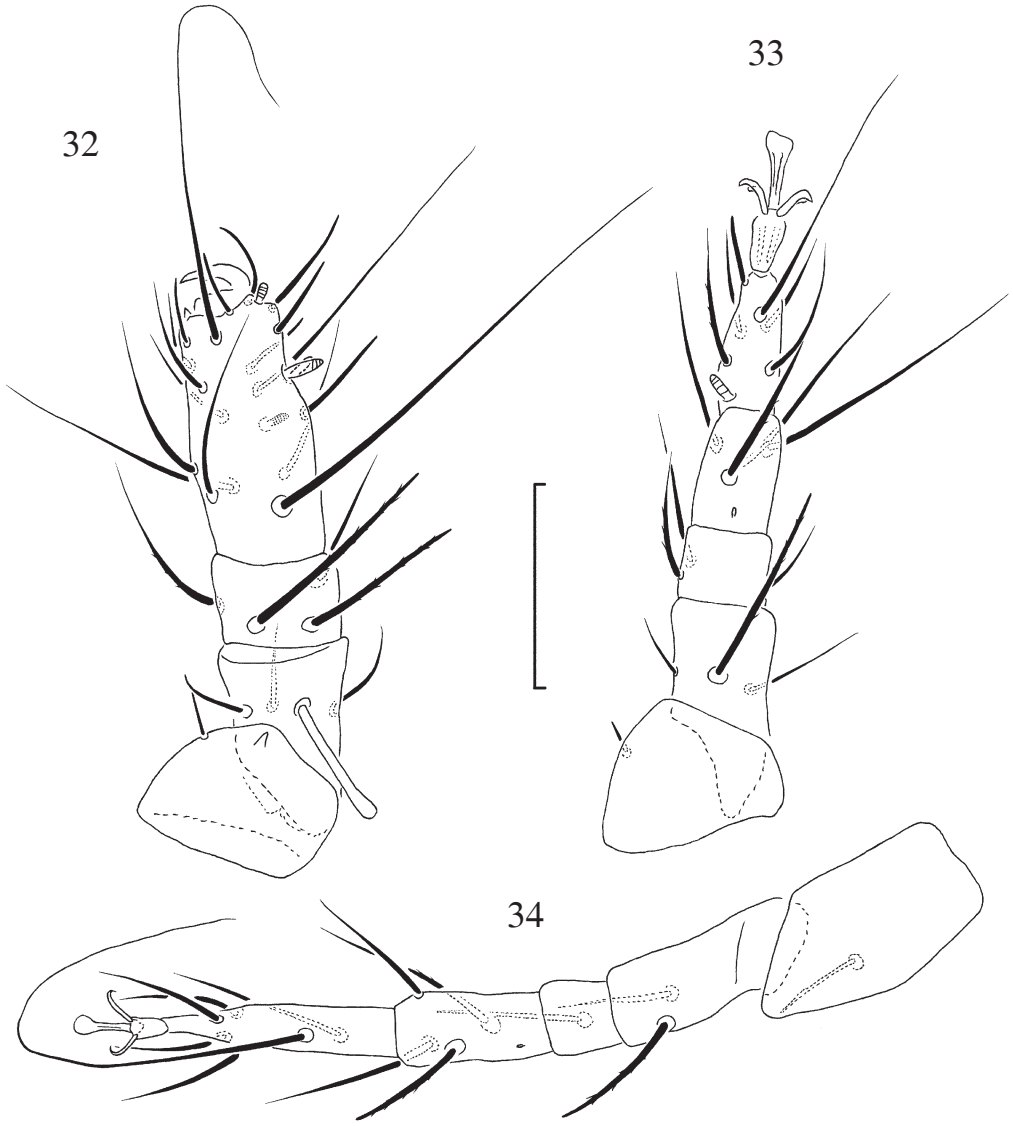
Differential diagnosis. The new species is most similar to *P. perottii* Camerik et Goetzee, 1998 but differs by the unusual position of solenidion φ_2 situated between setae *pl″* and *l″* (in *P. perottii*, φ_2 is close to solenidion φ_1).

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

Pediculaster confusus sp. nov.

Figs. 35–41.

