NEW RECORDS OF WATER MITES (ACARI: HYDRACHNIDIA AND HALACAROIDEA) FROM BOSNIA AND HERZEGOVINA, WITH DESCRIPTION OF A NEW SPECIES, ATURUS GORDANI

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Abstract — A presented faunistic catalogue of water mites (Acari: Hydrachnidia and Halacaroidea) from Republic of Srpska (Bosnia and Herzegovina) is based on all published data and numerous new records from the investigated area. Twenty two species were identified, 12 of which new to Bosnia and Herzegovina and one species Mideopsis roztoczensis was recorded for the first time in the Balkans. The species Aturus gordani was described as new to science; halacarid mites were recorded (Acari: Halacaroidea) for the first time in the fauna of Bosnia and Herzegovina. The ecological significance of the new records was briefly discussed.

INTRODUCTION

So far, few papers have been published on water mites of Bosnia and Herzegovina. Motaš et al. (1948), Schwoerbel (1963), Gerecke (1996), Šmítl et al. (2000), Pešić (2002) and Di Sabatino et al. (2003), reported a total of 37 species. We were able to collect water mites at 12 localities; all situated in southern boundary of Republic of Srpska, as well to examine some water mites from the ex-collection Petkovski, from two localities. During this study 12 species new for the fauna of Bosnia and Herzegovina are reported, including one species new to science. The typical material of the new species is deposited in the Museum of Natural History of Podgorica (Montenegro).

The new taxa for Bosnia and Herzegovina are marked with an asterisk and for the Balkan peninsula with two asterisks. All measurements are given in μm. The indications of number of specimens are given as follows: (males/females/deutonymphs) and the following abbreviations are used: Ac = acetabulum, CAc = caudal acetabulum, Cx = coxae, I-L-6 = Leg 1, sixth segment, P-1 = palp, first segment, L = length, H = height, vL = ventral length, W = width.

RESULTS AND DISCUSSION

1. Prozcia rugosa Walter, 1918

Material examined: RS4 Kupres, Janj river near Babići village, 04.08.2001, leg. Pešić (2/6/1); RS12 Sišovo, canyon of the river Sokočnica, 10.08.2001, leg. Pešić (6/17/1); RS6 Janj river near Džukići village, 05.08.2001, leg. Pešić (4/10/0); RS8 Kupres, Rijeka river near Pribeljci village, 07.08.2001, leg. Pešić (7/17/0); RS10 Sišovo, Pliva river, 08.08.2001, leg. Pešić (7/9/0); BH11 Sišovo, spring of the river Pliva, 09.08.2001, leg. Pešić (1/0/0).

Distribution: Central Europe, the Alps, the Pyrenees, the Balkans.

2. Prozcia extima (Protz, 1896)

Material examined: BH11 Sišovo, spring of the river Pliva, 09.08.2001, leg. Pešić (1/0/0).

Distribution: Paleartic.

2. Prozcia squamosus Kramer, 1879

Material examined: RS5 Kupres, stream Glogovac near Babići village, 04.08.2001, leg. Pešić (0/1/1); RS12 Sišovo, canyon of the river Sokocnica, 10.08.2001, leg. Pešić (1/7/4); RS10 Sišovo, Pliva river, 08.08.2001, leg. Pešić (0/1/16).

Distribution: Paleartic.

5. Sperchon breviostris Koenike, 1895


Distribution: Europe.

6. Teutonia cometes (Koch, 1837)

Material examined: RS13 Gatačko polje field, without sampling date identification, ex coll. Georgiev & Petkovski (0/1/0); RS14 Trebišnica River, 27.07.1956, ex coll. Georgiev & Petkovski (3/0/0).

Distribution: W-Paleartic.
7. *Pseudotorrenticola rynchota* WALTER, 1906  
**Material examined:** RS9 Šipovo, Sokočnica river, 08.08.2001, leg. Pešić (1/0/0).  
**Distribution:** Central and Southern Europe.

