

TWO NEW SPECIES OF MITES OF THE GENUS *ARCHIDISPUS* (ACARINA: HETEROSTIGMATA: SCUTACARIDAE) FROM BYELORUSSIA AND CRIMEA

ДВА НОВЫХ ВИДА КЛЕЩЕЙ РОДА *ARCHIDISPUS* (ACARINA: HETEROSTIGMATA: SCUTACARIDAE) ИЗ БЕЛОРУССИИ И КРЫМА

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Key words: Acarina, Heterostigmata, Scutacaridae, *Archidispus*, new species
Ключевые слова: Acarina, Heterostigmata, Scutacaridae, *Archidispus*, новые виды

ABSTRACT

Two new species of mites of the genus *Archidispus* Karafiat, 1959 are described, *Archidispus belorussicus* sp.n. from Byelorussia and *A. tauricus* sp.n. from Crimea. Both species were found to be phoretic on carabid beetles.

РЕЗЮМЕ

Приводится описание двух новых видов клещей рода *Archidispus* Karafiat, 1959. *Archidispus belorussicus* sp.n. из Белоруссии и *A. tauricus* sp.n. из Крыма. Оба вида были найдены форезирующими на жукелицах.

Mites of the genus *Archidispus* Karafiat, 1959 are usually associated with different carabid beetles [Karafiat, 1959, Kurosa, 1983, Ebermann, 1991]. Two new species of the genus *Archidispus* associated with carabid beetles (Coleoptera: Carabidae) were found in Crimea and Byelorussia. Descriptions of new species are based on phoretic females only.

The terminology used in the description follows that of Lindquist [1986]. All measurements are given in micrometers (μm) for holotype and paratypes (in parentheses). The type material is deposited in the collections of the Department of Acarology, Schmalhausen Institute of Zoology, Kiev, Ukraine.

***Archidispus belorussicus* sp. n.**

Figs. 1–7.

Foretic female. Length of idiosoma 238 (222–233), maximum width 227 (207–214).

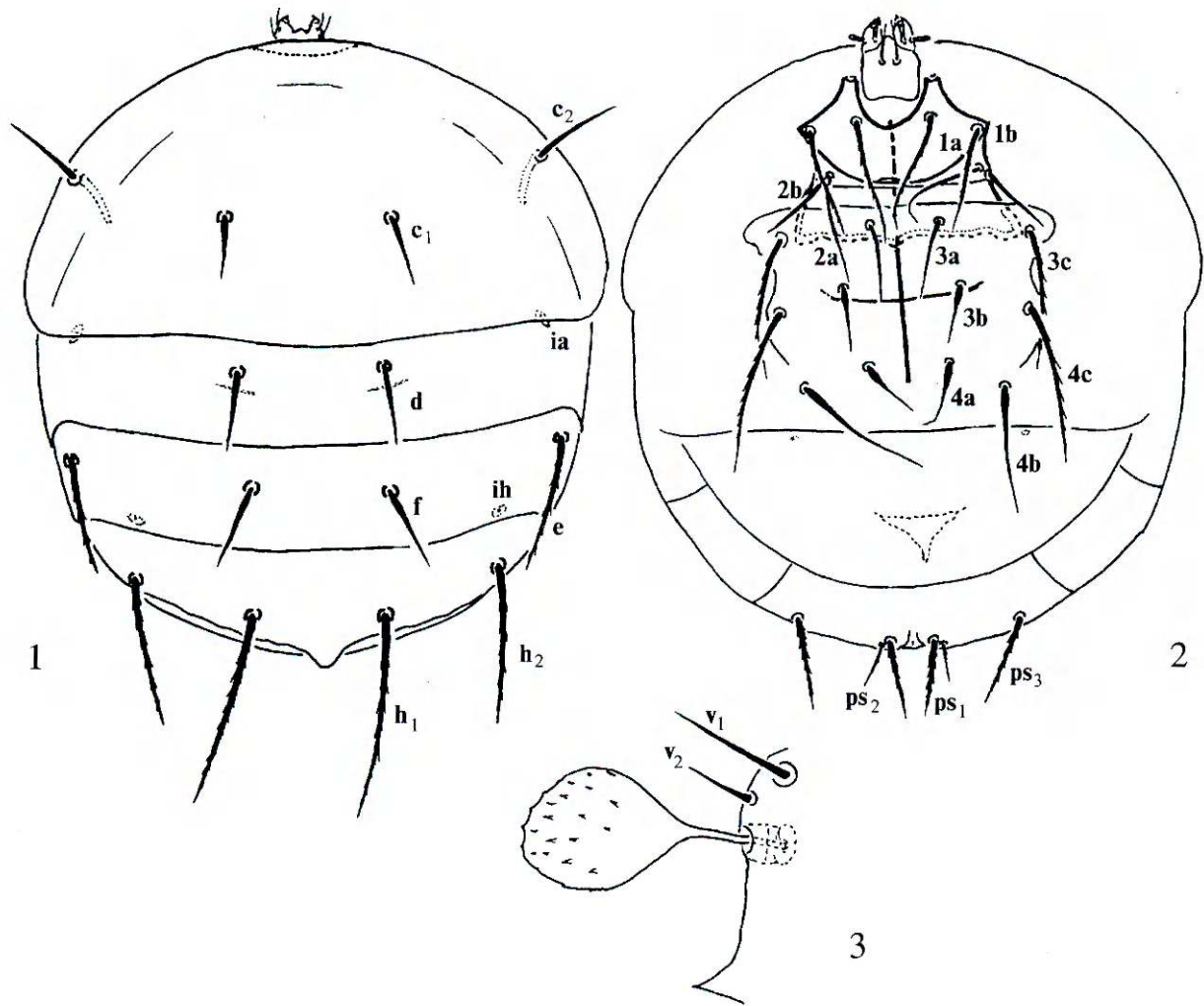
Gnathosoma (Figs. 1–2). Dorsally with 3 pairs of setae, with Gd1>Gd2, both on the same transverse line; pp tiny and hardly visible, inserted anterolaterad to setae Gd2. Ventral surface with 1