Description. **Phoretic female**. Idiosomal length 305 (296–377), maximum width 148 (139–178). Idiosomal dorsum (Fig. 35). Stigmata one-chambered. Pharyngeal pumps as on Fig. 37. All tergites with small dimples. All dorsal setae blunt-ended and barbed, except short, pointed and



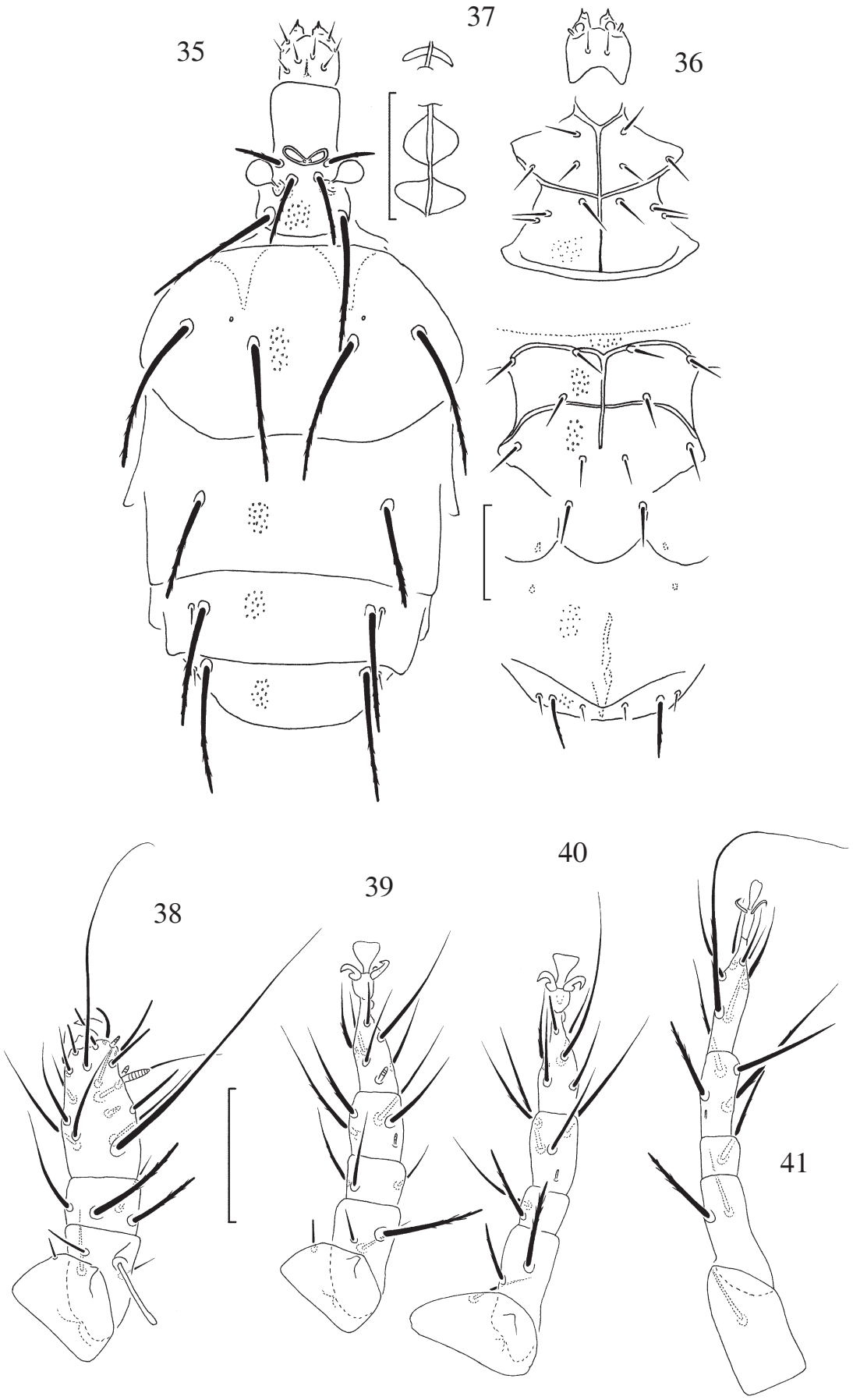
Figs. 32–34. *Pediculaster tauricus* sp. n., female: 32–34 — legs I, II, IV, respectively. Scale bar 50 μm.

