

DESCRIPTION OF A NEW WATER MITE SPECIES  
OF THE GENUS *TORRENTICOLA* PIERSIG 1896  
(ACARIFORMES: HYDRACHNIDIA: TORRENTICOLIDAE) FROM RUSSIA

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(Accepted Septembre 2003)

HYDRACHNIDIA,  
TORRENTICOLIDAE,  
*TORRENTICOLA*,  
NEW SPECIES,  
MALE, FEMALE,  
NORTH CAUCASUS,  
RUSSIA.

HYDRACHNIDIA,  
TORRENTICOLIDAE,  
*TORRENTICOLA*,  
DIE NEUE ART,  
MÄNNCHEN, WEIBCHEN,  
NORDKAUKASUS,  
RUBLAND.

**SUMMARY:** *Torrenticola rossica*, n. sp. is described from the mountain river of Northern Caucasus. This species is characterized by the body wide and short, frontal edge of the body slightly concave, the dorsal shield with two pairs of setae (Sci, Li), excretory pore and setae Pi located on the in a zone primary sclerotization of coxal shield. New species is similar to *T. similis*, from which distinguished by wide, shorter, non elongated of body.

**ZUSAMMENFASSUNG:** Die Beschreibung wassermilbe *Torrenticola rossica* n. sp. aus dem Bergfluß Nordkaukasus. Diese Art wird vom breiten und kurzen Körper, stirnrand schwach konvex, Hauptschild mit zwei Paaren borsten (Sci, Li), excretionsporus und borsten Pi befinden sich in der Zone primär sclerotisation des hinteren Teiles des Coxalshildes charakterisiert. Die neue Art ist zu *T. similis* nah, von dem zeichnet sich breit, kurz, nicht durch den verlängerten Körper aus.

## INTRODUCTION

The fauna of Russia (SOKOLOW, 1940) reported only 8 species of water mites belonging to the genus *Torrenticola* Piersig: *T. anomala* (Koch 1837), *T. sandalensis* (Sokolow 1926), *T. elliptica* Maglio 1909, *T. amplexa* (Koenike 1908), *T. connexa* (Koenike 1908), *T. wolgaensis* (Thor 1923), *T. abbreviata* (Sokolow 1934), and *T. ussuriensis* (Sokolow 1940). Recently (TUZOVSKIJ, 2000) two new species were described belonging to the genus *Monatractides* Viets previously considered as a subgenus of the genus *Torrenticola*.

