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Article

A new species of *Sevastianoviella* (Acari: Heterostigmata: Pygmephoridae) from Crimea

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ABSTRACT
All active stages of *Sevastianoviella taurica* **sp. nov.** (Acari: Heterostigmata: Pygmephoridae) are described from a rotting twig of linden near town of Yalta, Crimea. A key to the species of *Sevastianoviella* is also provided and the life history of the new species is discussed.

KEY WORDS: Larva; life history; male; physogastry; Pygmephoroidea; systematics.

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INTRODUCTION

The cosmopolitan family Pygmephoridae (Acari: Heterostigmata) has the second largest species diversity in the superfamily Pygmephoroidea (Acari: Heterostigmata) and includes 33 described genera and more than 300 species (Khaustov 2019). All pygmephorid mites are probably fungivorous and generally inhabiting soil, forest litter, rotting materials; many species are associated with various insects and utilize them for phoresy; yet, representatives of the genus *Pygmephorus* Kramer, 1877 are associated with small mammals and their nests (Kaliszewski *et al.* 1995; Khaustov *et al.* 2019). Some species of *Siteroptes* Amerling are vectors of phytopathogenic fungi, carrying their spores by sporothecae, specialized structures on their body (Lindquist 1985).

The genus *Sevastianoviella* Livshits *et al.*, 1986 comprises two subgenera and seven species: *Sevastianoviella* s. str. with five species, namely *S.* (*Sevastianoviella*) *vetus* (Rack, 1965), *S.* (*S.*) *bohemicus* (Mahunka, 1967), *S.* (*S.*) *stellifer* (Zaki, 1983), *S.* (*S.*) *albidus* (Livshits *et al.*, 1988), *S.* (*S.*) *lacidus* (Livshits *et al.*, 1988), and *Siteroptulus* Livshits *et al.*, 1986 with two species, namely: *S.* (*Siteroptulus*) *digitariae* (Flechtmann, 1971) and *S.* (*S.*) *spinisetus* (Livshits *et al.*, 1988) (Livshits *et al.* 1986). Except for *Sevastianoviella digitariae* which was described from Brazil, the other species are currently known from Europe (Livshits *et al.* 1986). Currently, the subgenera *Sevastianoviella* and *Siteroptulus* differ from each other by the presence (in *Sevastianoviella*) or absence (in *Siteroptulus*) of setae *4b*. However, this character seems to be variable, sometimes even in different specimens of one species. In our opinion, this is not a strong character for creating subgenera. Therefore, in this article, we did not follow the division of the genus into subgenera. Another

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challenge is that males in this genus are described for only two species, *S. vetus* and *S. stellifer* (Kaliszewski 1988), and other species are described only based on females. Moreover, larval stage is not described for any *Sevastianoviella* species, and nothing is known about the biology of this genus. Here we describe and illustrate *Sevastianoviella taurica* **sp. nov.** based on all active life stages (female, male and larva) recovered under the thin bark of a rotting twig of linden in Crimea.

MATERIAL AND METHODS

The mites were directly collected from the rotting twig of linden (*Tilia* sp.) in the vicinity of Yalta, Crimea using a tiny needle. All collected mites were cleared in lactic acid and mounted in Hoyer's medium. We also studied type materials of *Sevastianoviella lacidus*, *S. albidus* and *S. spinisetus* deposited in the collection of the Museum of Zoology, Tyumen State University, Russia, for comparison. The terminology of the idiosoma and legs follows that of Lindquist (1986); the nomenclature of the subcapitular setae and the designation of cheliceral setae follow those of Grandjean (1944, 1947), respectively. All measurements are given in micrometers (μm) for holotype and the range of measurements for five paratypes (in parentheses). For leg chaetotaxy, the number of solenidia is given in parentheses. Mite morphology was studied using a Carl Zeiss AxioImager A2 (Carl Zeiss, Germany) compound microscope with phase contrast and differential interference contrast (DIC) illumination. Photomicrographs were taken with a Hitachi KP-HD20A digital camera.

Abbreviations

ap1-ap5— apodemes 1-5, appr— prosternal apodeme, appo— poststernal apodeme, apsej— sejugal apodeme, ass—accessory setigenous structure, Tr— trochanter, Fe— femur, Ge— genu, Ti— tibia, Ta— tarsus. ZIRAS—Zoological Institute of Russian Academy of Sciences, St. Petersburg, Russia, TSUM Z—Tyumen State University, Museum of Zoology, Tyumen, Russia

SYSTEMATICS

Pygmephoridae Cross, 1965

Sevastianoviella Livshits *et al.*, 1986

Diroptes Kaliszewski, 1988: Khaustov 2015, 208

Type species: *Sevastianoviella lacidus* Livshits *et al.* in litt., by original designation.

Sevastianoviella taurica sp. nov. (Figs. 1–9)

http://zoobank.org/urn:lsid:zoobank.org:act:F75C12EB-016E-4B79-BF23-AE89CF83812B

Description

Female (Figs. 1–4) – Length of idiosoma 235 (215–235), width 110 (105–115).

Gnathosoma (Fig. 2) – Gnathosomal capsule length 24 (23–25) subequal to its width 23 (23–25); dorsally with two pairs of cheliceral setae (*cha, chb*). Setae *cha* weakly barbed and blunt-tipped; postpalpal setae (*pp*) smooth and blunt-tipped, situated posterolaterad setae *cha*, other gnathosomal setae smooth and pointed. Dorsal median apodeme absent. Venter of gnathosoma with a pair of setae *m* and a pair of small round pits *n* situated posteriad *m*. Palps with setae *dFe* and *dGe* dorsally; palp tibiotarsus with well-developed tibial claw and tiny peg-like seta distally; accessory setigenous structure club-shaped distally; palpal solenidion *ω* situated laterad accessory setigenous structure (*ass*). Pharyngeal pumps situated on long oesophagus; pump 1 bow-shaped with hardly discernible transverse striae, situated far posteriad gnathosoma and clearly separated from pumps 2 and 3; pharungeal pumps 2 and 3 contiguous, both ovate and transversely striate (Fig. 2B). Length of

gnathosomal setae: *cha* 8 (7–8), *chb* 11 (10–11), *pp* 9 (9–11), *dFe* 8 (8), *dGe* 11 (10–11), *m* 12 (11–12).

