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New water mite species of the genus Protzia Piersig, 1896 (Acari,Hydrachnidia, Hydryphantidae) from Kazakhstan

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Abstract. An illustrated description of male of the new species *Protzia aksuensis* **sp. nov.** from running waters of Aksu-Zhabagly Nature Reserve of Kazakhstan is given. The genital field of the new species with 9 pairs of acetabula and 13–14 pairs setae, all genital acetabula roundish on short stalks, genital setae located on very narrow slightly sclerotized strips; frontal eye not developed; leg claws with 10–12 lateral and medial clawlets.

Keywords: Hydrachnidia, Hydryphantidae, *Protzia*, water mites, morphology, male.

Новый вид водяного клеща рода *Protzia* Piersig, 1896 (Acari, Hydrachnidia, Hydryphantidae) из Казахстана

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Аннотация. Иллюстрированное описание самца нового вида водяного клеща *Protzia aksuensis* **sp. nov.** из проточных вод заповедника Аксу-Жабаглы Казахстана. Генитальное поле нового вида с 9 парами присосок и 13–14 парами щетинок, все генитальные присоски шарообразные на коротких ножках, генитальные щетинки располагаются на очень узких склеротизованных полосках; фронтальный глаз не развит, коготки ног с 10–12 боковыми и внутренними зубцами.

Ключевые слова: Hydrachnidia, Hydryphantidae, *Protzia*, водяные клещи, морфология, самец.

Introduction

This paper describes the male of the new water mite species, *Protzia aksuensis*. The material was collected by V. Stolbov in the running waters in the Aksu-Zhabagly Nature Reserve of the Republic of Kazakhstan. The material was sampled with a common hand net with 250 μm mesh size. The water mites were fixed with 75% ethanol.

The following abbreviations are used: ac — acetabula, H — height, L — length, n = number of specimens measured; P–1–5, pedipalp segments (trochanter, femur, genu, tibia and tarsus); W — width; I–IV-Leg–1–6, first leg, segments 1–6 (trochanter, basifemur, telofemur, genu, tibia and tarsus) i.e. I–Leg–3 = genu of first leg. All measurements are given in micrometers (μm); length of appendage segments is given as dorsal length. The type material is deposited in the collection of the Papanin Institute for Biology of Inland Waters (Borok, Russia).

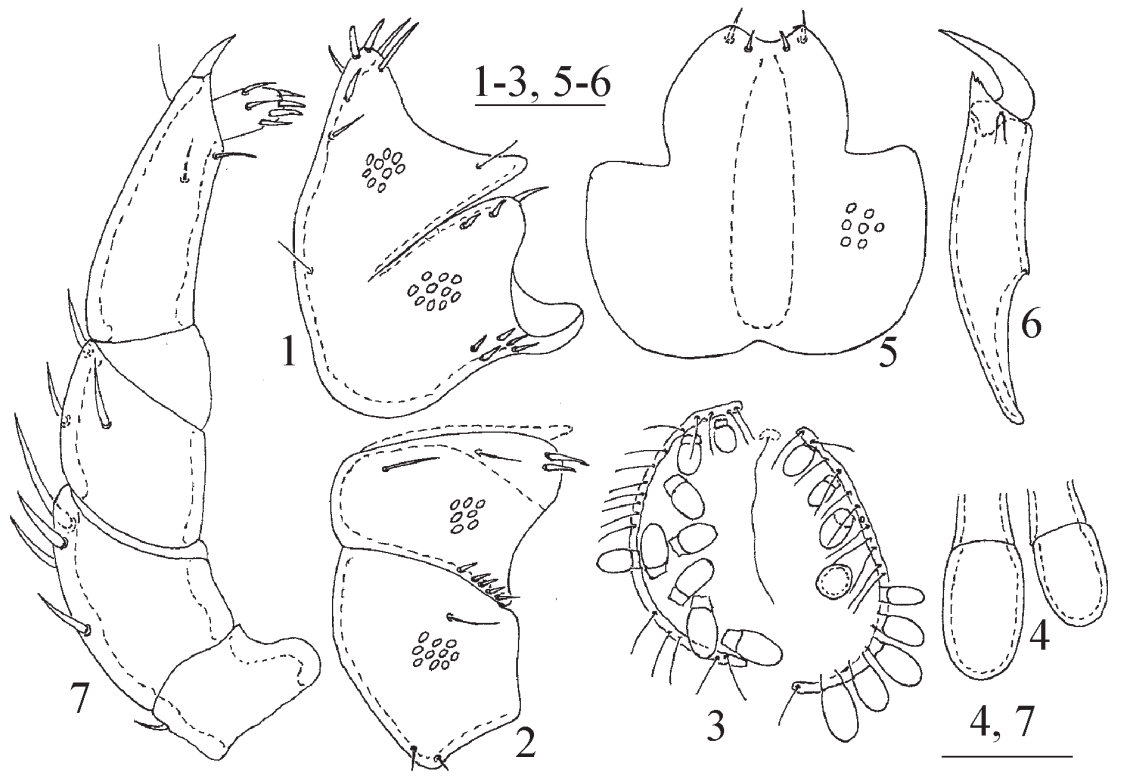
Systematics

Family **Hydryphantidae Piersig, 1896**
Subfamily **Protziinae Koenike, 1909**
Genus ***Protzia* Piersig, 1896**
***Protzia aksuensis* sp. nov.**
(Figs. 1–12)

