Opusc. Zool. Budapest, 2013, 44(1): 91–95

Notes on the morphology and the Romanian distribution of *Uroobovella hungarica* Hirschmann & Zirngiebl-Nicol, 1962 (Acari: Uropodina)

J. KONTSCHÁN

Department of Zoology and Animal Ecology, Szent István University, H-2100, Gödöllő, Páter Károly str. 1., Hungary and Plant Protection Institute, Centre for Agricultural Research, Hungarian Academy of Sciences, H-1525 Budapest, P.O. Box 102, Hungary.
E-mail: kontschan.jeno@agrar.mta.hu

Abstract. A very rare Uropodina mite species; *Uroobovella hungarica* Hirschmann & Zirngiebl-Nicol, 1962 was discovered in several parts (e.g. Transylvania, Oltenia) of Romania. A new description is given accompanied with several characters not investigated earlier.

Keywords. Uropodina, *Uroobovella hungarica*, first record, redescription, Romania.

INTRODUCTION

The mites of the suborder Uropodina occur worldwide in soil, moss and leaf. The Central European countries (Germany, Hungary, Poland, Romania, and Slovakia) are intensively studied. Currently more than 80 species are recorded from these countries (Wiśniewski 1993, Mašán 2001, Kontschán 2008). Despite of the intensive studies, several interesting and characteristic species are not recorded from these countries yet.

Uroobovella hungarica is one of these rare and poorly investigated species which was described by Hirschmann & Zirngiebl-Nicol (1962) on the basis of specimens collected in Hungary. However, the description of this species is very incomplete; several characters are not mentioned nor illustrated. No detailed redescription of this species is available in the literature and no other records have been added to its distribution, until current addition of two new occurrences from Bosnia-Herzegovina by Kontschán (2013).

Examining a rich material from different part of Romania I have fund many other, well-preserved specimens of *Uroobvella hungarica* which are described herein.

MATERIAL AND METHODS

Specimens were cleared in lactic acid and drawings were made with the aid of a drawing tube. After the investigation, specimens are stored in 75% ethanol and deposited in the Soil Zoology Collections of the Hungarian Natural History Museum, Budapest (HNHM).

RESULTS

Uroobovella hungarica Hirschmann & Zirngiebl-Nicol, 1962

(Figures 1–12)

Uroobovella hungarica Hirschmann & Zirngiebl-Nicol, 1962: 58.

Diagnosis. Dorsal setae spine-like, dorsal shield covered by small oval pits. Marginal shield reduced caudally, three pairs of caudal setae situ-

urn:lsid:zoobank.org:pub:FAB774BB-1933-4134-8FBC-463B8680FD40
HU ISSN 2063-1588 (online), HU ISSN 0237-5419 (print)

ated on small platelets. Ventral shield covered by small oval pits, preanal line present. Peritremes long, prestigmatid part S-shaped, poststigmatid part short. Genital shield linguliform with small oval pits on its surface and with wide process on anterior margin.

Material examined. Two females: Romania, before Mădrigeşti, Drum Forestier Leurda, beech forest, from leaf litter, N46º11.085', E22º15.606' 410 m, 27.X.2009. leg. Cs. Csuzdi, J. Kontschán, V.V. Pop, and Zs.Ujvári. *One female:* Romania, Tarcaica, young mixed beech forest, from leaf litter, N46º33.165', E22º15.950', 478 m, 28.X. 2009. leg. Cs. Csuzdi, J. Kontschán, V.V. Pop, and Zs.Ujvári. *Two females:* Romania, Meziad cave, beech leaf litter and moss from stone, N46º 45.765', E22º28.504' 390 m, 29.X.2009.10.29. leg. Cs. Csuzdi, J. Kontschán, V.V. Pop and Zs. Ujvári. *One female:* Maramureş Muntii Ignis. Runki. Stream, spruce fir forest, and meadow at the Cabana Colibi. N47°52.457'E23°43.397'.832 m, leaf litter, 13.VIII.2004. leg. D. Murányi. *Two females:* Romania, jud. Caraş-Severin, Munţii Locvei, 5km E Moldova Nouă, Gaura Haiduceasc ă, entry of p. Ogasul Găurii, 420 m, wet soil + rock chips at cave entrance, soil-washing, N44° 43' 27", E21°44' 13", 07.X.2009., leg. Gy. Makranczy, *Two females:* Romania, Muntii Bihor, under Cetătile Rădesei (Aragyásza Cave), 1117 m, spruce forest on sandstone, from sphagnum bog, 23.IX.2009. leg. L. Dányi. *One female:* Romania, Bucovina, above Broşteni, mixed beech forest, from decayed wood and moss, N47° 18,607'; E25°41,716' 935 m, 03.XI.2011. leg. Cs. Csuzdi, J. Kontschán, V.V. Pop, and Zs. Ujvári. *Three females:* Romania, Oltenia, near Leleşti, oak forest and meadow, N45°04,102', E23° 12,525', 265 m, from leaf litter, 04.XI.2007. leg. Cs. Csuzdi, J. Kontschán, and V.V. Pop. *One female:* Romania, Oltenia, Poiana Mărului, beech forest, N45°23,362', E22°34,475', 890 m, from lichens, 02.XI.2007. leg. Cs. Csuzdi, J. Kontschán and V.V. Pop. *Two females:* Romania, Oltenia, after Poiana Mărului, beech forest, N45°25,978', E22°27,550', 501 m, beech leaf litter, 02.XI.2007. leg. Cs. Csuzdi, J. Kontschán, and V.V. Pop.