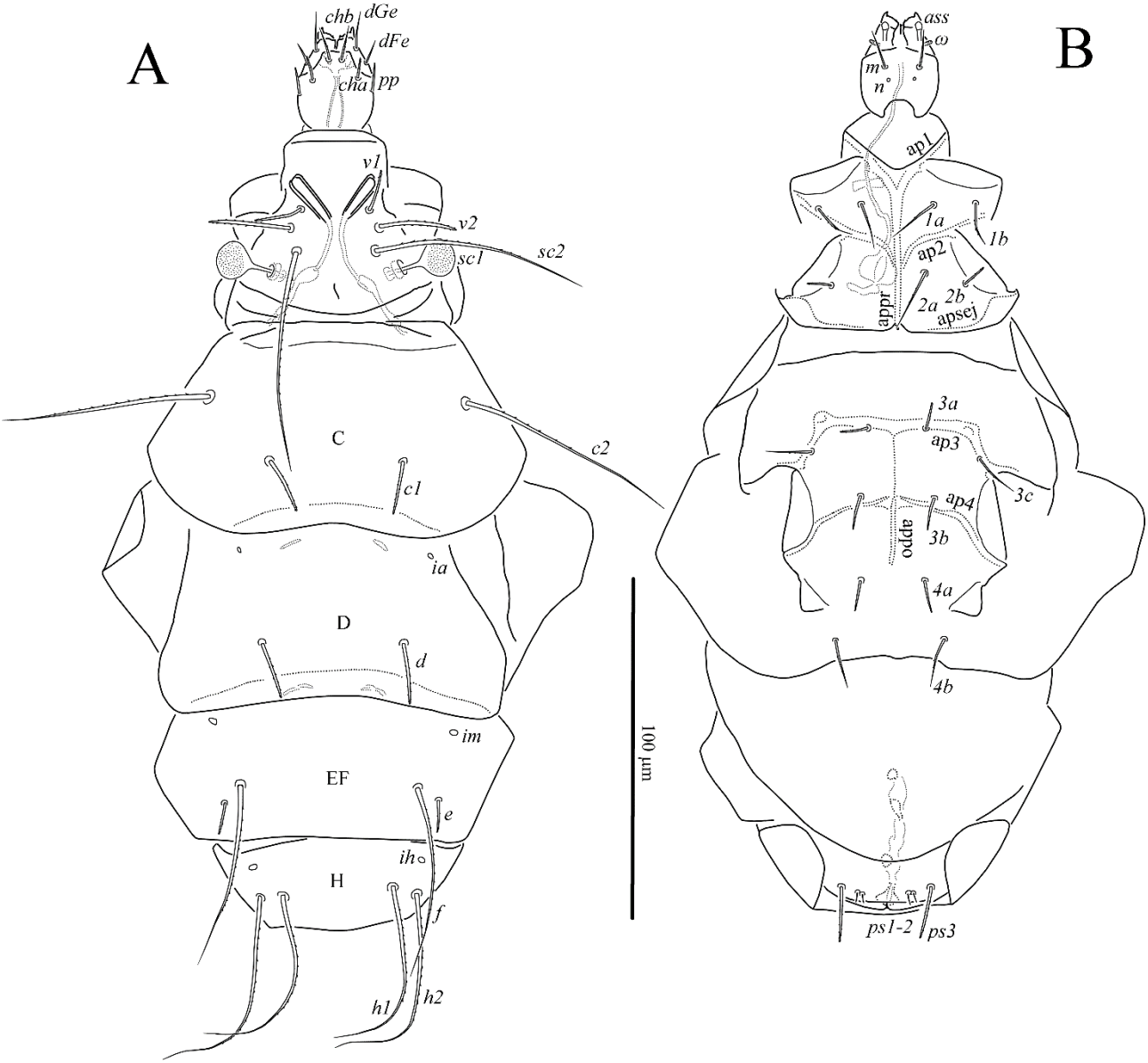

Figure 1. *Sevastianoviella taurica* **sp. nov.** (female) – **A.** Dorsum of body; **B.** Venter of body. Legs omitted.

Idiosomal dorsum (Fig. 1A) – All dorsal shields with hardly discernible tiny puncta; stigmata long; setae *sc1* club-shaped and with tiny barbs. All dorsal setae weakly barbed; setae *sc2*, *c2*, *f*, *h1*, and *h2* long, pointed, whip-like; other dorsal setae distinctly shorter and blunt-tipped. All cupules *ia* on tergite D, *im* on tergite EF and *ih* on tergite H small, round. Prodorsal shield with short median apodeme in posterior part. Lengths of dorsal setae: *v1* 13 (12–14), *v2* 24 (22–26), *sc2* 66 (57–69), *c1* 16 (15–17), *c2* 64 (55–65), *d* 18 (14–18), *e* 10 (8–10), *f* 58 (48–58), *h1* 57 (45–57), *h2* 62 (54–63). Distances between setae: *v1–v1* 20 (20–21), *v2–v2* 27 (26–28), *sc2–sc2* 23 (23–26), *c1–c1* 39 (36–39), *c1–c2* 26 (24–27), *c2–c2* 76 (70–80), *d–d* 41 (38–41), *e–f* 7 (7–8), *f–f* 52 (44–52), *e–e* 63 (57–63), *h1–h1* 33 (28–33), *h1–h2* 7 (7).

Idiosomal venter (Fig. 1B) – All ventral plates with hardly discernible tiny puncta. Setae *ps1-2* smooth, other ventral setae weakly barbed; setae *2a*, *3a*, *3b*, *4a*, and *ps3* blunt-tipped, other ventral

setae pointed; setae *1b* characteristically not bifurcate; setae *4c* absent. In two specimens (including holotype) one of setae *2a* asymmetrically absent; in two specimens one of setae *4b* asymmetrically absent. Apodemes ap1, ap2, ap3 and ap4 well developed; appr fused with ap2; apsej developed only laterally; appo fused with ap3 and ap4; ap5 absent. Posterior margin of aggenital plate evenly rounded. Lengths of ventral setae: *1a* 15 (13–15), *1b* 12 (11–12), *2a* 19 (17–19), 2*b* 7 (6–8), *3a* 9 (7–9), *3b* 10 (9–10), *3c* 14 (12–14), *4a* 10 (9–10), *4b* 15 (14–16), *ps1* 3 (3–4), *ps2* 3 (3), *ps3* 16 (14–16).