smooth *e* and h_2. Length of dorsal setae: v_1 32 (28–39), v_2 22 (18–23), sc_2 67 (59–80), c_1 67 (57–80), c_2 70 (62–89), *d* 53 (44–57), *e* 11 (9–12), *f* 56 (45–67), h_1 57 (47–69), h_2 11 (10–13). Distances between dorsal setae: v_1–v_1 12 (10–15), v_2–v_2 23 (21–27), sc_2–sc_2 30 (30–38), c_1–c_1 44 (38–49), c_1–c_2 30 (25–34), *d*–*d* 82 (68–95), *e*–*f* 5 (5–6), *f*–*f* 78 (61–94), h_1–h_1 71 (59–87), h_1–h_2 8 (6–8). Idiosomal venter (Fig. 36). Ventral plates with small dimples. Setae of anterior and posterior sternal plates smooth. Apodemes 5 absent. Setae ps_2 weakly barbed and blunt-ended. Setae ps_3 as long as ps_1. Posterior margin of posterior sternal plate tripartite. Length of ventral setae: 1*a* 11 (10–12), 1*b* 11 (10–12), 1*c* 16 (13–17), 2*a* 17 (14–18), 2*b* 17 (14–18), 2*c* 12 (10–12), 3*a* 16 (12–16), 3*b* 15 (14–16), 3*c* 19 (17–20), 4*a* 14 (10–14), 4*b* 17 (16–21), 4*c* 19 (14–19), ps_1 7 (6–9), ps_2 27 (22–30), ps_3 7 (6–9).

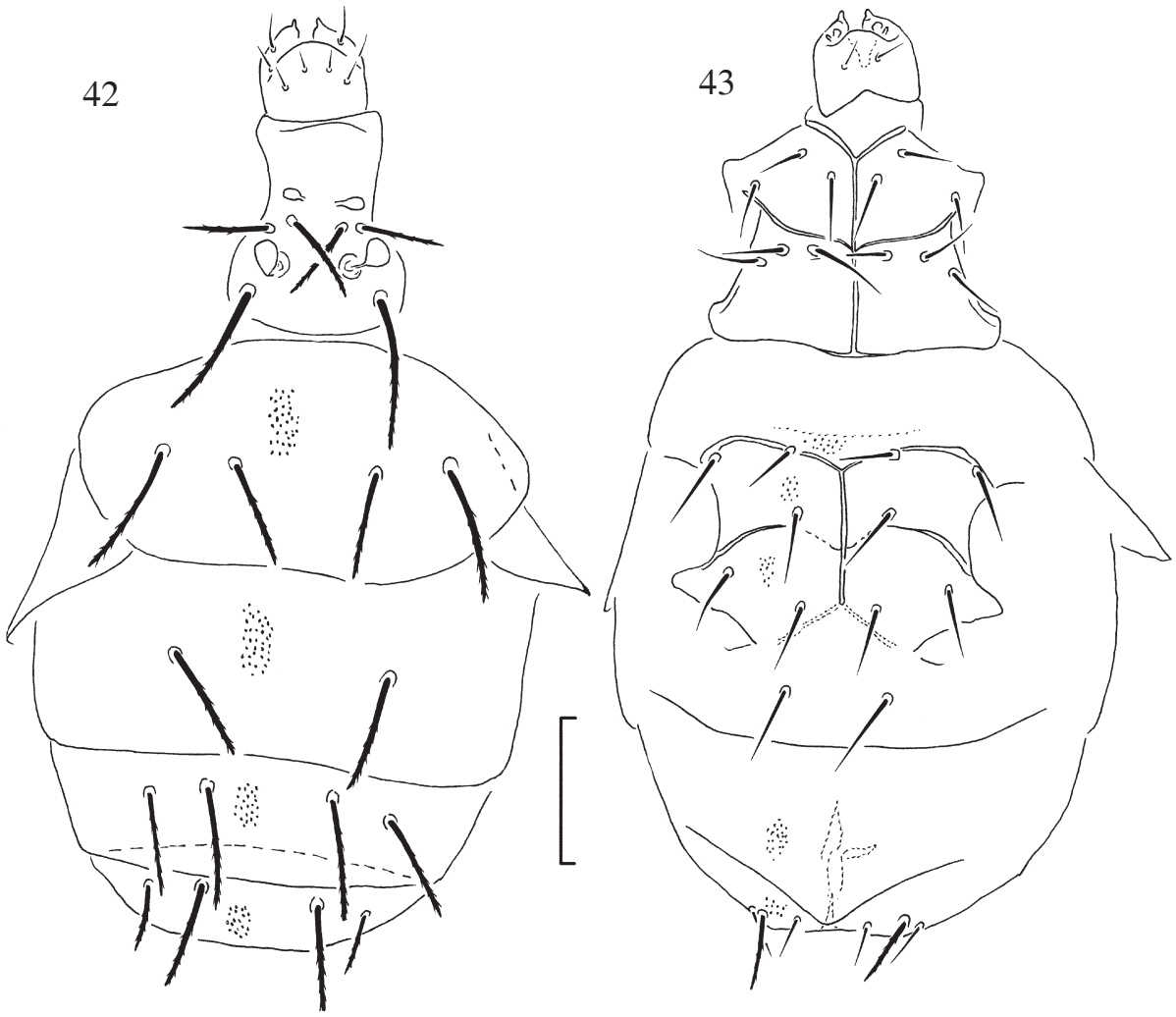
Legs (Figs. 38–41). Leg chaetotaxy as in previous species. Leg I (Fig. 38). Solenidia ω_1 9 (7–10) > ω_2 5 (3–5) < φ_1 8 (6–8) > φ_2 5 (4–6). Solenidion ω_1 finger-shaped. Solenidion φ_1 baculiform. Solenidia ω_2 and φ_2 uniformly thin. Solenidion φ_2 situated between setae pl″ and l″. Setae v′TrI, l′FeI, l′GeI, l″GeI blunt-ended. Leg II (Fig. 39). Setae v′TrII, dFeII blunt-ended. Solenidion ω 7 (6–7) finger-shaped. Solenidia on tibiae II–IV very small, difficult to see. Tarsi II–IV with large padded claws. Leg III (Fig. 40): setae v′TrIII, dFeIII, v′FeIII, l′GeIII blunt-ended. Leg IV (Fig. 41): claws simple. Setae v′TrIV, dFeIV, v′GeIV, dTiIV blunt-ended.