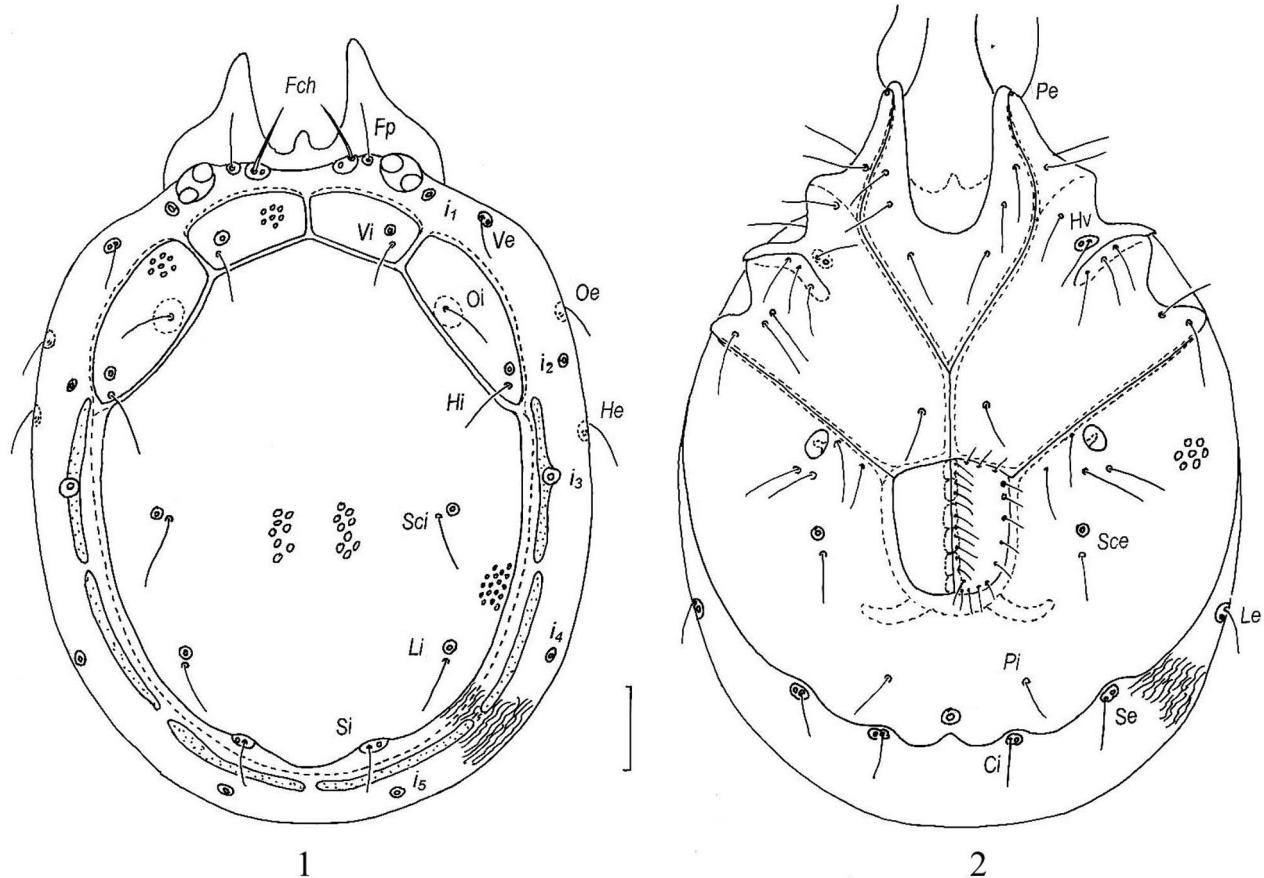
The materials was collected by the author (1976) in N. Caucasian region revealed the specimens of a new species *Torrenticola rossica* n.sp.

The purpose of the present paper is to describe male and female new water mite species *Torrenticola rossica*.

## MATERIALS AND METHODS

Material were collected from stones, pebble and mosses. All specimens were not fixed in Koenike liquids and slides were made directly from fresh material. The majority of specimens was not exposed to procedure dissection for preservation of the natural form of a body, and only at several males and females was separated gnathosoma from idiosoma. Gnathosoma it was mounted so, that it would be possible to

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FIGS. 1-2. *Torrenticola rossica* n.sp., male. 1 — dorsal view, 2 — ventral view. Bar = 100.

investigate a lateral view capitulum, chelicerae and pedipalps.

In the present work the notations of body setae and lyriform organs are given according to TUZOVSKIJ (1987): *Fch* - frontales chelicarum, *Fp* - frontales pedipalporum, *Vi* - verticales internae, *Ve* - verticales externae, *Oi* - occipitales internae, *Oe* - occipitales externae, *Hi* - humerales internae, *Hv* - humerales ventralia, *He* - humerales externae, *Sci* - scapulares internae, *Sce* - scapulares externae, *Li* - lumbales internae, *Le* - lumbales externae, *Si* - sacrales internae, *Se* - sacrales externae, *Ci* - caudales internae, *Pi* - praecanales internae, *Pe* - praecanales externae; *i<sub>1</sub>-i<sub>5</sub>* — lyriform organs.

Furthermore, the following abbreviations are used: *P1-5*, pedipalp segments (trochanter, femur, genu, tibia and tarsus) i.e. *P3* = genu; *IL1-6*, first leg, segment 1-6 (trochanter, basifemur, telofemur, genu,

tibia and tarsus) i.e. *III L4* = genu of third leg; *s* - solenidion, *n* - is the number of measurements made. All measurements are given in  $\mu\text{m}$  and length of appendage segments are dorsal length.