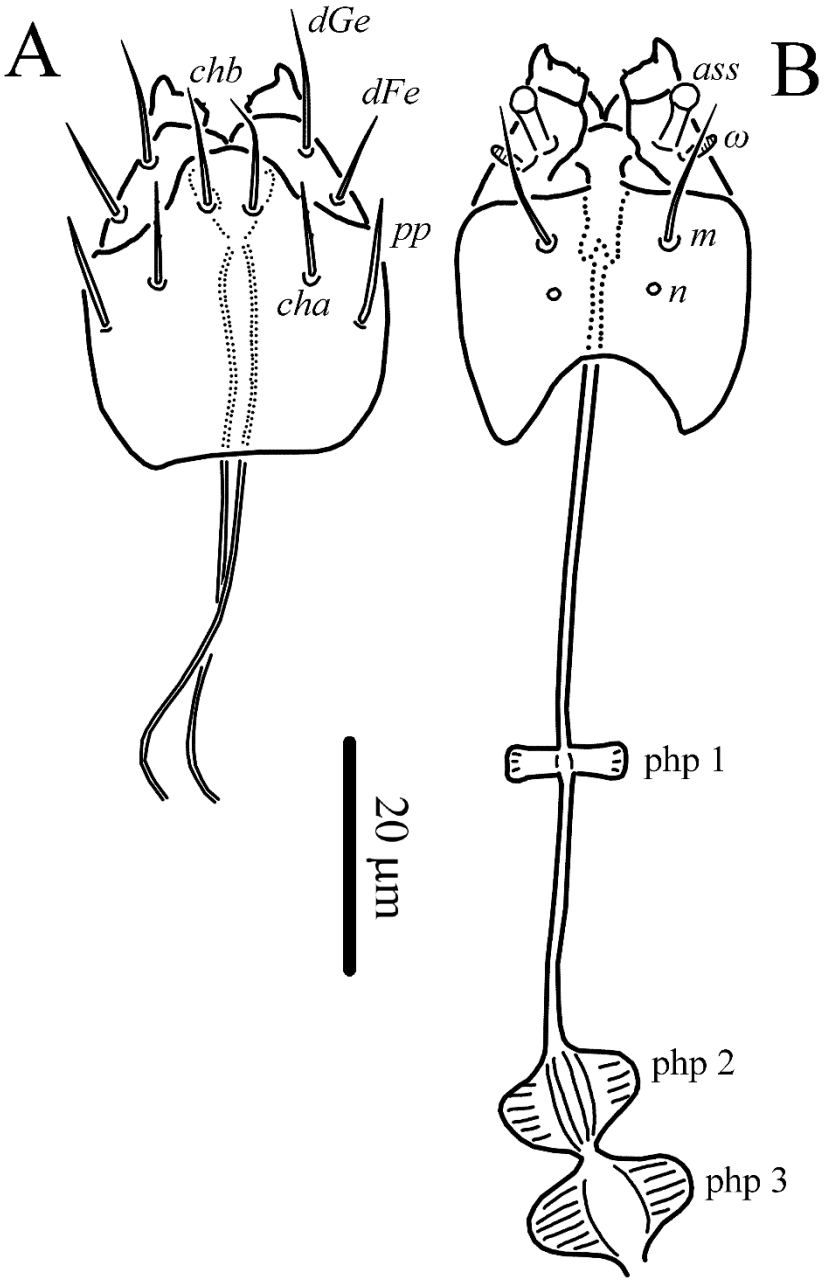

Figure 2. *Sevastianoviella taurica* **sp. nov.** (female) – **A.** Gnathosoma, dorsal aspect; **B.** Gnathosoma and pharyngeal pumps, ventral aspect.

Legs (Fig. 3) – Leg I (Fig. 3A). Leg setation: Tr 1 (*v'*), Fe 4 (*d*, *l'*, *l"*, *v"*), Ge 4 (*l'*, *l"*, *v'*, *v"*), Ti 6(2) (*d*, *l'*, *l"*, *v'*, *v"*, *k*, *φ1*, *φ2*), Ta 13(2) (*p'ξ*, *p"ξ*, *tc' ξ*, *tc" ξ*, *ft'*, *ft"*, *u'*, *u"*, *pl'*, *pl"*, *pv'*, *pv"*, *s*, *ω1*, *ω2*). Tarsus with one simple claw. Solenidia *ω1*, *ω2*, and *φ2* digitiform; solenidion *φ1* clavate. Length of solenidia: *ω1* 7 (7), *ω2* 5 (5), *φ1* 6 (6–7), *φ2* 3 (3). Setae (*p*) and (*tc*) of tarsus eupathid-

like; seta *k* of tibia smooth and blunt-tipped; setae (*u*) and (*ft*) smooth, other leg setae weakly barbed; setae *v'* of trochanter and *l'* of femur blunt-tipped, other setae pointed. Leg II (Fig. 3B). Leg setation: Tr 1 (*v'*), Fe 3 (*d, l', v"*), Ge 3 (*l', l", v'*), Ti 4(1) (*d, l', v', v", φ*), Ta 7(1) (*tc', tc", u', u", pl", pv', pv", ω*). Tarsal claws simple, hooked; empodium short, flipper-like. Solenidion *ω* 5 (5–6) digitiform, solenidion *φ* 3 (3) peg-like. Setae *tc"* and (*u*) of tarsus smooth, other leg setae weakly barbed; setae *v'* of trochanter and *l'* of femur blunt-tipped, other leg setae pointed. Leg III (Fig. 3C). Leg setation: Tr 1 (*v'*), Fe 2 (*d, v'*), Ge 2 (*l', v'*), Ti 4(1) (*d, l', v', v", φ*), Ta 7 (*tc', tc", pl", u', u", pv', pv"*). Claws and empodium of same shape as on tarsus II. Solenidion *φ* 3 (3) peg-like. Setae *tc"* and (*u*) smooth, other leg setae weakly barbed; all leg setae pointed. Leg IV (Fig. 3D). Leg setation: Tr 1 (*v'*), Fe 2 (*d, v'*), Ge 1 (*v'*), Ti 4(1) (*d, l', v', v", φ*), Ta 6 (*tc', tc", pl", u', pv', pv"*). Claws and empodium of same shape as on tarsi II and III. Solenidion *φ* 2 (2) peg-like. Setae (*tc*) smooth, other setae weakly barbed; seta *v"* of tibia blunt-tipped, other setae pointed.

