On the systematic of the water mites *Oxus* (*Flabellifrontipoda*) *neotropica* Lundblad, 1953 (Acari, Hydrachnidia: Oxidae)

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Received: 15 March 2018 │ Accepted by V. Pešić: 25 April 2018 │ Published online: 28 April 2018.

The water mite *Frontipoda* (*Flabellifrontipoda*) *neotropica* Lundblad, 1953 was described from the male, female and deutonymph from Colombia (Lundblad 1953). This species was reported also from Chile (Besh 1964) and Argentina (Cook 1980, 1988). The original description of this species is incomplete and insufficiently illustrated. The male and female of *F. neotropica* were redescribed by Cook (1980) based on material from Argentina. The aim of the paper is to redescribe the deutonymph of this species and to specify some details in the adult mites.


Furthermore, the following abbreviations are used: P-1–5, pedipalp segments (trochanter, femur, genu, tibia and tarsus) i.e. P-3 = genu; ac-1-3, genital acetabula 1-3; I-Leg-1–6, first leg, segments 1–6 (trochanter, basifemur, telofemur, genu, tibia and tarsus), i.e. III- Leg-3 = genu of third leg; L – length; W – width, H - height; n = number of specimens measured. All measurements are given in micrometers (μm), length of appendage segments is dorsal length.

Systematics

**Family Oxidae** K. Viets, 1926

**Genus Oxus** Kramer, 1877

*Oxus* (*Flabellifrontipoda*) *neotropical* (Lundblad, 1953) (Figs 1-15)

**Material examined.** 2 deutonymphs, 5 females: South America, Chile, Region de Magallanes y de la Antartica Chilena, Provincia de Magallanes, stream south of Punta Arenas (53°34'29” S 70°56'23” W), depth
0.4 m, substrates: stones and mosses, 8 November 2014; 5 deutonymphs, 3 males, 1 female: Chile, Region de Magallanes y de la Antartica Chilena, Provincia de Magallanes, NW of Villa Tehuelche, stream(52°05'537"S 71°48'061"W), depth 0.4 m, substrates: stones and mosses, 8 November 2014, leg. V. Stolbov.

**Deutonymph.** Idiosoma elongated, laterally compressed (Fig.1). Lateral eyes not in capsules, lying below integument. Trichobothria \( Fp, Oi \) and setae \( Pi \) not associated with glandularia, other idiosomal setae associated with glandularia. Seta \( Fch \) longer and thicker than other idiosomal setae. Coxal plates large, fused on each side into two groups and occupying about one half of idiosoma surface. Two pairs of idiosomal setae and glandularia (\( Hv \) and \( Pe \)) incorporated into the coxal region on each side, other idiosomal setae and all slit organs located on soft integument. Glandularium \( Pe \) lying near tip of first coxal plate, accompanied by a hyaline projection and modified seta. Dorsum with two small oval anterior platelets bearing trichobothria \( Oi \) and three pairs traces of muscle attachment scars (Fig. 2), the latter usually hardly visible. Soft integument striated, surface of coxal plates porous.

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**Figures 1-4.** *Oxus neotropica*, deutonymph: 1 – idiosoma, lateral view; 2 – fragment of dorsal surface; 3 – genital field, ventral view; 4 – capitulum and chelicera, lateral view. Scale bars: 1-2 = 100 μm, 3-4 = 50 μm.
Figures 5-8. Oxus neotropica, deutonymph: 5 – pedipalp; 6 – I-Leg-4-6; 7 – IV-Leg-5-6; 8 – leg claw. Scale bars: 5.8, 6-7 = 50 μm.

Genital field consisting of two very narrow lateral plates, two pairs of acetabula, three pairs of setae (one pair located anteriorly and two pairs posteriorly) and the small pregenital sclerite (Fig. 3). All acetabula subequal or posterior pair a little larger than anterior pair. Excretory pore unsclerotized.