pair of setae. Each palp with 2 dorsal setae; ventrally with mushroom-like process and solenidion.

Idiosomal dorsum (Fig. 1). Free margin of tergite C has pronounced stripes. Cupulae ia and ih large, oval. Tergite H with posteromedian tongue-like elongation. Setae c_2 inserted on the free margin of tergite C and have a highly sclerotized alveolar canal. Setae c_1 , d, f, h_1 form two longitudinal rows (Fig. 1). Setae c_1 , d, f slightly widened at the base. Setae c_1 , c_2 , d smooth, or weakly barbed at the top half. Setae e, h_1 , h_2 distinctly barbed. Lengths of dorsal setae: c_1 27 (25–27), c_2 37 (33–37), d 31 (30–33), e 47 (48–50), f 33 (33–34), h_1 80 (78–81), h_2 63 (63–66). Distances between dorsal setae: c_{1-1} 66 (62–65), c_{1-2} 59 (51–53), d–d 58 (56–61), e–f 75 (66–72), f–f 54 (48–51), h_{1-1} 54 (49–51), h_{1-2} 49 (49–50). Propodosomal setae v_1 longer and thicker than v_2 . Trichobothrium with thin stem, distally round, with fine barbs (Fig. 3).

Idiosomal venter (Fig. 2). Setae 3b, 4a, 4b with thickened base and smooth. Setae 1a, 1b, 3c, 4c distinctly barbed. Setae ps_1 and ps_3 thickened, barbed. Apodemata IV highly sclerotic, extend to the insertion of setae 3b. Apodemata V completely reduced. Lengths of ventral setae: 1a 52 (48–52), 1b 42 (40–44), 2a 39 (39–50), 2b 31 (29–31), 3a 32 (28–34), 3b 33 (29–32), 3c 50 (50–52), 4a 33 (32–36), 4b 55 (52–57), 4c 67 (69–70), ps_1 39 (36–39), ps_2 17 (17–18), ps_3 49 (47–51).

Legs (Figs. 4–7). Leg I (Fig. 4): setal formulae: Tr 1 – Fe 3 – Ge 4 – TiTa 16 (4) (number of solenidia in parenthesis). Tibiotarsus thickened, with massive claw. Solenidia ω_2 20 (19–20) > ω_1 13 (13–14) > ϕ_2 12 (11) > ϕ_1 11 (10); ω_2 and ϕ_2 uniformly thin, ω_1 and ϕ_1 thickened distally. Setae dFe broadened, leaf-like. Leg II (Fig. 5): setal formula: Tr 1 – Fe 3 – Ge 3 – Ti 4 (1) – Ta 6 (1). Tarsus with