Non-phoretic female, **male** and **larva** unknown.

Type material. Female holotype, UKRAINE: Crimea, vicinity of Yalta, undetermined fly, 4 November 2001, coll. A.A. Khaustov; paratypes: 139 phoretic females with same data as holotype.



Figs. 35–41. *Pediculaster confusus* sp. n., female: 35 — dorsum, 36 — venter, 37 — pharyngeal pumps, 38–41 — legs I–IV, respectively. Scale bar 50 μm.



Figs. 42–43. *Pediculaster jaltensis* Sevastianov, 1974, female: 42 — dorsum, 43– venter. Scale bar 50 μm.

Differential diagnosis. The new species is most similar to *P. tauricus* sp. n. but differs by the substantially longer dorsal setae, setae c_1 are longer than *d* (in *P. tauricus* c_1 are shorter or subequal to *d*).

Etymology. The name of the new species refers to its similarity to the previous species.

***Pediculaster jaltensis* Sevastianov, 1974**

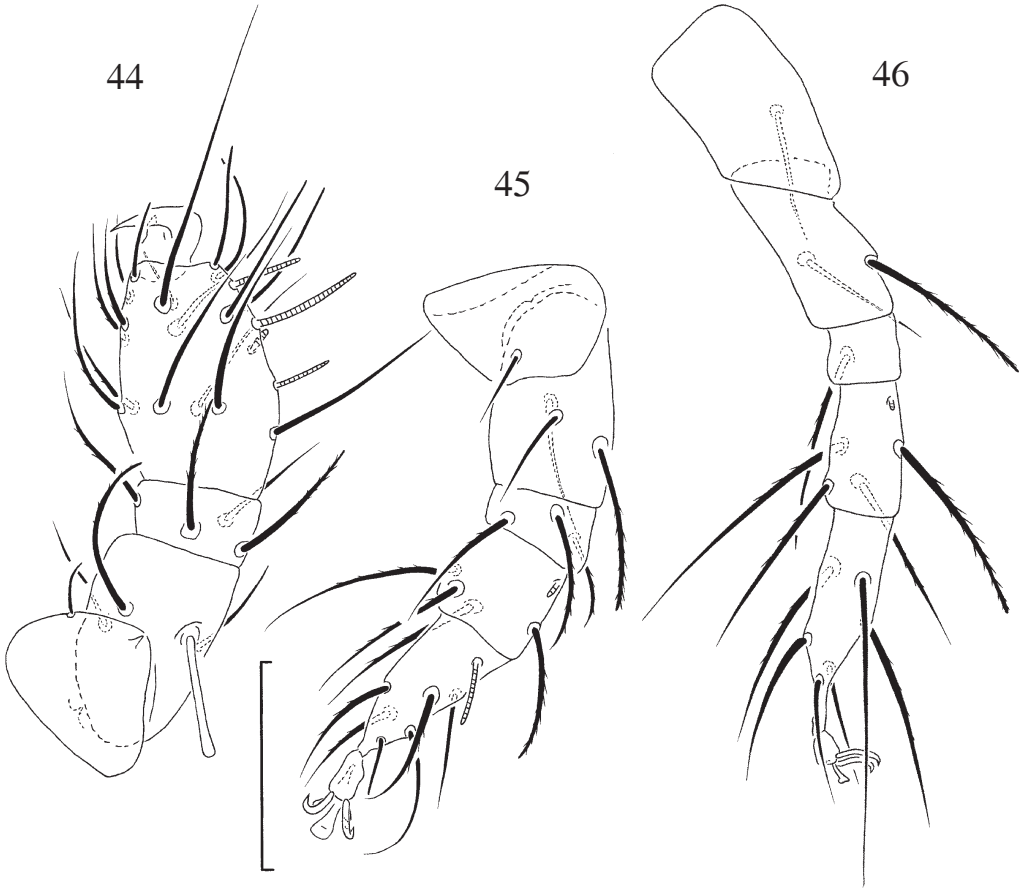
P. hispanicus Samsinak, 1984, syn. nov., p. 52, fig. 6.