Figure 4 shows the lateral view of the capitulum and chelicera. Capitulum with a widely rounded protrusion a little distally to middle of ventral margin. Basal segment of chelicera large with convex dorsal margin, chela thin and pointed, sigmoid piece long and curved. Pedipalp (Fig. 5) small: P-1 without seta; P-2 ventral margin slightly concave or straight, with a single dorsoproximal seta and two unequal dorsodistal setae; P-3 with one short and one long dorsodistal seta; P-4 slender, longer than P-2, bases of ventral setae widely separated.

All legs located anteriorly. Shape and arrangement of setae on terminal segments of leg I and leg IV as shown in figures 6 and 7, respectively. IV-Leg-5 with a single swimming seta (it is usually hardly visible), claws of IV-Leg-6 reduced but bearing two unequal heavy terminal setae. I-III leg claws (Fig. 8) pectinate, with three terminal clawlets (central clawlet much longer and thicker than internal and external ones) and numerous ventral teeth.

Adults. Coxal plates greatly expanded and occupying all of idiosoma except for a median unsclerotized strip extending from the anterior end of the idiosoma dorsally to the genital field (Fig. 9). Ventromedian suture line on coxal shield distinctly developed. Setae and glandularia Fch, Vi, Oe, Hv, Sce, Le, Se, Ci, Pe, trichobothria Fp and first pair of slit organ (i1) incorporated into coxal region. Sclerite bearing glandularium
Ci fused with coxal shield only partially on each side. Glandularium Pe lying near tip of first coxal plate (Fig. 10).

Dorsal strip bearing anterior pair of elongate dorsal platelets with trichobothria Oi(Fig. 11), setae Ve, Hi, He, Sci, Li, Si, Pi and four pair slit organs (i2-i5). No true additional platelets in the dorsomedian strip, but as in the deutonymph there are some paired traces of muscle attachment scars, the latter are hardly visible. Genital field with three pairs of subequal acetabula or first pair a little larger than posterior pairs, each genital flap with 9-12 medial and 3-5 lateral setae. Excretory pore not sclerotized and located close to genital field.

Pedipalp (Fig. 12) small: P-1 with a single dorsodistal seta, P-2 with two subequal proximal and three unequal dorsodistal setae, P-3 with four long dorsal setae, P-4 ventral setae widely separated. IV-Leg-5 with one to two swimming setae (Fig. 13), IV-Leg-6 with two unequal heavy terminal setae, occasionally on one side both heavy setae long (Fig. 14).


**Male.** Ejaculatory complex (Fig. 15) with long anterior arms and comparatively short posterior ones, proximal chamber large, with two a short proximal projections extending to anterior margin of chamber. Measurements (n = 3). Idiosoma L 785-850, H 585-625; dorsal platelets L 138-170, W 24-30; acetabular plates L: 150-165, W 42-55; acetabula (ac-1-3) L: 54-66, 42-45, 36-45; capitulum L: 170-180; cheliceral segments L: base 95-105, chela 65-78; pedipalp segments (P-1-5) L: 39-42, 47-49, 47-49, 60-65, 17-19; leg

**Remarks.** The males and females of *O. neotropica* from Argentina (Cook 1980) are in generally agreement with my data given above, but there are some differences. The pedipalps in the Chilean females and males are without essential distinctions in length, while in the Argentinian females the pedipalps are almost twice as long as than in males; their sizes are the follow (μm): Male, P-1-5 L: 45-47, 48-49, 51-52, 65-69, 20-22; Female, P-1-5 L: 111-118, 111-125, 118-129, 155-170, 42-46 (Cook 1980). The size of the female pedipalps in the Argentinian specimens needs confirmation.

The ventrolateral sclerotization of this species, except anteriodorsal setae, in corporating seven pairs of setae *Hv, Oe, Sce, Le, Se, Ci* and *Pe* (Fig. 9), glandularium *Pe* lying near tip of first coxal plate (Fig. 10) and are present also in all Oxidae (Di Sabatino et al. 2010).

**Acknowledgement**

This research was performed in the frame work of the state assignment of FASO Russia (theme No AAAA-A18-118012690100-5). The field work in Chile was support by grant № 14-14-01134 from the Russian Scientific Foundation. The author expresses sincerely gratitude to Vitaly Stolbov for the material supplied and anonymous referees for reviewing the manuscript.

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