Figs. 1-3. *Archidispus belorussicus* sp. n., phoretic female: 1 — dorsum, 2 — venter, 3 — trichobothrium with setae v_1 and v_2 .
Рис. 1-3. *Archidispus belorussicus* sp. n., форезирующая самка: 1 — дорсальная сторона тела, 2 — вентральная сторона тела, 3 — трихоботрий и щетинки v_1 и v_2 .

strongly asymmetrical claws. Solenidion ω 12 (12) broadened at the middle portion, solenidion ϕ 9 (9) uniformly thin. Leg III (Fig. 6): setal formula: Tr 1 – Fe 2 – Ge 2 – Ti 4 (1) – Ta 6. Claws asymmetrical, but in lesser extent than on tarsus II. Solenidion ϕ 10 (10) of the same shape as that on leg II. Leg IV (Fig. 7): setal formula: Tr 1 – Fe 2 – Ge 1 – Ti 3 (1) – Ta 6. Tarsus with pretarsus and two small claws, empodium extended, distally widened. Solenidion ϕ 11 (10-11) of the same shape as on leg II and III.

Male, non-phoretic female and immatures.
Unknown.

DIFFERENTIAL DIAGNOSIS

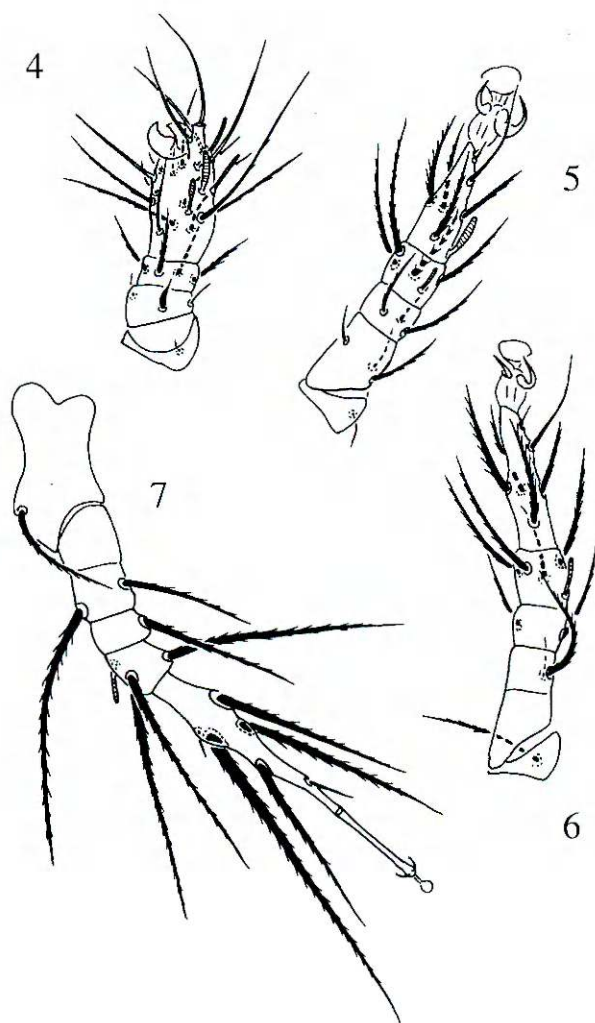
The new species is closely related to *Archidispus tauricus* sp.n. Both species have an unusual position of setae d, which are divided on the same

distance as setae f. Such character is known only in *A. armatus* (Karafiat, 1959). However the new species differs from *A. armatus* by the basally widened setae 3b (simple in *A. armatus*) and 4a (bullet-shaped in *A. armatus*). *Archidispus belorussicus* sp. n. differs from *A. tauricus* sp.n. by shorter setae h_1 , h_2 , ps_1 , ps_3 and by less thickened setae 4a and 4b.

Type material. Holotype (female): slide No. 314, Byelorussia, Minsk distr., Stolbtzovskiy reg., settl. Kletischi, on *Pterostichus anthracinus* Ill., 05.06.1984 (collector unknown); paratypes: 7 females with same data as holotype.

ETYMOLOGY

The species is named «*belorussicus*» referring to its geographical distribution.



Figs. 4-7. *Archidispus belorussicus* sp. n., phoretic female: 4-7 — legs I-IV, respectively.

Рис. 4-7. *Archidispus belorussicus* sp. n., форезирующая самка: 4-7 — ноги I-IV, соответственно.