Figs. 42–46.

Description. **Phoretic female**. Idiosomal length 300, maximum width 155. Idiosomal dorsum (Fig. 42). Stigmata small, one-chambered. All tergites with small dimples. All dorsal setae blunt-ended and barbed. Length of dorsal setae: v_1 34, v_2 32, sc_2 56, c_1 40, c_2 56, *d* 47, *e* 42, *f* 44, h_1 40, h_2 24. Distances between dorsal setae: v_1–v_1 17, v_2–v_2 34, sc_2–sc_2 48, c_1–c_1 49, c_1–c_2 27, *d*–*d* 75, *e*–*f* 22, *f*–*f* 47, h_1–h_1 42, h_1–h_2 17. Idiosomal venter (Fig. 43). Ventral plates with small dimples. Setae of anterior and posterior sternal plates smooth. Apodemes 5 present, diffuse. Setae ps_2 weakly barbed and blunt-ended. Setae ps_3 slightly shorter than ps_1. Posterior margin of posterior sternal plate almost straight. Length of ventral setae: 1*a* 27, 1*b* 18, 1*c* 21, 2*a* 31, 2*b* 29, 2*c* 27, 3*a* 28, 3*b* 27, 3*c* 31, 4*a* 28, 4*b* 33, 4*c* 28, ps_1 14, ps_2 28, ps_3 17.

Legs (Figs. 44–46). Leg chaetotaxy as in previous species. Leg I (Fig. 44). Solenidia ω_1 28 > ω_2 18 < φ_1 8 > φ_2 16. Solenidion φ_1 baculiform. Solenidia ω_1, ω_2 and φ_2 uniformly thin. Setae v′TrI, l′FeI, l′GeI, l″GeI blunt-ended. Leg II (Fig. 45). Setae v′TrII, dFeI, dTiIII blunt-ended. Solenidion ω 17 uniformly thin. Solenidia on tibiae II–IV very small, difficult to see. Tarsi II–I with large padded, distinctly bifurcate claws. Leg III: setae v′TrIII, dFeIII, v′FeIII, l′GeIII blunt-ended. Leg IV (Fig. 46): claws simple. Setae dFeIV, dTiIV blunt-ended.

Non-phoretic female, **male** and **larva** unknown.



Figs. 44–46. *Pediculaster jaltensis* Sevastianov, 1974, female: 44–46 — legs I, II, IV, respectively. Scale bar 50 μm.

Material examined. Female paratype, UKRAINE: Crimea, Yalta, in soil, November 1970, coll. A.D. Petrova-Nikitina.

Remarks. My material on *P. jaltensis* completely agrees with the description of *P. hispanicus* Samsinak, 1984 and I consider *P. hispanicus* as a junior synonym of *P. jaltensis*.

Pediculaster sterculinicola Sevastianov, 1981

Figs. 47–52.