8. *Torrenticola anomala* (KOCH, 1837)  
**Material examined:** RS12 Šipovo, canyon of the river Sokočnica, 10.08.2001, leg. Pešić (2/3/0).  
**Distribution:** Holarctic.

**Material examined:** RS9 Šipovo, Sokočnica river, 08.08.2001, leg. Pešić (8/5/0); RS12 Šipovo, canyon of the river Sokočnica, 10.08.2001, leg. Pešić (2/3/0).  
**Distribution:** The Balkans, South Italy.  
**Remarks:** *T. meridionalis* is very close to *T. elliptica* (Maglio) but while *T. meridionalis* is an eurythermic species which prefers warmer waters at low and middle altitudes, *T. elliptica*, on the contrary, is a coldstenothermic species and, in the Mediterranean area, its distribution is restricted to higher mountain ranges. Records of *T. elliptica* from lowland brooks in Bosnia published by Motas et al. (1948) probably refer to *T. meridionalis* (Di Sabatino et al. 2003).

10. *Torrenticola lativalvata sensu Angelier, 1954*  
**Material examined:** RS9 Šipovo, Sokočnica river, 08.08.2001, leg. Pešić (1/0/0).  
**Remarks:** This species differs from *T. lativalvata* Viets, 1955 which, obviously, is very close to, or synomyn with, *T. barisca* (Szalay). All records of *T. lativalvata* published after the original description, refer to a still undescribed species, provisionally named *T. lativalvata* sensu Angelier (Di Sabatino et al. 2003).  
**Distribution:** S and SE Europe.

*11. *Torrenticola tenuirostris* Viets, 1936  
**Material examined:** RS9 Šipovo, Sokočnica river, 08.08.2001, leg. Pešić (0/1/0).  
**Distribution:** Montenegro, Bosnia and Herzegovina.  
**Remarks:** The female from Bosnia agrees with the measurements given for specimens of *T.tenuirostris* from Montenegro (in brackets are given measurements of female from Montenegro (Di Sabatino et al. 2003)): dorsal shield, L/W 1.57 (1.56-1.68); Lc. chelicera basal segment/claw 3.64 (3.64-3.67); palp, L P-2/P-4 1.55 (1.53-1.55). This is the first record of this species outside Montenegro.

12. *Hygrobes fluviatilis* (STRÖM, 1768)  
**Material examined:** RS5 Kupres, Glogovac stream near Babići village, 04.08.2001, leg. Pešić (0/1/0); RS13 Gatačko polje, without sampling date identification, ex coll. Georgiev & Petkovski (1/1/0); RS75 Dabarsko polje field (Herzegovina), 24.07.1956, ex coll. Georgiev & Petkovski; 43 exp.  
**Distribution:** W-Paleartic.

13. *Hygrobes longipalpis* (HERMANN, 1804)  
**Material examined:** RS13 Gatačko polje field, without sampling date identification, ex coll. Georgiev & Petkovski (0/1/0).  
**Distribution:** Holarctic.

*14. *Atractides pennisatus* (VIETS, 1920)  
**Material examined:** BH3 Kupres, Babići village, ”Janjsko vrelom” spring, 03.08.2001, leg. Pešić (1/0/0); BH4 Kupres, Janj river near Babići village, 04.08.2001, leg. Pešić (1/3/0); BH11 Šipovo, spring of the river Pliva, 09.08.2001, leg. Pešić (6/1/1); BH12 Šipovo, canyon of the river Sokočnica, 10.08.2001, leg. Pešić (3/4/0).  
**Distribution:** Europe, except for Fennoscandinavia and Caucasus.