*Torrenticola (Torrenticola) rossica*, new species  
(FIGS. 1-11)

MALE (figures 1-9). Body wide and oval shaped, frontal edge between setae *Fch* slightly concave (figure 1). Dorsum with the main dorsal shield, in 2 pairs anterior platelets (medial and lateral) and 3 pairs long narrow platelets surrounding the median and caudal portions of the main shield. All platelets are separated from main dorsal shield. Anteromedial platelets narrow and shorter than anterolateral platelets, the latter tapering posterolaterally. Dorsal shield

wide (relation length/width=1.1-1.2), secondary sclerotization weakly developed. Glandularia Sci open distant from lateral margins dorsal shield. Two muscle attachment sites with a rough sculpture between setae Sci. Setae Fch thicker than others body setae. Setae Vi located on anteromedial platelets, setae Oi and Hi on anterolateral platelets; setae Fch, Fp, Ve, Oe, He and 4 pairs lyriform organs ( $i_1-i_2$ ,  $i_4-i_5$ ) occupy peripheral position on soft integument,  $i_3$  on the first pair narrow lateral platelets.

Coxal shield large, covering about 9/10 ventral area (figure 2), capitular bay U-shaped. Suture line between coxae II + III 1.4-1.5 time shorter than the median portion of coxae I. Outline of genital field subrectangular in shape with parallel lateral, slightly convex anterior, and equally-rounded posterior margins; genital flaps bordered by approximately 3-4 anterior, 10-12 medial, 6-7 lateral, and 3-4 caudal hair-like setae. Genital field located in the anterior portion of the caudal half of ventral surface. Fragments of suture lines of coxae IV short and arcuate, starting out right angle with the idiosoma axis from caudolateral edges of genital field. Excretory pore opens and setae Pi in the caudal portion of the zone of primary sclerotization of coxal shield; glandularia Sce open at the level of middle of genital flaps, glandularia Pe open at tips of anterolateral processes of coxae II. Sclerites bearing setae Ci and Se, are approached, but not fused with posterior margin of primary coxal shield.

Capitulum (figure 3) with curved, S-shaped ventral margin; rostrum narrow, is almost twice shorter than the basic part of capitulum; anterior end of the rostrum curved dorsally.

Chelicera (figure 4) elongated and thickened proximally; stylet short, slightly bent, with two rows of fine teeth on the concave side.

Pedipalp (figure 5) robust; trochanter short, with a single dorsodistal seta; femur with slightly convex ventral margin, with five dorsal setae, and one further seta laterally at the base of the ventrodistal projection. This projection cylindrical, bearing some very fine apical denticles. Pedipalpal genu with three dorsal setae: a single short proximal plumose seta and two distal smooth setae (short and long); ventral side of genu with a projection and single seta similar to that of the femur pedipalp. Tibia with more-or-less

equally convex dorsal side, one heavy seta on dorso-distal portion; ventral side with a small tubercle, bearing four setae different length. Pedipalpal tarsus (FIGS. 6) very short with single solenidion, four thin setae, and four thick terminal setae with sharp tips. Morphology and chaetotaxy of the three terminal segments of leg I as illustrated in figure 7. Tarsi of legs II-IV (figure 8) gradually thickened to distal end. Ambulacrae (figure 9) with long external and short internal clawlets, ventral margin of blade straight or slightly concave.