Description. Female. Length of idiosoma 650–670 μm, width 540–570 μm (n=17). Shape oval, posterior margin rounded.

Dorsal idiosoma (Fig. 1). Dorsal and marginal shield fused anteriorly. Dorsal setae thin and spine-like (*ca*. 16–20 μm), dorsal shield covered by small oval pits. Marginal shield reduced caudally, marginal setae smooth and needle-like (*ca*. 17–20 μm), surface of marginal shield with irregular pits. Three pairs of caudal setae situated on small platelets.

Ventral idiosoma (Fig. 2). Sternal shield without sculptural pattern. All sternal setae short (*ca*. 10 μm), smooth and needle-like. St1 situated near anterior margin of sternal shield, St2 at level of anterior margin of coxae II, St3 at level of anterior margin of coxae III, St4 at level of posterior margin of coxae III, St5 placed near posterior edges of genital shield.

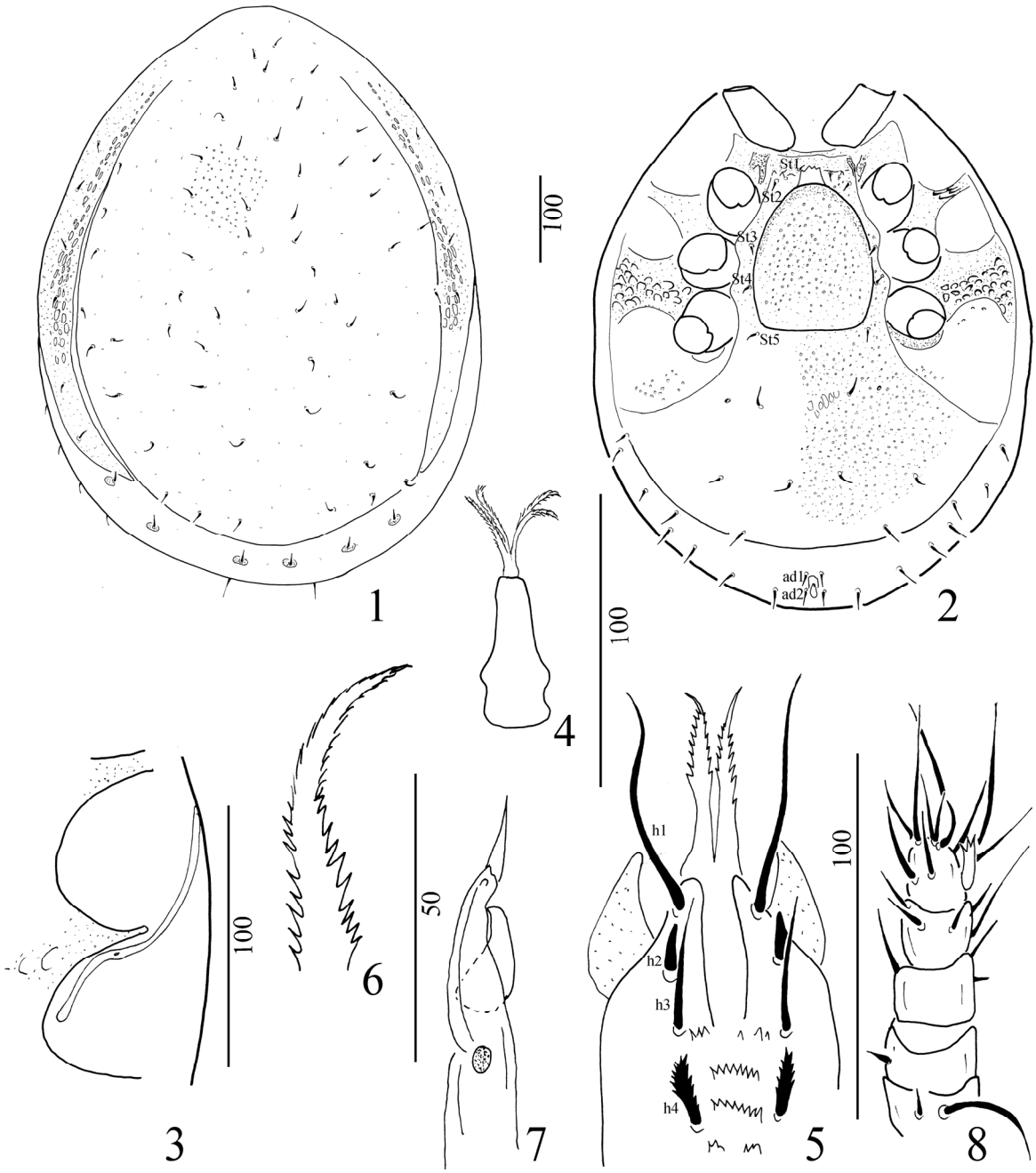
Ventral shield covered by small oval pits, preanal line present. Four pairs of ventral setae situated anteriorly to preanal line, other setae can be seen posteriorly to preanal line. All ventral setae smooth, short (*ca*. 20–21 μm) and needle-like. Adanal setae (ad1, ad2) similar in shape and length to other ventral setae. Pedofossae deep, their surface covered by numerous oval pits, separate furrows for tarsi IV absent. Surface between pedofossae III and IV covered by large oval pits.