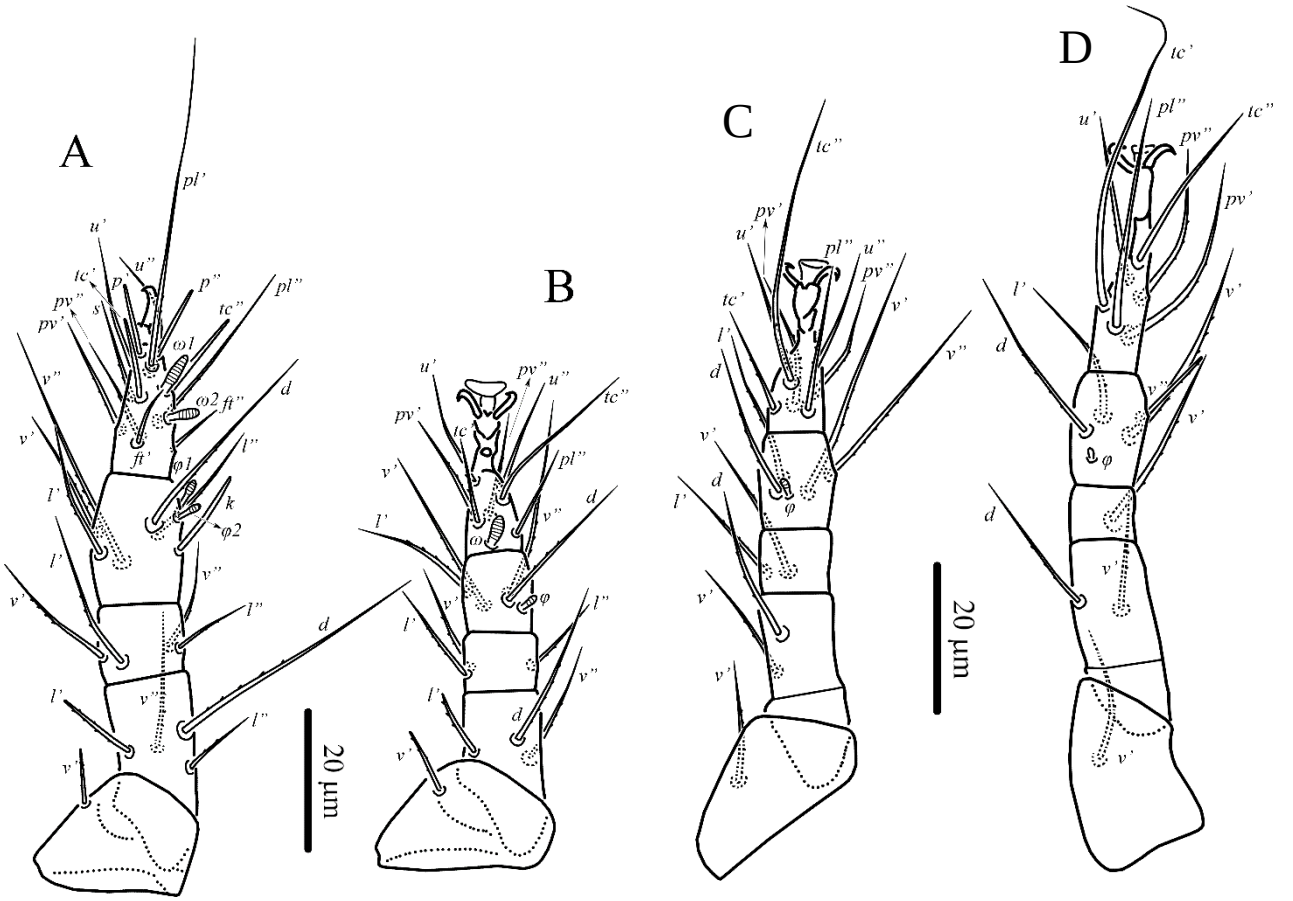

Figure 3. *Sevastianoviella taurica* **sp. nov.** (female) – **A.** Right leg I, dorsal aspect; **B.** Right leg II, dorsal aspect; **C.** Right leg III, dorsal aspect; **D.** Right leg IV, dorsal aspect.

Male (Figs. 4, 5) – Length of idiosoma 160, width 95.

Gnathosoma – Gnathosomal capsule strongly reduced, with palps, cheliceral stylets and pharynx being absent; gnathosoma with three pairs of smooth and pointed setae: ventral *m* and subterminal *dFe* and *dGe*; accessory setigenous structure club-shaped distally; palpal solenidion *ω* situated laterad accessory setigenous structure.

Idiosomal dorsum (Fig. 4A) – All dorsal shields with hardly discernible tiny puncta. Setae *d* and *h2* vestigial; setae *h1* smooth, blunt-tipped and slightly widened distally; other dorsal setae weakly barbed; setae *sc2*, *c2*, and *f* long and pointed; other dorsal setae much shorter and blunt-tipped. Cupules *ia* on tergite CD, and *im* on tergite EF small, round; cupules *ih* not evident. Prodorsal shield

with distinct median apodeme in posterior part; tergite CD with weak apodeme in central part. Lengths of dorsal setae: *v1* 9, *v2* 10, *sc1* 14, *sc2* 50, *c1* 14, *c2* 45, *e* 8, *f* 38, *h1* 5. Distances between setae: *v1–v1* 8, *v2–v2* 24, *sc1–sc1* 24, *sc2–sc2* 27, *c1–c1* 39, *c1–c2* 15, *c2–c2* 68, *d–d* 25, *e–f* 3, *f–f* 20, *e–e* 25, *h1–h1* 19, *h2–h2* 17.

Idiosomal venter (Fig. 4B) – All ventral plates with hardly discernible tiny puncta. Setae *ps1* very short, spine-like; setae *ps2* smooth and blunt-tipped, other ventral setae weakly barbed and blunt-tipped. Apodemes ap1, ap2, ap3, ap4 and ap5 well developed; appr fused with ap2; apsej absent; appo fused with ap4 and ap5. Aedeagus smooth, short and curved. Lengths of ventral setae: *1a* 12, *1b* 7, *2a* 6, 2*b* 7, *3a* 7, *3b* 9, *3c* 8, *4a* 6, *4b* 7, *ps1* 2, *ps2* 7.