http://zoobank.org/NomenclaturalActs/12117064-A046-4553-A0EB-2B5E400BD35C

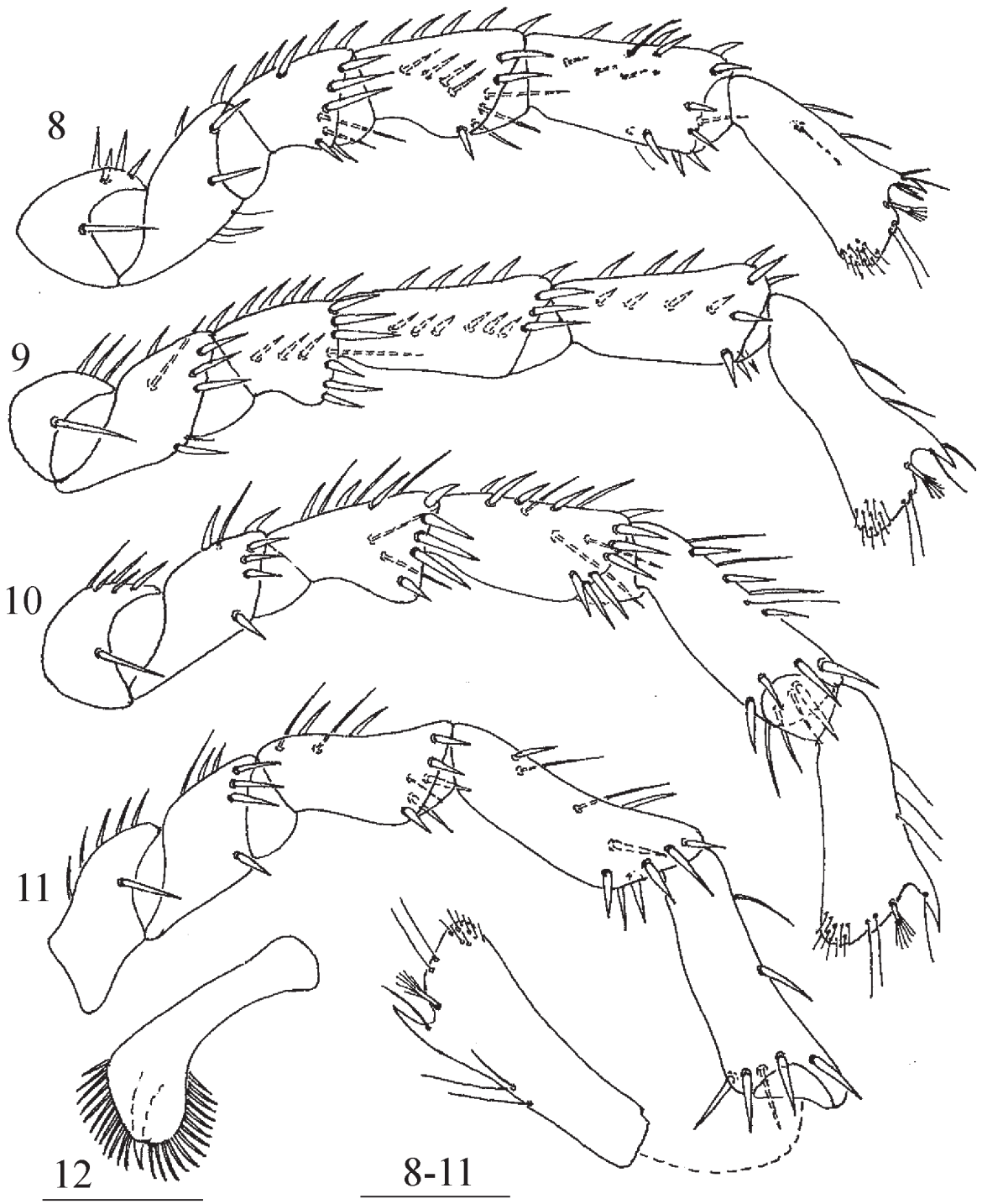
Type material. Holotype: Male, slide 9936, Asia, Kazakhstan, Turkestan Province, Tyulkubaskiy District, Aksu-Zhabagly Nature Reserve, Aksu river, 42°19'36.4"N 70°22'17.8"E, 1350 m, depth about 1.0 m, ground: large stones, mosses, white sand, 15.08.2019, leg. V. Stolbov.

Diagnosis. Frontal eye absent, all, genital field with 9 pairs roundish stalked genital acetabula and 13–14 pairs genital setae located on very narrow sclerotized strips, leg claws with 10–12 lateral and medial clawlets.