Peritremes (Fig. 3). Long, prestigmatid part S-shaped, poststigmatid part short. Stigmata situated between coxae II and III.

Genital shield. Linguliform, its surface covered by small oval pits, on its anterior margin a wide process present which bears two-three small apical rounded spines. Genital shield situated between coxae II and IV.

Tritosternum (Fig. 4). With narrow base, tritosternal lacinia divided into four, marginally pilose branches.

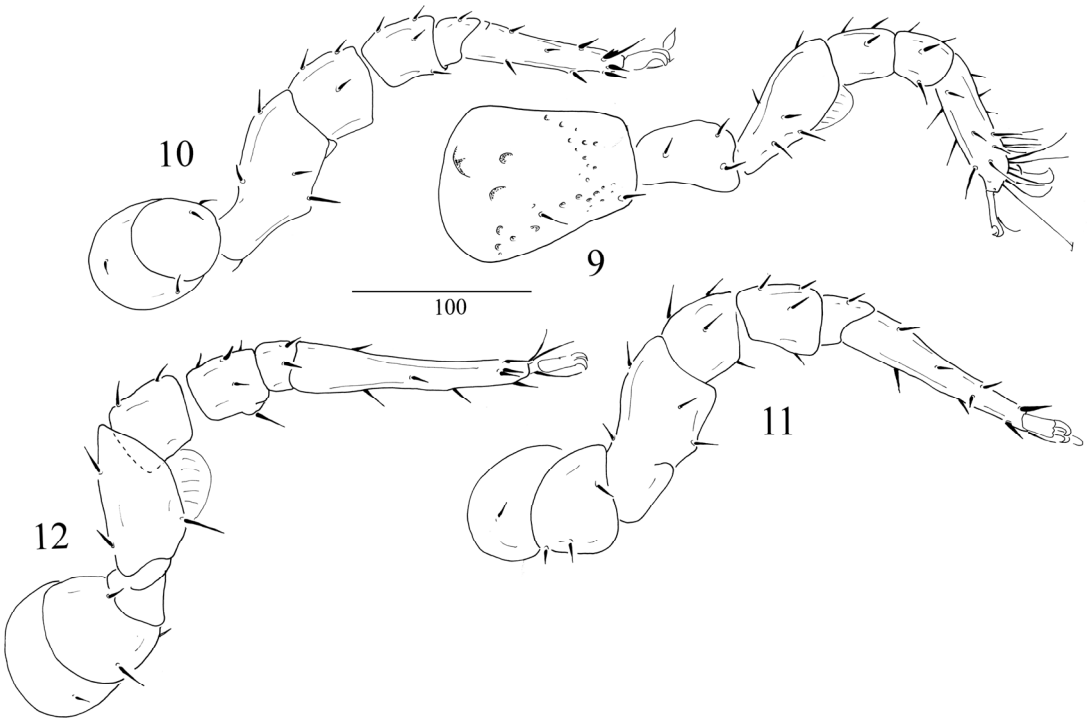
Gnathosoma (Fig. 5). Corniculi horn-like, internal malae long and apically serrate. Hypostomal setae h1 smooth and long (*ca*. 66 μm), h2 smooth, robust and very short (*ca*. 12 μm), h3 long and needle-like (*ca*. 37 μm), h4 apically serrate (*ca*. 20 μm). Four rows of denticles pre-