Archidispus tauricus sp. n.

Figs. 8-15.

Phoretic female. Length of idiosoma 246 (224-259), maximum width 210 (195-224).

Gnathosoma (Figs. 8-9). Dorsally with 3 pairs of setae, with $Gd1 > Gd2$, both on the same transverse line; pp tiny and hardly visible, inserted anterolaterad to setae Gd2. Ventral surface with 1 pair of setae. Each palp with 2 dorsal setae; ventrally with mushroom-like process and solenidium.

Idiosomal dorsum (Fig. 8). Free margin of tergite C has pronounced stripes. Cupulae ia and ih large, oval. Tergite H with posteromedian tongue-like elongation. Setae c_2 inserted on the free margin of tergite C and have a highly sclerotized alveolar canal. Setae c_1 , d, f, h_1 form two longitudinal rows (Fig. 8). Setae c_1 , d, f slightly widened at their base.

Setae c_1 , c_2 , d, f weakly barbed at the top half. Setae e, h_1 , h, distinctly barbed. Lengths of dorsal setae: c_1 24 (24-27), c_2 35 (33-37), d 28 (27-30), e 63 (53-62), f 33 (29-33), h_1 89 (81-92), h_2 95 (87-98). Distances between dorsal setae: c_{1-1} 66 (62-66), c_{1-2} 51 (45-54), d-d 52 (52-54), e-f 64 (60-66), f-f 50 (52-53), h_{1-1} 42 (41-43), h_{1-2} 47 (44-50). Trichobothrium with thin stem, distally round, with fine barbs (Fig. 10), setae v_1 longer and thicker than v_2 .

Idiosomal venter (Fig. 9). Setae 3b, 4a, 4b with thickened base, smooth. Setae 1a, 1b, 3c, 4c distinctly barbed. Setae ps_1 and ps_3 not thickened, barbed. Apodemata IV highly sclerotized, extended to the insertion of setae 3b. Apodemata V completely reduced. Lengths of ventral setae: 1a 55 (52-55), 1b 38 (39-41), 2a 48 (43-44), 2b 33 (32-36), 3a 33 (28-33), 3b 29 (29-33), 3c 53 (55-62), 4a 33 (28-33), 4b 38 (37-41), 4c 75 (66-77), ps_1 53 (50-54), ps_2 20 (19-21), ps_3 62 (59-65).