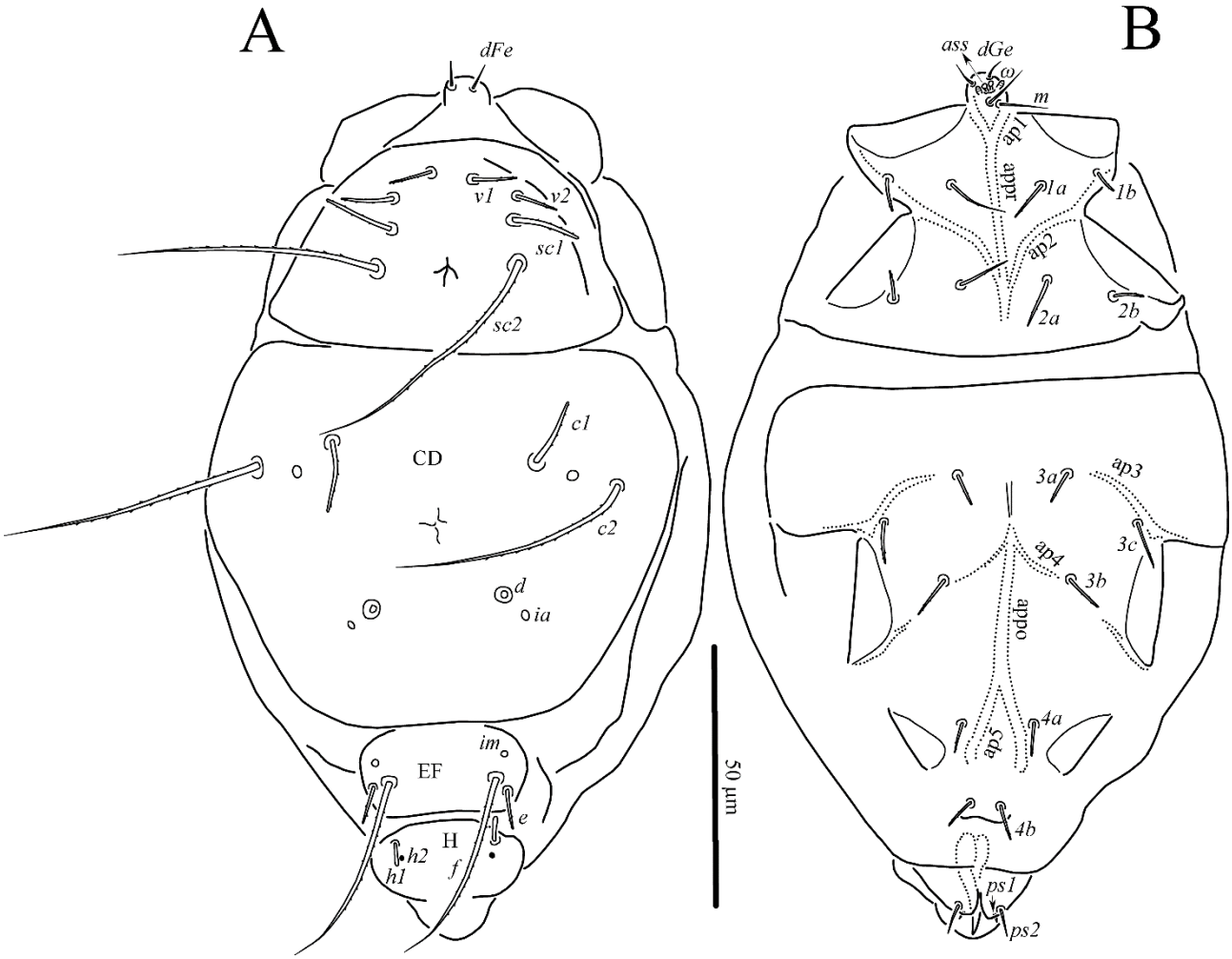

Figure 4. *Sevastianoviella taurica* **sp. nov.** (male) – **A.** Dorsum of body; **B.** Venter of body. Legs omitted.

Legs (Fig. 5) – Setation of legs as in female. Leg I (Fig. 5A). Tarsus with one simple claw. Solenidia *ω1*, *ω2*, and *φ2* digitiform; solenidion *φ1* clavate. Length of solenidia: *ω1* 5, *ω2* 3, *φ1* 6, *φ2* 3. Setae (*p*), (*tc*), and (*ft*) of tarsus eupathid-like; seta *k* of tibia smooth and blunt-tipped; setae *l"* of femur and (*u*) of tarsus smooth, other leg setae weakly barbed; setae *v'* of trochanter and *l'* of femur blunt-tipped, other leg setae pointed. Leg II (Fig. 5B). Tarsal claws simple, hooked; empodium short, flipper-like; solenidion *ω* 4 digitiform, solenidion *φ* 3 peg-like; setae (*u*) smooth, other setae weakly barbed; setae *v'* of trochanter and *l'* of femur blunt-tipped, other leg setae pointed. Leg III (Fig. 5C). Claws and empodium of same shape as on tarsus II; solenidion *φ* 3 peg-like. Setae (*u*) smooth, other setae weakly barbed; seta *v'* of trochanter blunt-tipped, over leg setae pointed. Leg IV (Fig. 5D). Claws thick, empodium absent; solenidion *φ* 3 peg-like. Setae *v'* of femur and genu, *tc"* and *pv'* of

tarsus barbed, other setae smooth; setae *v'* of genu and tibia and *tc"* of tarsus pointed, other setae blunt-tipped; seta *v"* of tibia spine-like.

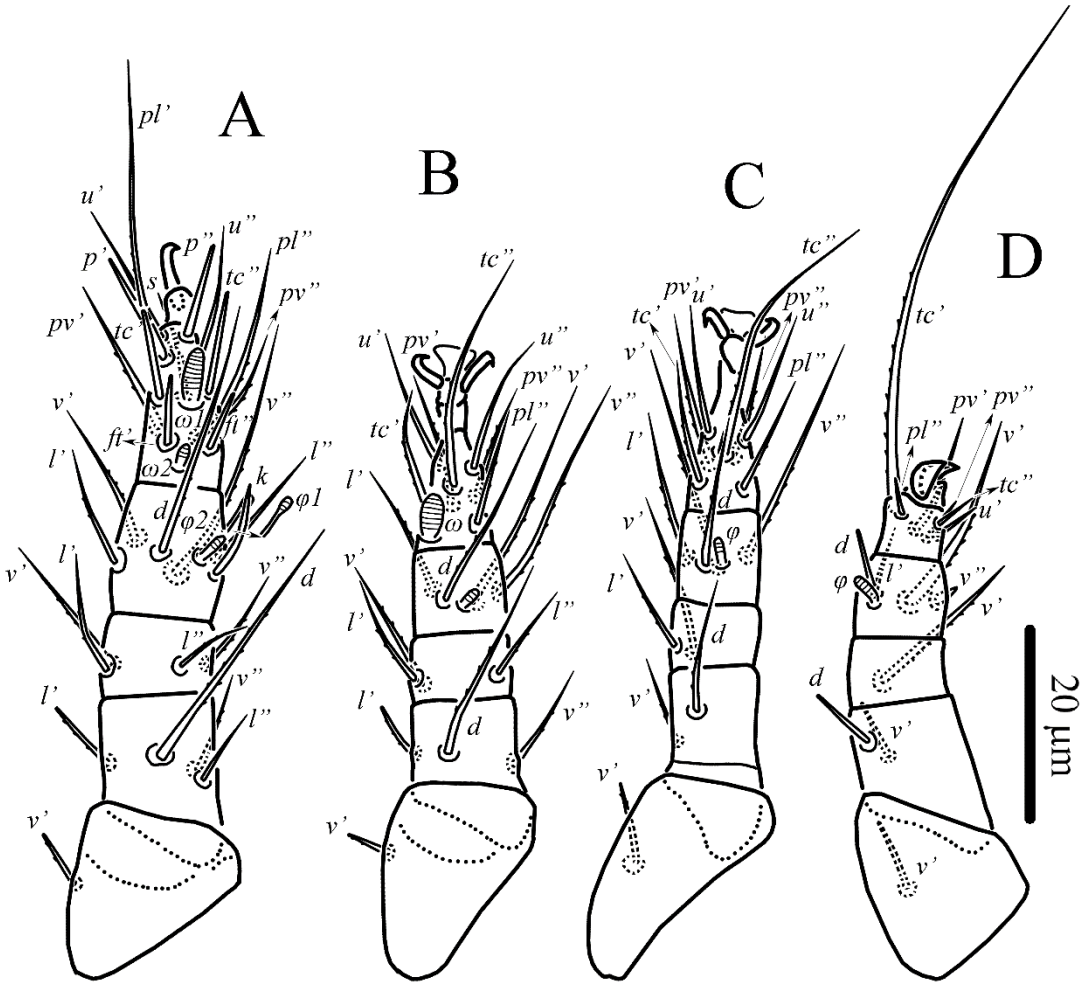

Figure 5. *Sevastianoviella taurica* **sp. nov.** (male) – **A–D.** Right legs I–IV, respectively, dorsal aspect.

Larva (Figs. 6, 7). Length of idiosoma 175–180, width 105–110.