15. *Atractides nodipalpis* (THOR, 1899)  
**Material examined:** RS2 Kupres, canyon of the river Vaganica near Babići village, 03.08.2001, leg. Pešić (0/0/0); RS8 Kupres, Rijeka river near Pribeljci village, 07.08.2001, leg. Pešić (0/3/0); RS9 Šipovo, Sokočnica river, 08.08.2001, leg. Pešić (1/4/0); RS10 Šipovo, Pliva river, 08.08.2001, leg. Pešić (29/3/0).  
**Distribution:** Paleartic.

*16. *Neumania deltoides* (PIERSIG, 1894)  
**Material examined:** RS14 Trebišnica river, 27.07.1956, ex coll. Georgiev & Petkovski (0/1/2).  
**Distribution:** Paleartic, all Europe.

*17. *Ljania macilenta* KOENIKE, 1908  
**Material examined:** RS9 Šipovo, Sokočnica river, 08.08.2001, leg. Pešić (1/1/0).  
**Distribution:** Europe.

18. *Aturus crinitus* THOR, 1902  
**Material examined:** RS9 Šipovo, Sokočnica river, 08.08.2001, leg. Pešić (2/1/0); BH8, Kupres, Rijeka river near Pribeljci village, 07.08.2001, leg. Pešić (1/1/0); RS12 Šipovo, canyon of the river Sokočnica, 10.08.2001, leg. Pešić (4/9/0).  
**Distribution:** Europe.

19. *Aturus gordani* n.sp. (Figs.1-5)  
**Typical material:** Holotype: male, dissected and slide mounted in Hoyers fluid; RS9 Šipovo, river Sokočnica, interstitial dig. 08.08.2001, leg. Pešić.  
**Description:** Ventral shield (Fig. 1): length 313.0, width 257.7; capitular bay 69.2 long; tips of first coxae
Fig. 1-5. *Aturus gordani* n.sp., Šipovo, interstitial waters of the river Sokočnica, male: 1 = ventral view; 2 = dorsal shield; 3 = palp, 4 = IV-L-4/5; 5 = IV-L-4-6. Bars = 0.1 mm.
extending from the anterior body margin; distance between insertions of fourth legs 181.0; the central part of the posterior body margin is presented with one short pincers-like notch; on the both sides of that notch lie two long hair-like setae. Dorsal shield (Fig. 2): length 242.0, width 217.5; the distribution of setae and glandularia on the dorsal shield are the same as in A. brachipus K.Viets; posterior body margin, on both sides of the gonopore, bearing 4-5 fine long hairs. Seven genital acetabula present on each side.

Measurements of mouthparts: capitulum and chelicerae without remarkable features; palp total length 184.6, dorsal length and relative length [% of total length] (in parentheses) of single segments: P-1 23.0 (12.5), P-2 45.0 (24.4), P-3 32.0 (17.3), P-4 59.0 (32.0), P-5 25.6 (13.8); morphology and setation of palp as in Fig. 3.

Legs: Ventral margins of 4-L-4, in the middle, with two strong setae; ventral part of its midiodistal margins with two strong specialized setae, distal setae 56.5 long and 9.6 wide, proximal setae 50.0 long and 6.4 wide; 4-L-5 bearing three slender setae inserted proximally; ventral surface, with 4 protursions, bearing 7 fine hairs; 4-L-6 elongated, 92.0 in length (Figs.4-5).

Remarks: Aturus gordini n. sp. is closely related to A. brachipus K.Viets, 1936, and A. paucisetus Motas and Tanasachi, 1947. All three species have a central part of the posterior body margin presented with one pincers-like notch and distribution of setae and glandularia on the dorsal shield is very similar in these species. A. gordini differs from A. brachipus and A. paucisetus in the following characters: more elongated 4-L-4 (short and enlarged in A. brachipus (see: Viets 1936) and A. paucisetus (see: Motas and Tanasachi 1947; Biesiada 1973); ventral margin of P-4 with 4 denticular protursions, while it is normal in shape in A. brachipus (see: Viets 1936; Viets 1957; Angelieri 1963) and A. paucisetus (see: Motas and Tanasachi 1947; Biesiada 1973); two setae on each side of the short, pincers-like notch on the posterior body margin are longer and more slender than those in A. brachipus (see: Viets 1957; Angelieri 1963) and A. paucisetus (see: Motas and Tanasachi 1947; Petrova 1968; Biesiada 1973). The figures published by Schwoerbel (1962), document clearly that his material did not belong to A. paucisetus (ventral margin of P-4 with denticular protursions). If Schwoerbel's figures are correct, his population belongs to A. gordini or a species with intermediate characters between our species and two other species, A. paucisetus and A. brachipus.