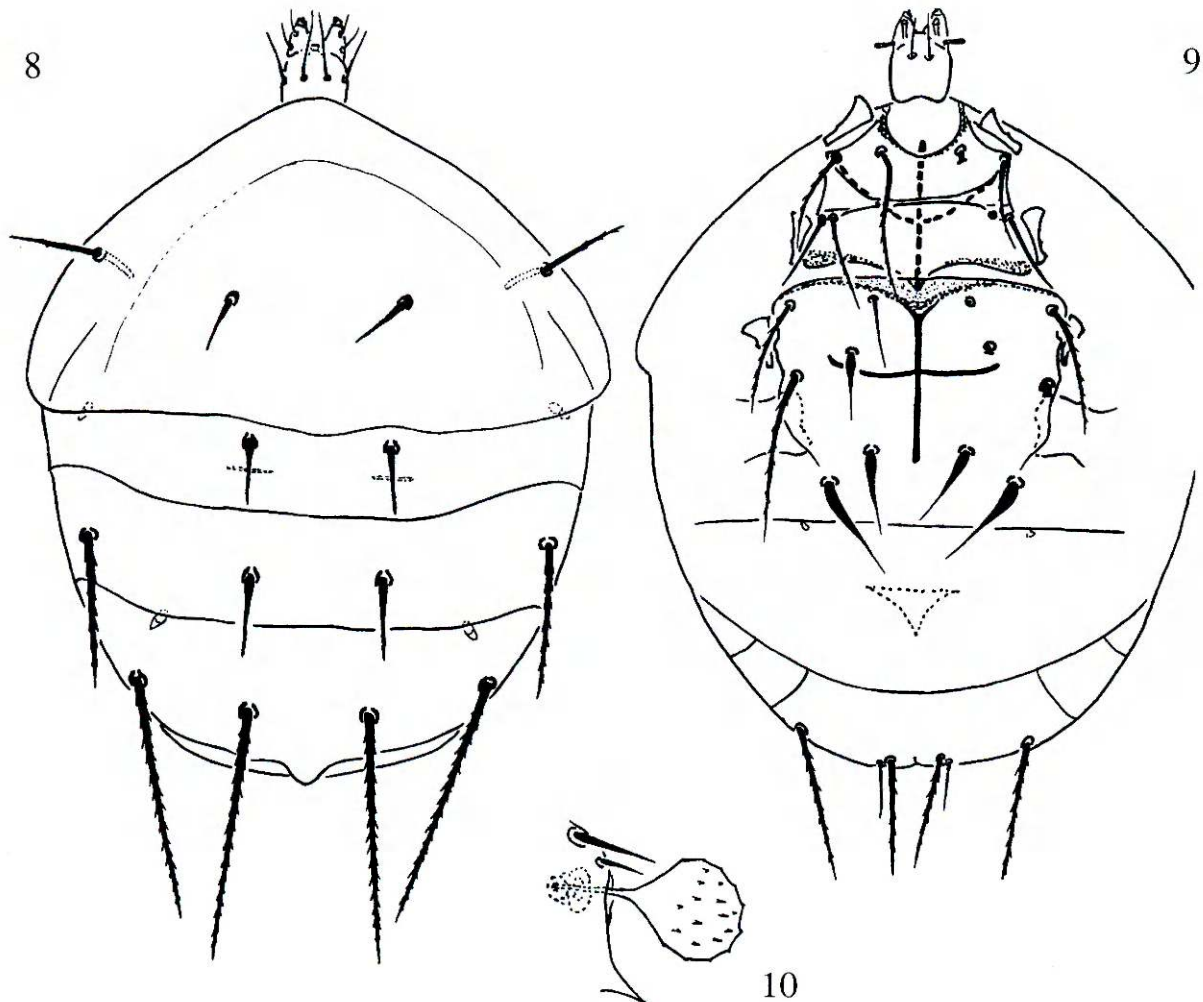
Legs (Figs. 11-15). Leg I (Fig. 11): setal formulae: Tr 1 - Fe 3 - Ge 4 - TiTa 16 (4). Tibiotarsus thickened, with massive claw. Solenidia ω_2 18 (16-20) $> \omega_1$ 14 (13-14) $> \phi_1$ 11 (10-11) $= \phi_2$ 10 (10-11); ω_2 and ϕ_2 uniformly thin, ω_1 and ϕ_1 thickened distally (Fig. 12). Setae dFe broadened, leaf-like. Leg II (Fig. 13): setal formula: Tr 1 - Fe 3 - Ge 3 - Ti 4 (1) - Ta 6 (1). Tarsus with strongly asymmetrical claws. Solenidium ω 12 (11-12) broadened at the middle portion, solenidium ϕ 8 (8-9) broadened distally. Leg III (Fig. 14): setal formula: Tr 1 - Fe 2 - Ge 2 - Ti 4 (1) - Ta 6. Claws asymmetrical, but in lesser extent than on tarsus II. Solenidium ϕ 8 (8-9) of the same shape as on leg II. Leg IV (Fig. 15): setae formula: Tr 1 - Fe 2 - Ge 1 - Ti 3 (1) - Ta 6. Tarsus with pretarsus and two small claws, empodium extended, distally widened. Solenidium ϕ 11 (10-11) uniformly thin.

Male, non-phoretic female and immatures. Unknown.

DIFFERENTIAL DIAGNOSIS

As for *A. belorussicus* sp. n.

Type material. Holotype (female): slide No. 561, Crimea, Simferopol reg., settl. Perevalnoe, on *Poecilus cupreus* L. (without date), coll. Eidelberg; paratypes; 6 females with same data as holotype; 1 female at the same place as holotype, on *Harpalus distinguendus* Duft. (without date), col. Eidelberg; 3 females at the same place as holotype, on *Amara schaudoiri* Putz., 18.06.1989, coll. Eidelberg; 5 females at the same place as holotype, on *Poecilus cupreus* L., 9.07.1989, coll. Eidelberg; 2



Figs. 8–10. *Archidispus tauricus* sp. n., phoretic female: 8 — dorsum, 9 — venter, 10 — trichobothrium and setae v_1 and v_2 .
Рис. 8–10. *Archidispus tauricus* sp. n., форезирующая самка: 8 — дорсальная сторона тела, 9 — вентральная сторона тела, 10 — трихоботрий и щетинки v_1 и v_2 .

females at the same place as holotype, on *Poecilus punctulatus* Dej., 11.06.1989, coll. Eidelberg; 2 females at the same place as holotype, on *Harpalus affinis* Schrnk., 26.06.1989, coll. Eidelberg; 15 females at the same place as holotype, on *Poecilus cupreus* L., 9.05.1990, coll. Eidelberg.