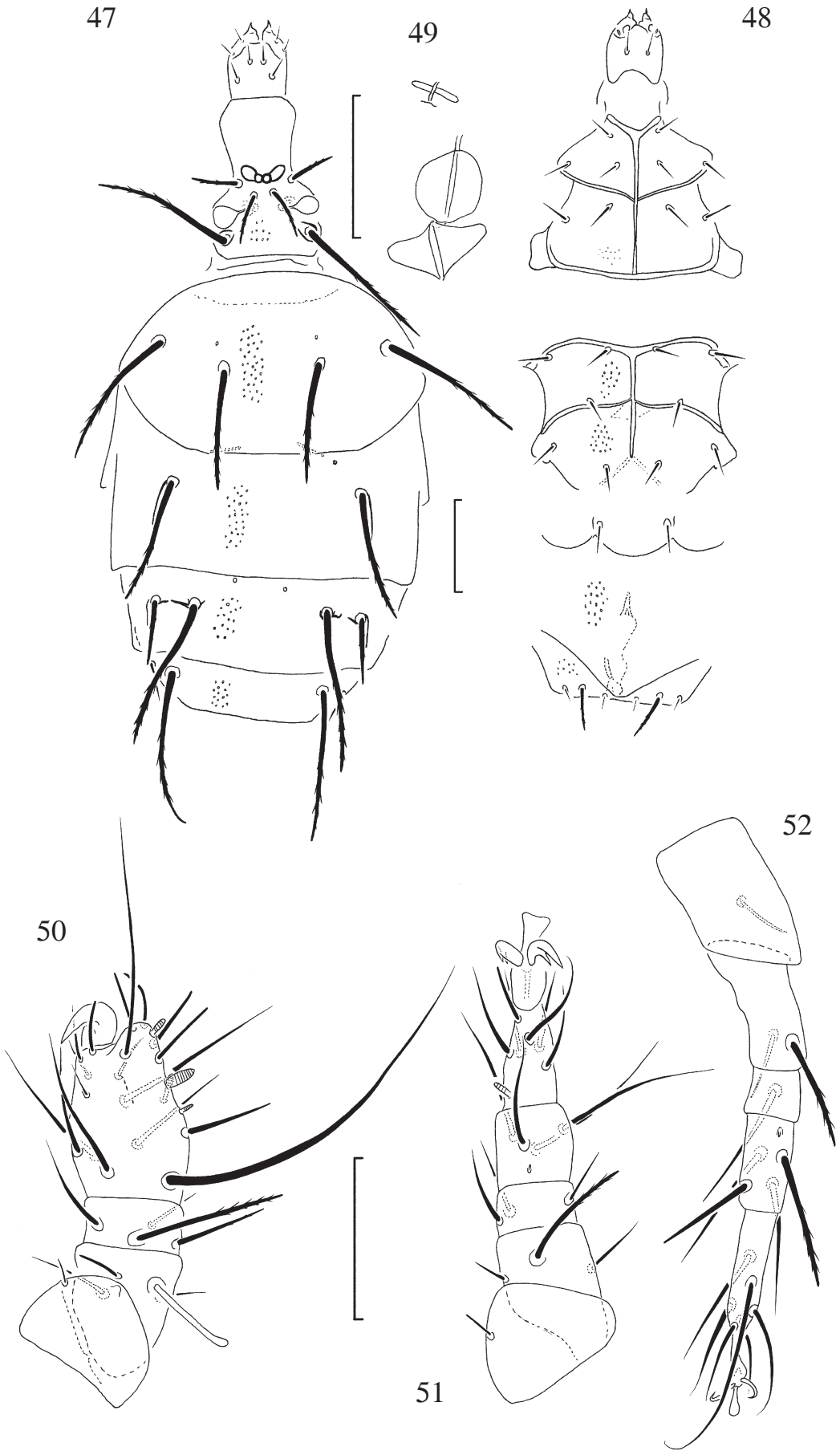
Description. **Phoretic female**. Idiosomal length 330–340, maximum width 167–178. Idiosomal dorsum (Fig. 47). Stigmata distinctly two-chambered, but lateral chamber much larger than medial one. All tergites with small dimples. All dorsal setae blunt-ended and barbed, except for smooth h_2. Setae *e* with only few barbs. In some specimens bases of setae *e* and *f* connected by sclerotized ridges. Pharyngeal pumps as on Fig. 49. Length of dorsal setae: v_1 30, v_2 27–28, sc_2 79–85, c_1 68–72, c_2 83–93, *d* 69–72, *e* 37–38, *f* 85–91, h_1 90–103, h_2 14–15. Distances between dorsal setae: v_1–v_1 8, v_2–v_2 24–26, sc_2–sc_2 46–47, c_1–c_1 52–53, c_1–c_2 34–36, *d*–*d* 103–104, *e*–*f* 20–21, *f*–*f* 71–73, h_1–h_1 79–83, h_1–h_2 7–10. Idiosomal venter (Fig. 48). Ventral plates with small dimples. Setae of anterior and posterior sternal plates smooth. Setae 2*b* absent. Apodemes 5 present, diffuse. Setae ps_2 weakly barbed and blunt-ended. Setae ps_3 and ps_1 subequal. Posterior margin of posterior sternal plate tripartite. Length of ventral setae: 1*a* 12–13, 1*b* 12–13, 1*c* 12–16, 2*a* 17, 2*c* 12–15, 3*a* 17–18, 3*b* 14–16, 3*c* 13–15, 4*a* 14, 4*b* 18–19, 4*c* 16, ps_1 8, ps_2 22–23, ps_3 7.