Measurements, (n=10). Length of dorsal surface of body 710-780, length of ventral surface of body 735 — 835, width 545-575; length of anteromedial platelets 120-135, width 55-65; length anterolateral platelets 170-190, width 70-85; length of dorsal shield 540-560, width 420-440; distance from glandularia Sci to lateral margin of dorsal shield 55-65, distance from glandularia Li to lateral margin of dorsal shield 25-30; length of capitular bay 125-150, width 90-95; length of median portion of coxae I 125-140, length of suture line of coxae II + III 90-105; length of genital field 130-150, width 115-130; distance from posterior margin of genital field to excretory pore 140-185; distance from posterior margin of genital field to caudal edge body 200-275; length of capitulum 260-270; length of basal segment of chelicera 250-260, length of stylet of chelicera 45-55; lengths of pedipalpal segments (P1-5): 30-35, 90-95, 55-60, 85-90, 12-15; lengths of leg segments:

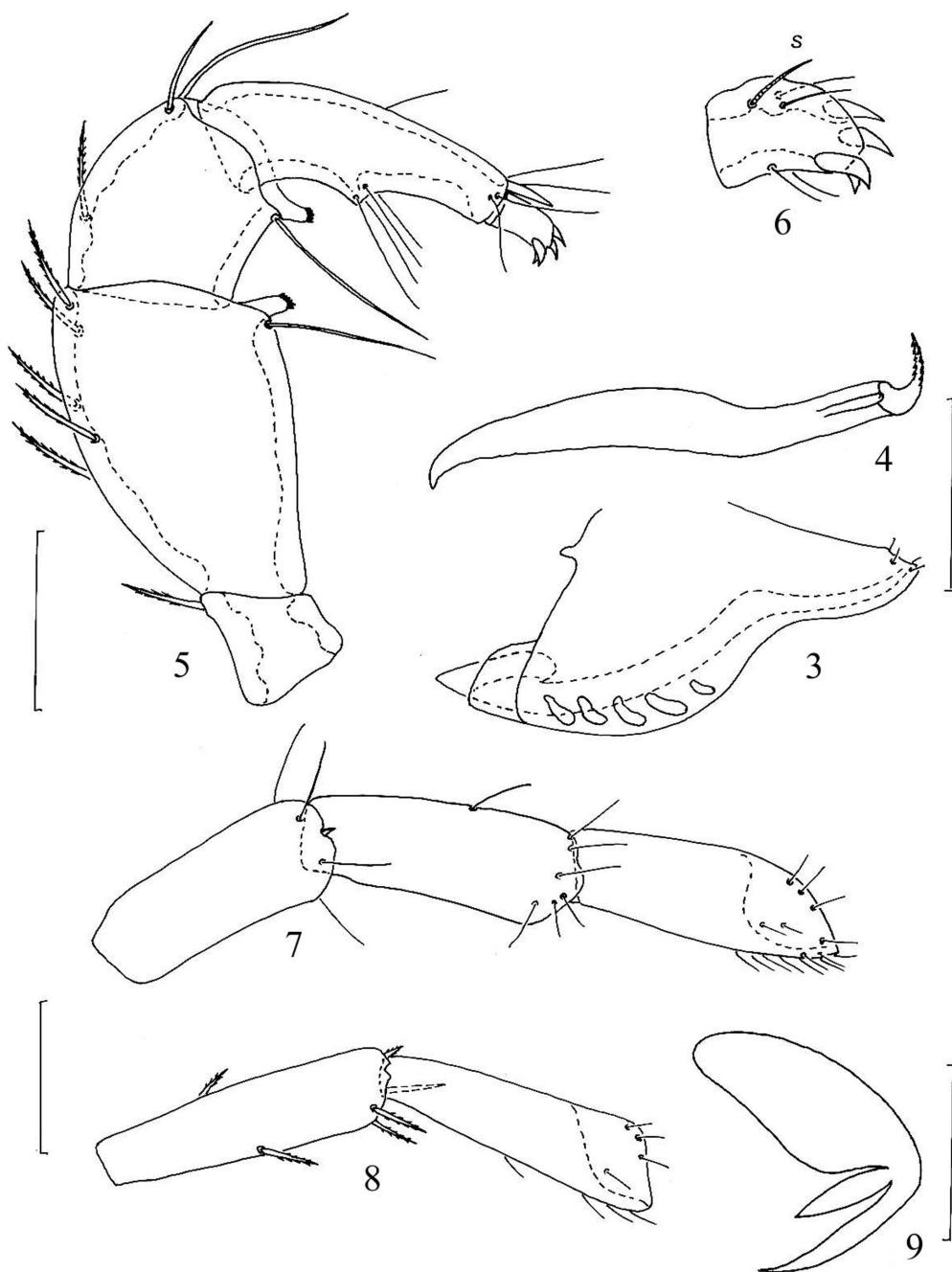
I-Leg.1-6-55-60, 65-75, 70-85, 90-95, 100-115, 95-105;