ETYMOLOGY

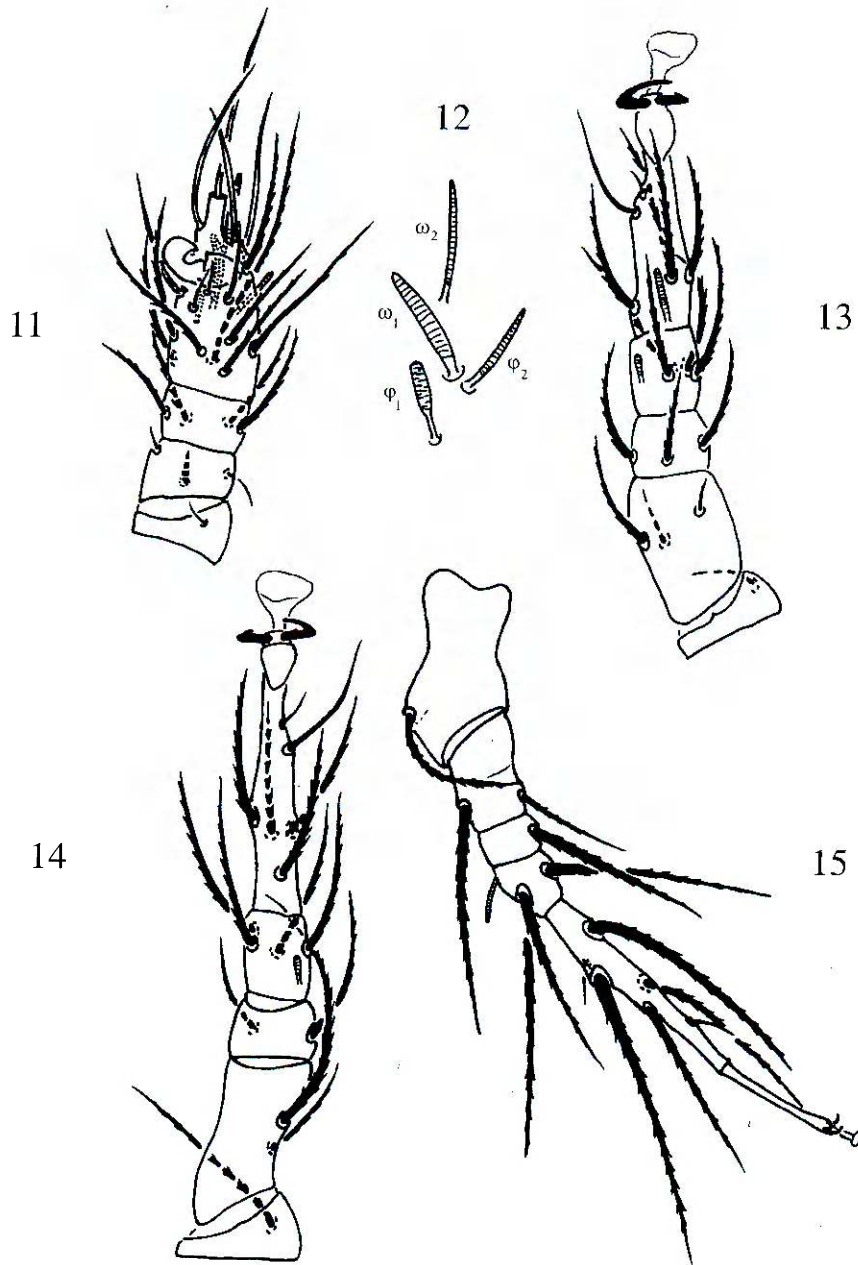
The species is named «*tauricus*» referring to its geographical distribution.

ACKNOWLEDGEMENTS

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Figs. 11–15. *Archidispus tauricus* sp. n., phoretic female: 11 — leg I, 12 — solenidia on tibiotarsus I, 13–15 — legs II–IV, respectively.

Рис. 11–15. *Archidispus tauricus* sp. n., форезирующая самка: 11 — нога I, 12 — соленидии на тибиятартарзусе I, 13–15 — ноги II–IV, соответственно.