Figs. 1–7. *Protzia aksuensis* **sp. n.**, male: *1* — coxal plates I+II; *2* — coxal plates III+IV; *3* — genital field; *4* — acetabula; *5* — capitulum, ventral view; *6* — chelicera; *7* — pedipalp. Scale bars: *1–2*, *4–7* = 50 *μm*; *3* = 100 *μm*

Рис. 1–7. *Protzia aksuensis* **sp. n.**, самец: *1* — коксальные пластинки I+II; *2* — коксальные пластинки III+IV; *3* — генитальное поле; *4* — присоски; *5* — капитулум, вентральный вид; *6* — хелицера; *7* — педипальпа. Шкалы: *1–2*, *4–7* = 50 *μm*; *3* = 100 *μm*



Figs. 8–12. *Protzia aksuensis* **sp. n.**, male: *8* — leg I; *9* — leg II; *10* — leg III; *11* — leg IV; *12* — leg claw. Scale bars: *8–11* = 100 *μm*; *12* = 50 *μm*

Рис. 8–12. *Protzia aksuensis* **sp. n.**, самец: *8* — нога I; *9* — нога II; *10* — нога III; *11* — нога IV; *12* — коготок ног. Шкалы: *8–11* = 100 *μm*; *12* = 50 *μm*

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Description. Male. Cour red. Integument papillate, frontal eye not developed, dorsal and postventral idiosoma surface without muscle attachment sclerites. Coxal plates I (Fig. 1) with nine setae, anteriorly almost pointed, here bearing a tuft of ca. six short, thick setae; medial margin distally nearly straight, gradually passing into the convex posteromedial edge of coxal plates I+II; coxal plate II ventral margin concave, with three short, thick anterolateral and five short, thick subequal posterolateral setae. Suture line between coxal plates I+II incomplete obliterated medially. Coxal plate III subrectangular, with slightly convex medial margin, bearing four unequal anterior and five short, thick posterolateral setae (Fig. 2). Coxal plate IV trapezoidal, with one rather long anterior seta and two short, thin posterior setae. Surface of all coxal plates with rather large oval pores.

Genital field (Fig. 3) smooth, with 9 pairs of acetabula and 13–14 pairs setae located on very narrow sclerotized strips; all acetabula elongate and located on short stalks, ratio caudal stalks/caudal acetabula L 0.45–0.50 (Fig. 4), caudal acetabula and stalks larger than anterior ones. Excretory pore unsclerotized.

Capitulum (Fig. 5) with long rostrum, posterior margin with shallow median indentation, hypostomal ventral setae shorter than dorsal ones. Basal segment of chelicera (Fig. 6) large, with equally convex dorsal margin, chela relatively short sickle-shaped, basal segment/chela L 2.4.

Pedipalp (Fig. 7) stout: P-1 with short dorsodistal seta; P-2 ventral margin short almost straight, with three relatively short subequal dorsal setae and single long dorsodistal seta; P-3 ventral margin straight, a little longer than height (L/H ratio 1.1), with two dorsal setae and one lateral seta; P-4 longer than P-2 (P-2/P-4 L ratio 0.8), tapering distally (L/H 2.8), with two unequal ventrodistal setae, one fine dorsodistal seta and thick pointed dorsodistal spine.

Legs without swimming setae. Legs very stout and densely covered with strong setae. Shape and arrangement of setae on legs I-IV as shown in Figs. 8–11. Leg claws with 10–12 lateral and medial clawlets (Fig. 12).

Measurements (n = 1). Idiosoma about L 1120, coxal plates I+II L 250, W 210; coxal plates III+IV L 225, W 150; caudal acetabula L 35-42, W 20-26; caudal acetabula stalks L 13-19; cheliceral segments: base L 215, chela L 85; capitulum L 210, rostrum L 80; pedipalp segments (P-1-5) L: 32, 87, 55, 112, 20; legs segments L: I-Leg-1-6: 75, 80,85, 110, 135, 135; II-Leg-1-6: 85, 80, 100, 135, 150, 150; III-Leg-1-6: 85, 80, 110, 140, 165, 150; IV-Leg-1-6: 110, 85, 125, 185, 200, 175.

Female. Unknown.

Differential diagnosis. The present species is similar to *Protzia eximia* (Protz, 1896) in the shape of the coxal plates and structure of the genital field. Differences between the two species are found in the following characters (characters states of *P. eximia* given in parenthesis, data from Sokolow 1940, Gerecke 1996; Di Sabatino et al. 2010): all genital acetabula elongate (anterior acetabula roundish, posterior acetabula elongate); genital setae located on narrow sclerotized strips (on soft integument); cheliceral claw large, basal segment/chela L ratio 2.4 (comparatively small, basal segment/chela L ratio 1.8); P-3 with three dorsodistal setae (single seta); leg claws with 10–12 lateral and medial clawlets (with 4–6 lateral and 7–9 medial clawlets).

Etymology. The species is named after the name of the river (Aksu) where it was collected.

Habitat. Running waters.

Distribution. Asia (Kazakhstan: Turkestan Province).

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