Figures 1–8. *Uroobovella hungarica* Hirschmann & Zirngiebl-Nicol, 1962. 1 = Dorsal view of body, 2 = ventral view, 3 = peritreme, 4 = tritosternum, 5 = ventral view of gnathosoma, 6 = epistome, 7 = chelicera, 8 = ventral view of palp.

sent on gnathosomal surface between h3 and h4. Epistome with serrated basal margin, apically pilose (Fig. 6). Digitus fixus of chelicerae bearing long apical process, with one tooth and bulbiform apical sensillum. Digitus mobilis short, without tooth, internal sclerotized node present (Fig. 7). Palp with smooth and needle-like setae (Fig. 8).

Legs (Figs 9–12). All legs with paired ambulacral claws and bearing smooth setae on all seg-



Figures 9–12. *Uroobovella hungarica* Hirschmann & Zirngiebl-Nicol, 1962. 9 = Leg I, 10 = leg II, 11 = leg III, 12 = leg IV.

ments except tarsi. Tarsi II–IV bearing robust setae. Coxae I covered by several oval pits, leg I–IV with large lateral flaps on femura (visible in present position only in Figs 9 and 12).

Remarks. Hirschmann & Zirngiebl-Nicol (1962) placed this species into the *rackei* species group which needs urgent revision. Currently 14 species are listed in this group, from which 13 species occur in the Palearctic region, and only one species is reported from Neotropical area (Chile). *Uroobovella hungarica* is easy to distinguish from other European species based on the following characters: shape of the apical process of genital shield, the absence of pygidial shield and the ornamentation and setation of dorsal and ventral parts of the idiosoma.

ECOLOGICAL AND ZOOGEOGRAPHICAL NOTES

Uroobovella hungarica is a rare species; it has previously been recorded only in Bosnia-Herzegovina (Kontschán 2013: Bjelašnica Mts and Grmeč Mts), Hungary (Hirschmann & Zirngiebl-Nicol 1962: without exact locality) and Romania. The species was collected in the mountainous regions of these countries, between 400 and 1100 m in Romania and between 500 and 1350 m in Bosnia-Herzegovina, but it can be found at lower altitude (205 m) as well, e.g. in the Oltenia region of Romania. The Romanian specimens live mostly in leaf litter (especially in beech forests), but they were found in moss and sphagnum bogs as well; specimens found in Bosnia-Herzegovina were from soil, moss and leaf litter.

The distribution of this species is very interesting. On the basis of the recent data *Uroobovella hungarica* can be found in the southern part of the Carpathian Basin and northern part of the Balkan Peninsula, except of the record from Maramures, which belongs to the Eastern Carpathians. Despite of the different origins of the Carpathians and the Apuseni Mountains, this species can be found in both regions (Fig. 13), therefore this species must have colonized this region after the formation of the Carpathians and the Apuseni Mountains.