II-Leg.1-6-60-65, 65-85, 70-85, 95-105, 115-120, 120-125;

III-Leg.1-6-60-70, 70-85, 75-85, 115-120, 130-140, 130-150;

IV-Leg.1-6-120-125, 100-115, 120-130, 150-160, 165-175, 160-175.

FEMALE. Dorsal surface of female (figure 10) same as at male, but sclerites with setae Si usually separated from caudal margin of primary dorsal shield. Genital field pentagonal in shape (figure 11); suture line between coxae II + III is 4-5 times shorter than the median portion of coxae I; glandularia Sce open at level of the fifth pair of genital acetabulae. Flaps with 17-22 setae.



Figs. 3-9. *Torrenticola rossica* n.sp., male. 3—capitulum, lateral view, 4—chelicera, lateral view, 5—pedipalp, lateral view, 6—tarsus of pedipalp, 7—genu, tibia and tarsus of leg I, 8—tibia and tarsus of leg IV, 9—ambulacra. Bars, 3-4 and 7-8 = 100; Bar, 5 = 50; Bar, 9 = 25.

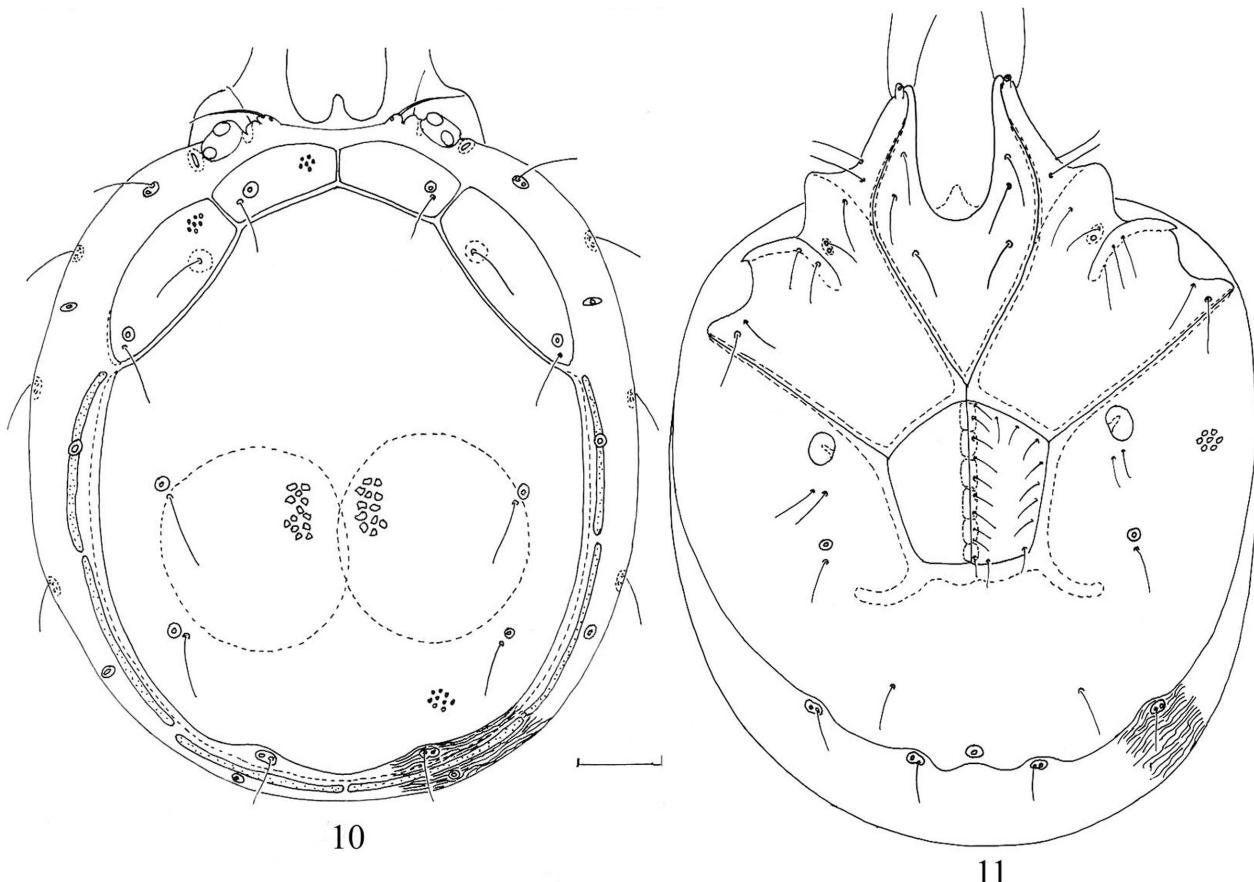


FIGURE 10-11. *Torrenticola rossica* n.sp., female. 10 — dorsal view, 11 — ventral view. Bar = 100.

Measurements, (n=7). Length of dorsal surface of body 720-780, length of ventral surface of body 775-875, width 630-660; length of anteromedial platelets 130-150, width 60-70; length of anterolateral platelets 190-210, width 60-70; length of dorsal shield 610-660, width 510-560; distance from glandularia Sci to lateral margin of dorsal shield 60-80, distance from glandularia Li to lateral margin of dorsal shield 25-35; length of median portion of coxae I 120-140, length of suture line of coxae II + III 30-50; length of capitular bay 160-165, width 90-95; length of genital field 175-185, width 160-175; distance from posterior margin of genital field to excretory pore 