Gnathosoma – Gnathosomal capsule length 22–25 subequal to its width 23–25. Dorsally with two pairs of cheliceral setae (*cha, chb*). All gnathosomal setae smooth; setae *cha* and *chb* blunt-tipped, setae *chb* with widened distal part; other gnathosomal setae pointed; postpalpal setae and pits *n* absent. Dorsal median apodeme absent. Gnathosoma ventrally with one pair of setae *m*; palps with setae *dFe* and *dGe* dorsally; palp tibiotarsus with well-developed tibial claw and tiny peg-like seta distally; accessory setigenous structure club-shaped distally; palpal solenidion *ω* situated laterad accessory setigenous structure. Pharyngeal pumps as in female. Length of gnathosomal setae: *cha* 7, *chb* 4, *dFe* 7, *dGe* 9, *m* 10.

Idiosomal dorsum (Fig. 6A) – All dorsal shields smooth; all dorsal setae weakly barbed; setae *sc2*, *c2*, *f*, *h1*, and *h2* long, whip-like and pointed; other dorsal setae distinctly shorter and blunt-tipped. Cupules *ia* on tergite D, *ip* on tergite EF and *ih* on tergite H small, round. Lengths of dorsal setae: *v1* 9, *v2* 9–10, *sc1* 20, *sc2* 68–70, *c1* 16–18, *c2* 53–58, *d* 28–29, *e* 15–18, *f* 58–62, *h1* 59–62, *h2* 45–70. Distances between setae: *v1–v1* 16, *v2–v2* 46–47, *sc1–sc1* 43–45, *sc2–sc2* 43–44, *c1–c1* 45–46, *d–d* 52–54, *e–f* 13–14, *f–f* 38–44, *e–e* 64–71, *h1–h1* 19–33), *h1–h2* 9–12.

Idiosomal venter (Fig. 6B) – All ventral plates smooth. Coxisternal plates I–II and III separated medially. Setae *ps1* and *ps3* smooth, pointed; other ventral setae weakly barbed and blunt-tipped.

Only ap2 clearly visible. Lengths of ventral setae: *1a* 9, *1b* 5–7, *2a* 7–9, 2*b* 7–8, *3a* 10–11, *3b* 11, *ps1* 10–11, *ps2* 18–20, *ps3* 9–10.

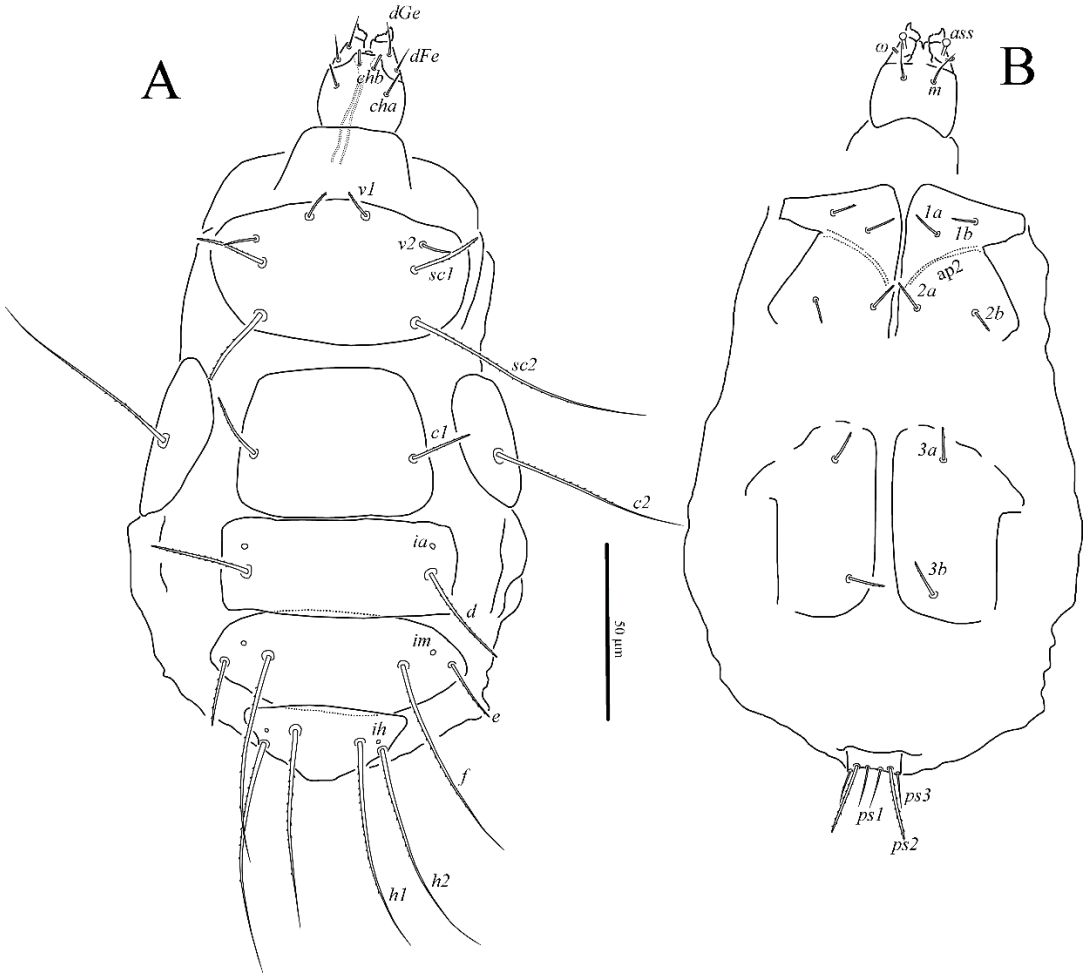

Figure 6. *Sevastianoviella taurica* **sp. nov.** (larva) – **A.** Dorsum of body; **B.** Venter of body. Legs omitted.

Legs (Fig. 7) – Leg I (Fig. 7A). Leg setation: Tr 0, Fe 4 (*d, l', l", v"*), Ge 4 (*l', l", v', v"*), Ti 6(1) (*d, l', l", v', v", k, φ1*), Ta 11(1) (*tc' ξ, tc" ξ, ft', ft", u', u", pl', pl", pv', pv", s, ω1*). Tarsus with two simple claws. Solenidion *ω1* digitiform; solenidion *φ1* clavate. Length of solenidia: *ω1* 5, *φ1* 5–6. Setae (*tc*) eupathid-like; setae *l'* of femur and *k* of tibia smooth and blunt-tipped, other leg setae pointed; setae *l", v"* of femur, *l"* of genu, *d, v'* of tibia, (*ft*), (*pl*), (*u*) of tarsus smooth, other leg setae weakly barbed. Leg II (Fig. 7B). Leg setation as in female, except absence of seta *v'* on trochanter. Tarsal claws and empodium as in female. Solenidion *ω* 4 digitiform, solenidion *φ* 3 peg-like. Setae *l', v"* of femur, *tc"* and (*u*) of tarsus smooth, other leg setae weakly barbed; seta *l'* of femur blunt-tipped, other leg setae pointed. Leg III (Fig. 7C). Leg setation: as in female, except absence of seta *v'* on trochanter. Tarsal claws and empodium as in female. Solenidion *φ* 3 peg-like. Setae *l'* of femur and (*u*) of tarsus smooth, other setae weakly barbed; seta *l'* of femur blunt-tipped, other leg setae pointed.