Legs (Figs. 50–59). Leg chaetotaxy as in previous species. Leg I (Fig. 50). Solenidia ω_1 8 > ω_2 5 < φ_1 7 > φ_2 6. Solenidion φ_1 baculiform. Solenidia ω_1, ω_2 and φ_2 cylindrical. Setae v′TrI, l′FeI, l′GeI, l″GeI blunt-ended. Leg II (Fig. 51). Setae v′TrII, dFeI blunt-ended. Solenidion ω 8 cylindrical. Solenidia on tibiae II–IV very small, difficult to discern. Tarsi II–IV with large padded, distinctly bifurcate claws. Leg III: setae v′TrIII, dFeIII, v′FeIII, l′GeIII blunt-ended. Leg IV (Fig. 52): claws simple. Setae v″TrIV, dFeIV, dTiIV, v”TiIV blunt-ended.

Non-phoretic female, **male** and **larva** unknown.

Material examined. Two phoretic females, UKRAINE, Crimea, vicinity of Yalta, cow dung, 23 March 2002, coll. A.A. Khaustov.

Distribution. This species was described from the western Ukraine (Sevastianov 1981) and recorded in Crimea for the first time.



Figs. 47–52. *Pediculaster sterculinicola* Sevastianov, 1981, female: 47 — dorsum, 48 — venter, 49 — pharyngeal pumps, 50–52 — legs I, II, IV, respectively. Scale bar 50 μm.

Pediculaster ensifer (Savulkina, 1978) comb. nov.

This species was described as *Siteroptes ensifer* from Bulgaria (Savulkina 1978) from the nest of *Apodemus flavicollis* Melch. This species is new for Ukraine.

Material examined: 1 phoretic female, Crimea, vicinity of Yalta, nest of undetermined small mammal, 7 November 2001, coll. A.A. Khaustov.

Pediculaster guatengensis Camerik, 1996

This species was described from the Republic of South Africa where it was collected in cow dung (Camerik 1996). New record for the European and Ukrainian faunas.

Material examined: 6 phoretic females, UKRAINE, Zakarpatye, top of mount. Krasna, cow dung, 28 July 2007, coll. A.A. Khaustov.

Pediculaster perottii Camerik et Goetzee, 1998

This species was described from Argentina (Camerik, Goetzee 1998). New record for the European and Ukrainian fauna.

Material examined. 22 phoretic females, UKRAINE: Crimea, vicinity of Yalta, cow dung, 4 November 2001, coll. A.A. Khaustov.

Pediculaster pfefferianus Samsinak, 1964.

This species was described from Spain (Samsinak 1984). New record for the Ukrainian fauna.

Material examined: 15 phoretic females, UKRAINE, Crimea, «Cape Martyan» Nature Reserve, in wet soil on bank of small stream, 10 June 2007, coll. A.A. Khaustov.

Pediculaster portatus (Martin, 1978)

This species was described from New Zealand (Martin 1978) where it was collected from the fly *Musca domestica*. New record for the European and Ukrainian fauna.

Material examined: 6 phoretic females, UKRAINE, Donetsk Distr., on *Musca domestica*, 2 October 1972, coll. V.E. Sklyar.

Pediculaster pseudomanicatus Camerik, 2001

This species was described from the USA (Camerik 2001). It also was reported from Germany (Rack 1974) as *P. manicatus* (Berlese 1904). New record for the Ukrainian fauna.