Habitat: This species is hyporheobionic. The collecting station is characterized by a stony-gravel substrate, low water-flow rate and complete exposition to sunlight.

Derivatio nominis: The species was named after Dr. Gordan S. Karaman from Faculty of Sciences in Podgorica, Montenegro.

Distribution: Bosnia and Herzegovina; only known from the locus typicus.

*20. Mideopsis roztoczensis Biesiada & Kovalik, 1979 (Figs.6-7)

Material examined: RS1 Kupres, Vaganica river near Babići village, 01.08.2001, leg. Pešić (2/3.0).

Distribution: Poland, Bosnia and Herzegovina, Sicily (Gercek in pers.communication), Bulgaria (Pesić in press).

Remarks: Mideopsis roztoczensis can be distinguished from Mideopsis orbicularis (Miller), at a glance owing to a high convexity of its dorsal shield (Fig. 7), the setting of the excretory pore placed at short distance from posterior end and for the structure of the coxal organ (Biesiada and Kovalik 1979). In M. roztoczensis the basic part of the coxal organ is wedgelike (Fig. 6), while in M. orbicularis it is regularly rounded. On the basis of these latter differences, the records of M. orbicularis from Bosna river published by Motas et al. (1948) probably refer to Mideopsis roztoczensis. Due to the fact that it was previously frequently mixed with Mideopsis orbicularis, its distribution is still only partly known.

*21. Arrenurus albator (MILLER, 1776)

Material examined: RS1 Gatačko polje field, without sampling date identification, ex coll. Georgiev & Petkovski (01/1).

Distribution: W-Palaearctic.

*22. Soldanellonyx chappuisi WALTER, 1917

Material examined: RS9 Šipovo, Sokočnica river, 08.08.2001, leg. Pešić (0/0/1).

Distribution: Europe, Asia, N-America.

Remarks: This is the first record of halacarid mites (Acari: Halacaroidea) in the fauna of Bosnia and Herzegovina.

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Fig. 6-7. Mideopsis roztoczensis BIESADKA & KOVALIK, Vaganac river near Babii village (Kupres), male: 6 = ejaculatory complex; 7 = dorsal shield Bars = 0.1 mm.

REFERENCES


НОВИ НАЛАЗИ ВОДЕНИХ ГРИЊА (ACARI: HYDRACHNIDIA, HALACAROIDEA) ИЗ БОСНЕ И ХЕРЦЕГОВИНЕ, СА ОПИСОМ НОВЕ ВРСТЕ ATURUS GORDANI

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Фаунистички каталог водених гриња (Acari: Hydrachnida, Halacaroida) Босне и Херцеговине базиран је на досадашњим подацима као и већем броју налаза за истраживано подручје. Двадесет две врсте водених гриња је идентификовано од чега су 10 врста по први пут регистроване за фауну Босне и Херцеговине, док је једна врста Mideopsis roziczensis регистрована као нова за Медитеран. Врста Aturus gordani n. sp., описана је као нова за науку. Халакаридне гриње (Acari: Halacaroidea) регистроване су по први пут за фауну Босне и Херцеговине. За већину број врста дати су основни еколошки подаци на истраживаном подручју. Укупно је са нашим истраживањима регистровано 50 врста из 23 рода водених гриња што је још увијек релативно малу број за подручје таквих хидролошких и геоморфолошких карактеристика, што указује на потребу наставка даљих истраживања.