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A NEW WATER MITE SPECIES OF THE GENUS **ARRENURUS** (ACARIFORMES: ARRENURIDAE)

**by P. TUZOVSKIJ**

(Accepted August 2007)

**INTRODUCTION**

The present paper describes male and female of the African water mite, *Arrenurus ethiopiensis* n. sp. (Arrenuridae).

**MATERIALS AND METHODS**

The material was collected by A. Zhokhov (2006) in the littoral zone of Tana Lake. The majority of the specimens were not dissected in order to preserve the natural form of the body; only from several males and one female the gnathosoma was separated from idiosoma. The gnathosoma was mounted in a position that allows to investigate pedipalps in lateral view.


Furthermore, the following abbreviations are used: P1–5, pedipalp segments (trochanter, femur, genu, tibia and tarsus) i.e. P3 = genu; I L1–6, first leg, segment 1–6 (trochanter, basifemur, telofemur, genu, tibia and tarsus) i.e. III L4 = genu of third leg; n – is

1. Institute for Biology of Inland Waters, Russian Academy of Sciences, RUS 152742 Borok, Nekouz District, Yaroslavl Province, Russia; e-mail: tuz@ibiw.yaroslavl.ru

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the number of specimens measured. All measurements are given in μm; length of appendage segments is dorsal length.

*Arrenurus (Micruracarus) ethiopiensis*, new species (FIGS. 1-8)

**TYPE MATERIAL:** Holotype: male, Ethiopia, Tana Lake, 26.11.2006, depth 0.9 m, slide 9410; deposited in collection of Institute for Biology of Inland Waters (Borok, Russia). Paratypes (5 males, 1 female) from Tana Lake, same locality as holotype (26.11.2006), depth 0.5–1.5 m.

**MALE** (FIGS. 1–6). Color greenish-blue. The body is oval, with straight anterior margin and deep caudal cleft (FIGS. 1–2). Dorsal and ventral shields present. Setae *Fch* thicker and shorter than setae *Fp*. Dorsal shield rather small, almost circular and bearing three pairs of setae (*Oi, Hi* and *Sci*); distance between setae *Oi–Oi* and *Sci–Sci* approximately subequal and less than distance between setae *Hi–Hi*. Setae *Li* located on common median hump, glandularia (*Li*) open on separate small tubercles. Genital plates very long, extending onto dorsum. Dorsal portions of genital plates expanded and rounded medially. Setae *Sce* located behind genital plates, setae *Pi* and *Si* located caudally. Setae *Si* longer than other dorsal setae. Setae *Fp, Oi* and *Pi* without glandularia, other idiosomal setae associated with glandularia. Setae and glandularia *He* closely together, other dorsal setae and associated glandularia separated.

The petiole (FIG. 3) with two elongated pieces with rounded tips, each piece provided by relatively short spine-like dorsal projection. Hyaline appendage well developed, it anterior margin wider than posterior one. Body pores rather large.

Anterolateral corners of coxae I and II pointed and slightly projecting beyond body proper (FIG. 2).
Coxae I fused to each other medially, posterior margins of these coxae with small medial incision. Medial margins of coxae III and IV approximately subequal in length, anterolateral corner of coxae III and lateral projection of coxae IV with rounded tips. Gonopore narrow, elongate, genital plates narrow with rather numerous acetabula. Excretory pore open beyond median cleft. Setae Hv situated near posterolateral margin of coxae II. Glandularia Pe located beyond genital plates, glandularia Se located behind these plates. Setae Ci longer other ventral idiosomal setae and located caudally. Capitulum almost with straight anterior margin.

The trochanter of pedipalp (FIG. 4): thin with a single dorsodistal seta; femur: thick with straight ventral margins, with 3–4 thick dorsal and 4–5 lateral relatively thin setae; genu: relatively short with concave ventral margin and with two subequal lateral setae (internal and external); tibia: long with stout and rather long ventrolateral seta and two short distal setae, median from last bifurcated; tarsus: with a single solenidion, four thin setae and three spines: proximal spine is pointed, two distal spines with rounded tips.