Material examined: 1 phoretic female, UKRAINE, Crimea, Yalta, in soil, 15 November 2001, coll. A.A. Khaustov.

Pediculaster sellnickianus (Rack, 1964)

This species was described from Germany (Rack 1964). New record for the Ukrainian fauna.

Material examined: 1 phoretic female, UKRAINE, Crimea, Ozernoe, on undetermined insect, 24 October 1972, coll. V.E. Sklyar.

ACKNOWLEDGEMENTS

I thank prof. V.D. Sevastianov (Odessa National University, Ukraine) for paratype of *Pediculaster jaltensis* and V.E. Sklyar (Poltava, Ukraine) for alcohol preserved material of mites.

REFERENCES

Camerik, A.M. 1996. Phoretic females of *Pediculaster gautengensis* sp. n. (Acari: Pygmephoridae) associated with insects collected from dung in South Africa. *Mitteilungen aus dem Hamburg Zoologischen Museum Institute,* 93: 161–170.

Camerik, A.M. 2001. Redescription of holotype of *Pediculaster manicatus* (Berlese), 1904 and description of *P. pseudomanicatus* n. sp. (Acari: Pygmephoridae). *International journal of acarology*, 27(1): 13–28.

Camerik, A.M. and Goetzee, S.H. 1998. *Pediculaster perottii* spec. nov. (Acari: Pygmephoridae), phoretic females collected from *Haematobia* (Diptera: Muscidae) in Argentina, South America. *Bulletin de l'institute royal des sciences naturelles de Belgique (Entomologie)*, 68: 29–36.

Lindquist, E.E. 1986. The world genera of Tarsonemidae (Acari: Heterostigmata): a morphological, phylogenetic, and systematic revision, with a reclassification of family-group taxa in Heterostigmata. *Memoirs of Entomological Society of Canada,* 136: 1–517.

Livshits, I.Z., Mitrofanov, V.I., and Sharonov A.A. 1986. [Revision of mites of the family Siteroptidae Mahunka, 1970 (Acari: Tarsonemina)]. *In:* Vrediteli i bolezni plodovykh, subtropicheskikh i dekorativnykh rasteniy, 99: 7–30. [in Russian]

Martin, N.A. 1978. *Siteroptes (Siteroptoides)* species with *Pediculaster*-like phoretomorphs (Acari: Tarsonemida: Pygmephoridae) from New Zealand and Polynesia. *New Zealand journal of zoology*, 5: 121–155.

Rack, G. 1964. Über die bisher in Hamburg gefundenen Pyemotidae (Acarina, Trombidiformes) mit Beschreibung von zwei neuen Arten. *Entomologische Mitteilungen aus dem Zool. Staatinst. Zoologischen Museum Hamburg*, 48 (3): 21–29.

Rack, G. 1974. Neue und bekannte Milbenarten der Überfamilie Pygmephoroidea aue dem Saalkreis bei Halle (Acarina, Tarsonemida). *Entomologische Mitteilungen aus dem Zoologischen Museum Hamburg*, 87 (4): 499–521.

Samsinak, K. 1984. Mites on flies of the family Sphaeroceridae. *Věst. Čs. Společ. Zool*., 48: 45–63.

Savulkina, M.M. 1978. Neue Pygmephoriden-Arten (Trombidiformes, Pygmephoridae) aus Nagernestern von Bulgarien und der Sowjetunion. *Parasitologica Hungarica*, 11: 127–140.

Sevastianov, V.D. 1974. [New mite species of the family Pygmephoridae (Trombidiformes)]. *Zoologicheskiy zhurnal*, 53 (6): 848–856. [in Russian]

Sevastianov, V.D. 1978. Tarsonemina. *In*: Opredelitel pochvoobitayushchikh kleshchey. Trombidiformes (Ed. M.S. Gilarov), M., «Nauka Publ.»: 14–90. [in Russian]

Sevastianov, V.D. 1981. [New mite species of the family Pygmephoridae (Tarsonemina, Trombidiformes)]. *Vestnik zoologii*, 6: 25–30. [in Russian]

Sevastianov, V.D., Chydyrov, P.R., and Marroch, T.N. 1994. [New mite species of the cohort Tarsonemina (Trombidiformes) from Turkmenistan, Ukraine and Russian Federation]. *Vestnik zoologii*, 6: 3–10. [in Russian]