Type material

Holotype female, slide ZISP T-Pygm-009, Crimea, vicinity of Yalta, 44° 29' N 34° 05' E, 560 m a.s.l., 6 April 2022, under the thin bark of a rotting linden (*Tilia* sp.) twig lying on the ground, coll. Khaustov V.A. paratypes: 5 females, 1 male, 10 larvae, same data.

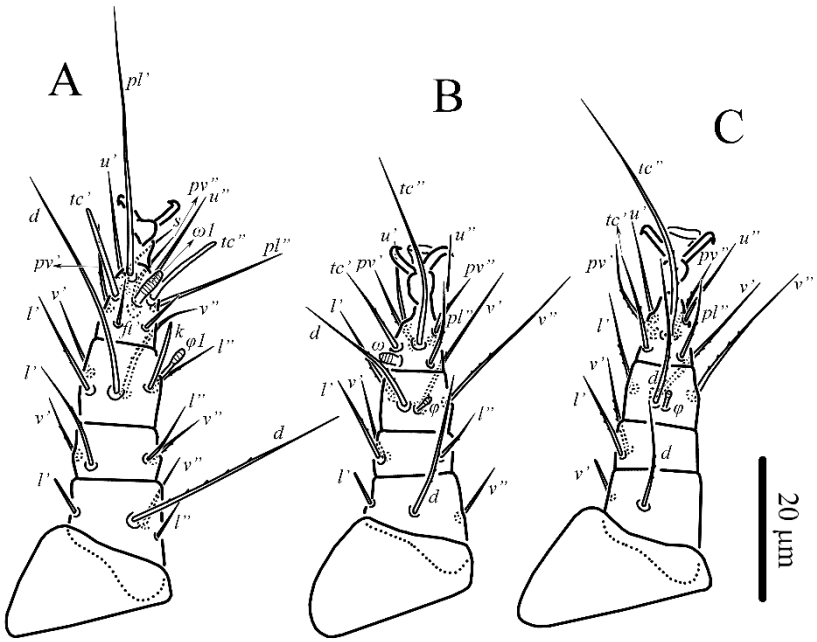

Figure 7. *Sevastianoviella taurica* **sp. nov.** (larva) – **A–C.** Right legs I–III, respectively, dorsal aspect.

Type deposition

The holotype female, four paratypes females and 5 larvae are deposited in the collection of ZIRAS; other paratypes are deposited in the collection of the TSUMZ.

Differential diagnosis

Female of the new species is most similar to *S. bohemicus*, described from Czech Republic (Mahunka 1967) in having subequal whip-like setae *h1* and *h2*, setae *4b* present, setae *4c* absent and setae (*ft)* on tarsus I present; it can be distinguished from *S. bohemicus* in having simple setae *1b* (setae *1b* bifurcate in *S. bohemicus*) and by distinctly shorter dorsal idiosomal setae *c1* and *d*, which are considerably shorter than the distances between their bases (setae *c1* and *d* distinctly longer than the distances between their bases in *S. bohemicus*).

Etymology

The name of the new species is derived from Latin *taurica* meaning *Crimea* and refers to its geographical distribution.

Key to world species of *Sevastianoviella*

1. Setae *4b* absent 2
– Setae *4b* present 3
2. Setae *f* long, exceeding beyond bases of setae *h1* about half its length; *sc2* reaching beyond bases of setae *c1*; trochanter IV without seta *v'*, tibia IV with three setae ..... *S. spinisetus*
– Setae *f* short, only slightly exceeding beyond bases of setae *h1*; *sc2* distinctly not reaching bases of setae *c1*, trochanter IV with seta *v'*, tibia IV with four setae ..... *S. digitariae*
3. Setae *4c* absent; setae *ps1-2* present 4
– Setae *4c* present; only alveoli of setae *ps1-2* present ..... *S. lacidus*
4. Setae *v2* not modified 5
– Setae *v2* brush-like ..... *S. stellifer*
5. Setae *h1* and *h2* subequal, both long and whip-like 6
– Setae *h2* whip-like, much longer than blunt-tipped *h1* 7

6. Setae *1b* bifurcate; setae *c1* and *d* long, longer than distance between their bases ……. *S. bohemicus*
– Setae *1b* simple; setae *c1* and *d* short, much shorter than distance between their bases ……
……...…… *S. taurica* **sp. nov.**
7. Genu II with two setae ……... *S. vetus*
– Genu II with three setae ……...…… *S. albidus*

DISCUSSION

The life histories of Pygmephoridae are poorly studied. Description of all life stages are mostly provided for pest species of the genera *Siteroptes*, *Pediculaster* Vitzthum, 1931 and *Luciaphorus* Mahunka, 1981 (Suski 1973; Cross and Kaliszewski 1988; Zou *et al*. 1993). The most primitive life cycle in Tarsonemina including Pygmephoridae consist of three free-living stages: egg, larva and adults (male and female) (Lindquist 1986); such free-living stages were observed in *Siteroptes cerealium* (Kirchner) (Suski 1973). Some pygmephorid genera (*Pediculaster*, *Bochkovlaster* Khaustov 2019) have more complex life cycles in having two morphologically different forms of females (phoretic and non-phoretic) (Cross and Kaliszewski 1988; Khaustov 2019). The most derived life cycle in Pygmephoridae is characterized by the presence of only one free-living stage (adults), without any egg and larval instars reduced to stages retained within the enlarged maternal female (see Lindquist 1986) (as in *Siteroptes avenae* (Müller), *Luciaphorus* and *Elattoma* genera) (Cross and Moser 1971; Suski 1973; Zou *et al.* 1993).