The genu of legs IV without distal spur (FIG. 5). All legs with swimming setae. The general number of true swimming setae on legs I–IV is as follow:

<table>
<thead>
<tr>
<th>Leg</th>
<th>Telofemur</th>
<th>Genu</th>
<th>Tibia</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>—</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>II</td>
<td>2–4</td>
<td>4–5</td>
<td>4–5</td>
</tr>
<tr>
<td>III</td>
<td>3–4</td>
<td>4–5</td>
<td>5</td>
</tr>
<tr>
<td>IV</td>
<td>4–6</td>
<td>7–8</td>
<td>7–9</td>
</tr>
</tbody>
</table>

Claws of legs with moderately developed lamella, pointed external and wide internal clawlets with rounded tip (FIG. 6).

Measurements (n=6). Body 735–850 long, 610–685 wide; dorsal shield 360–390 long, 375–416 wide; length of hyaline appendage 37–50, width 60–75;
length of body medial cleft 160–185; distance between medial margins of coxal plates IV: 85–112; capitulum: 100 long, 100 wide.


Distolateral seta on pedipalpal tibia 32–42 long.

FEMALE (Figs. 7–8). Body wide, with straight anterior and caudal margins and small protrusions near lateral edges of genital plates, without dorsal humps. Dorsal and ventral shields present. Dorsal shield relatively large oval, bearing setae Oi, Hi, Sei and Li; glandularia Li open on small tubercles. Furrow between ventral and dorsal shields not distinct caudally. Anterolateral corners of coxae I and II pointed and slightly projecting beyond the body proper. Medial margins of third and fourth coxae subequal in length, but lateral margin of coxae IV is longer than lateral margin of coxae III; lateral projection of coxae IV extending slightly beyond the body proper; genital plates large, wide with numerous acetabula, extending back and laterally with convex anterior and concave posterior margins; gonopore relatively large and placed slightly posterior to middle of the body; width of one genital flap and distance between posterior coxal groups subequal; glandularia Pe located between posteromedial margin of fourth coxae and genital plates; setae and glandularia Se located near anterolateral margin of genital plates;
excretory pore and glandularia Ci open on conic tubercles.

Measurements (n=1). Body 785 long, 685 wide; length of dorsal shield 625, width 460; one genital flap 150 long, 75 wide; distance between medial margins of coxal plates IV 75. Pedipalpal segments (P 1–5): 35, 80, 51, 105, 42.

Distolateral seta on pedipalpal tibia 32–35 long.

<table>
<thead>
<tr>
<th>Leg segments</th>
<th>I-Leg. 1–6</th>
<th>II-Leg. 1–6</th>
<th>III-Leg. 1–6</th>
<th>IV-Leg. 1–6</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-Leg. 1–6</td>
<td>62</td>
<td>75</td>
<td>105</td>
<td>130</td>
</tr>
<tr>
<td>II-Leg. 1–6</td>
<td>62</td>
<td>90</td>
<td>100</td>
<td>135</td>
</tr>
<tr>
<td>III-Leg. 1–6</td>
<td>75</td>
<td>100</td>
<td>125</td>
<td>135</td>
</tr>
<tr>
<td>IV-Leg. 1–6</td>
<td>130</td>
<td>137</td>
<td>150</td>
<td>175</td>
</tr>
</tbody>
</table>

**DISCUSSION**

The new species is very similar to *A. fistulifer* Viets 1965 but differs by the following characters (character states of *A. fistulifer* are in parenthesis from K.O. Viets, 1965):

**Male:**
- frontal margin of body *straight* (concave),
- posterior margin of coxae I *with* medial incision *(without)*,
- hyaline appendage *present* *(absent)*,
- lateral pieces of petiole with *short* spine-like projection *(with long thin seta – Pi)*.

**Female:**
- frontal margin of body *straight* *(concave)*,
- genital flaps *without* patches *(with two patches each)*,
- anterior and posterior margins of genital plates *curved* *(straight)*,
- anterolateral corners of coxae I and II and lateral projection of fourth coxae *extending* beyond the body proper *(not extending)*.

**ACKNOWLEDGEMENTS**

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**REFERENCES**