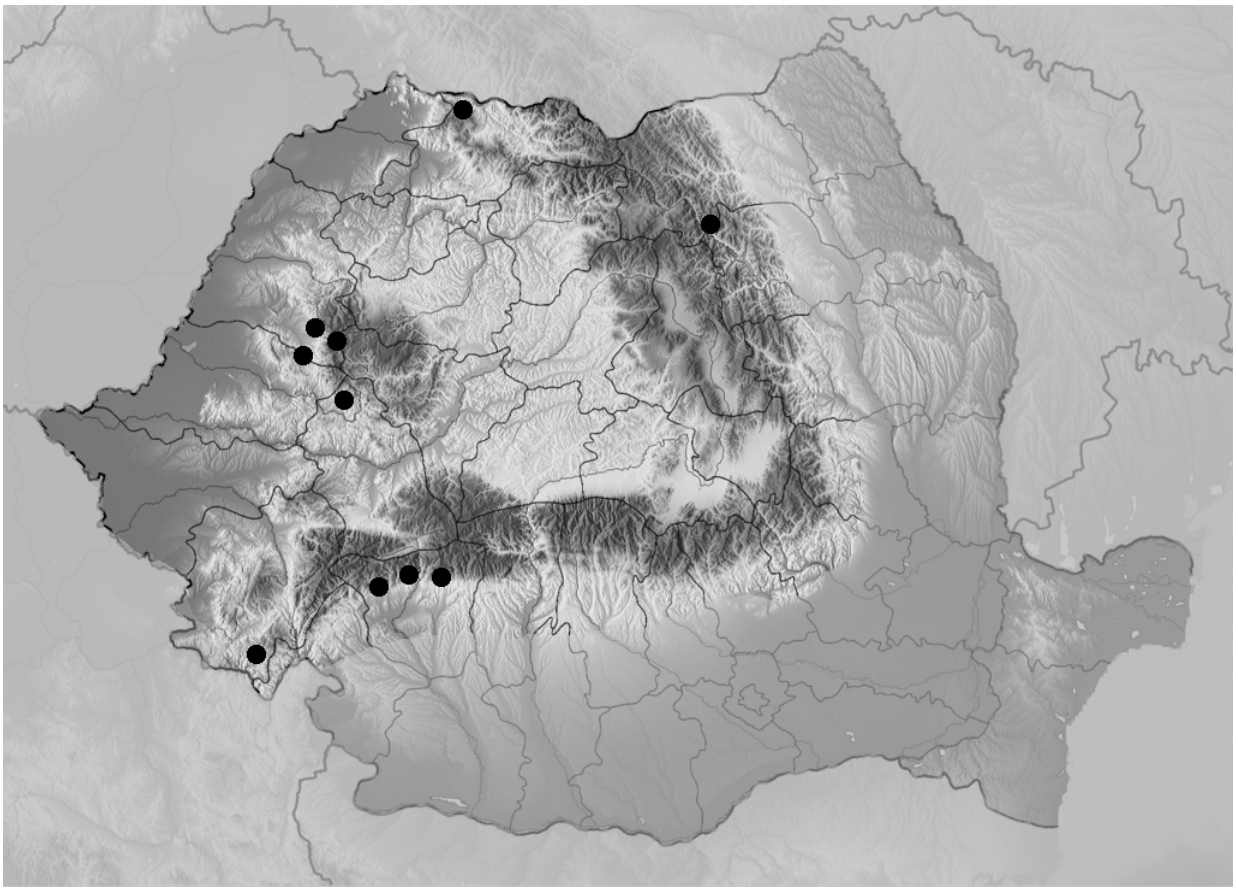


Figure 13. Occurrences of *Uroobovella hungarica* Hirschmann & Zirngiebl-Nicol, 1962 in Romania.

Acknowledgements – I am very grateful to my colleagues and friends, who collected mite material in Romania. This research was realized in the frames of "TÁMOP 4.2.4. A/1-11-1-2012-0001 National Excellence Program – Elaborating and operating an inland student and researcher personal support system". The project was subsidized by the European Union and co-financed by the European Social Fund. The research was partly supported also by the Hungarian Scientific Research Fund (OTKA 72744, 100369).

REFERENCES

HIRSCHMANN, W. & ZIRNGIEBL-NICOL, I. (1962): Gangsystematik der Parasitiformes Teil 6. Die Gattung *Uroobovella* comb. nov., Teilgänge von *Nenteria* comb. nov., Erstversuch der Aufstellung eines Gangsystems der Uropodiden aufgrund Gnathosoma-Unterseite und Chelicere. *Acarologie. Schriftenreihe für Vergleichende Milbenkunde,* 5: 31–291.

KONTSCHÁN, J. (2008): Magyarország korongatkái (Acari: Mesostigmata: Uropodina). [Turtle mites of Hungary.] *Állattani Közlemények,* 93(1): 3–15.

KONTSCHÁN, J. (2013) Uropodina mites of the Balkan Peninsula (Acari: Mesostigmata). *Opuscula Zoologica Budapest,* (in press)

MAŠÁN, P. (2001): Mites of the cohort Uropodina (Acari, Mesostigmata) in Slovenska. *Annotationes Zoologicae et Botanicae,* 223: 1–320.

WIŚNIEWSKI, J. (1993): Gangsystematik der Parasitiformes Teil 549. Die Uropodiden der Erde nach Zoogeographischen Regionen und Subregionen geordnet (Mit Angabe der Lande). *Acarologie. Schriftenreihe für Vergleichende Milbenkunde,* 40: 221–291.