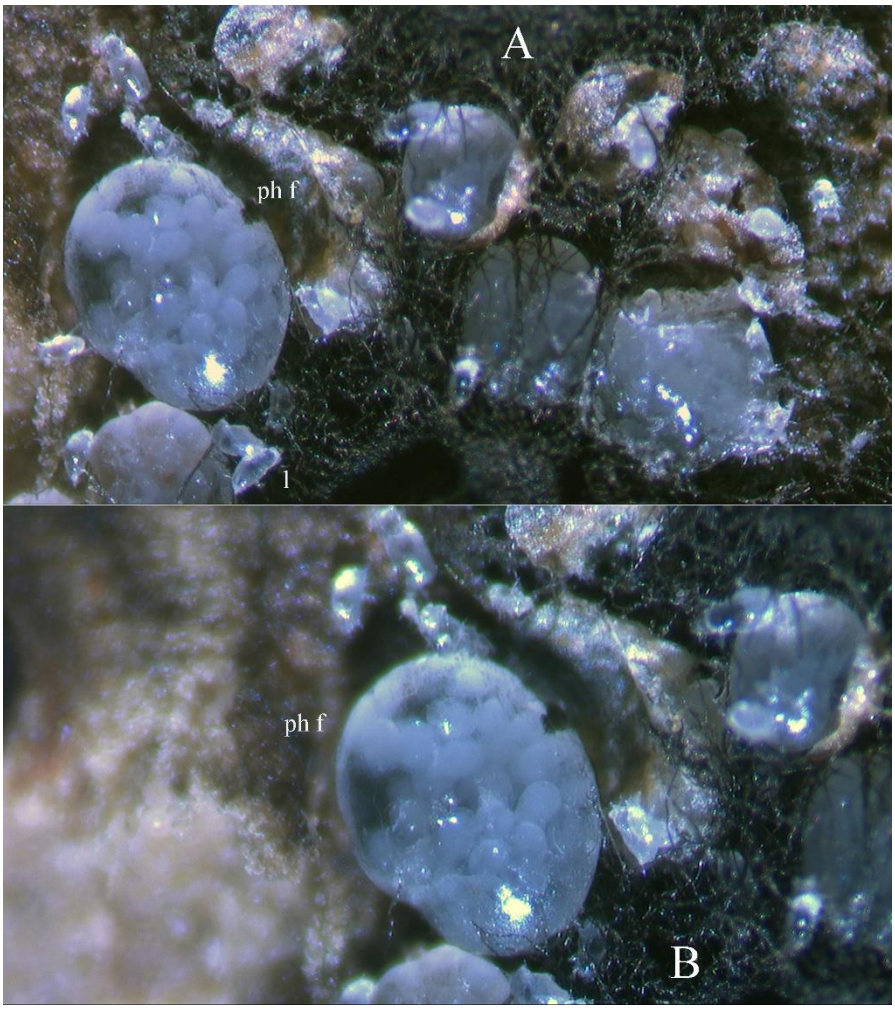

Figure 8. Micrographs of *Sevastianoviella taurica* **sp. nov.** colony under removed thin bark of rotting linden twig – **A.** General view; **B.** Enlarged view of physogastric female with numerous developing eggs inside the body. Ph f – physogastric female, l – larva.

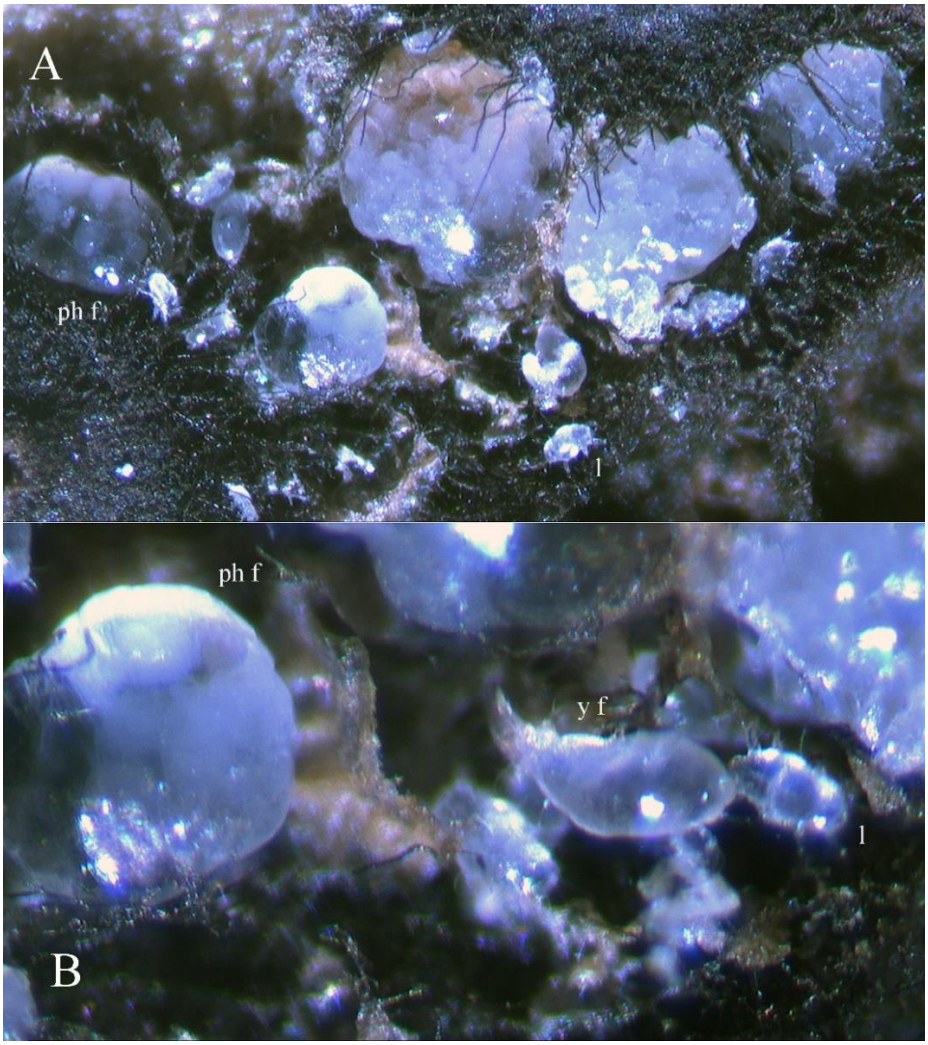

Figure 9. Micrographs of *Sevastianoviella taurica* **sp. nov.** colony under removed thin bark of rotting linden twig – **A.** General view; **B.** Enlarged view of physogastric and young females just started to feed. Ph f – physogastric female, y f – young female, l – larva.

In this study, we found a colony of *Sevastianoviella taurica* **sp. nov.** under thin bark of a rotting linden twig lying on the ground. We observed physogastric females of different ages (Figs. 8, 9) feeding on fungal hyphae. In some gravid females, numerous eggs were visible inside almost translucent body (Fig. 8). No eggs were found out of the bodies of physogastric females. We observed moving larvae coming out of the gravid mother's body. Numerous larvae, young females and some males crawled around (Figs. 8, 9). We did not find any phoretic females, and thus based on our observation, it can be concluded that the life cycle of *S. taurica* **sp. nov.** includes only two free-living stages, i.e. larva and adults, with larvae being produced directly by mothers. This kind of life cycle is intermediate between the most primitive (egg, larva, adults) and the most derived (only adults) types.

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گونهٔ جدیدی از *Sevastianoviella* (Acari: Heterostigmata: Pygmephoridae) از کریمه

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چکیده

تمام مراحل فعال *Sevastianoviella taurica* **sp. nov.** (Acari: Heterostigmata: Pygmephoridae) از شاخه پوسیده نمدار در نزدیکی شهر یالتا، کریمه توصیف می‌شود. کلیدی برای گونه *Sevastianoviella* نیز ارایه شده و دورهٔ زندگی گونهٔ جدید مورد بحث قرار گرفته است.

واژگان کلیدی: لارو؛ دورهٔ زندگی؛ نر؛ فیزوگاستری؛ Pygmephoroidea؛ رده‌بندی.

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