205-230; distance from posterior margin of genital field to posterior edge of body 290-330; length of capitulum 280-295; length of basal segment of chelicera 280-290, length of stylet of chelicera 55-60; lengths of pedipalpal segments (P1-5): 35-40,

100-110, 60-65, 85-90, 12-15; lengths of the leg segments:

I-Leg.1-6-40-55, 70-90, 75-85, 95-105, 110-120, 95-110;  
II-Leg.1-6-55-65, 70-80, 80-90, 100-110, 120-125, 125-140,  
III-Leg.1-6-55-60, 80-90, 85-90, 120-130, 140-150, 150-160;  
IV-Leg.1-6-125-140, 115-125, 120-125, 160-170, 180-190, 175-185.

Type material: holotype: male, Russia, North Caucasus, Krasnodar Territory, Seversk District, Ubin River, 2 km upstream from settlement Ubinskaya, 15. 5. 1976, the slide 1579. The river bottom: pebble and sand, depth 0.5 m. The holotype is deposited in collection of Institute for Biology of Inland Waters (Borok, Russia).

Paratypes (10 males, 5 females) is collected in Ubin River, 1-13 km upstream from to settlement Ubinskaya, Seversk District, Krasnodar Territory, May-June 1976. The river bottom: stones, pebble and sand, depth 0.2-0.7 m.

#### DISCUSSION

The species is similar to *Torrenticola similis* (Viets 1939), from which it can be easily distinguished by proportions of body. *T. rossica* body shorter and wide (dorsal shield, ratio length/width = 1.1-1.2), glandularia Sci are distant from lateral margins of dorsal shield. *T. similis* body elongated (dorsal shield, ratio length/width = 1.3-1.4), glandularia Sci open almost at the most lateral margins of dorsal shield (VIETS, 1939; WALTER, 1943; LÁSKA, 1966; CICOLANI & DI SABATINO, 1990).

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