

Uropodina mites of the Balkan Peninsula (Acari: Mesostigmata)

J. KONTSCHÁN

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

Abstract. 64 Uropodina mite species are listed from the countries of the Balkan Peninsula. Several new occurrences of the species found are given; all occurrences are depicted on maps. 24 species are listed from Albania, 22 from Greece, 21 from Croatia, 19 from Bulgaria, 17 from Montenegro, 14 from Macedonia, 13 from Serbia, 12 from Bosnia-Herzegovina and 3 from the European part of Turkey. Description and new illustrations of the female of *Polyaspinus feheri* Kontschán, 2003 are given. Ecological characteristics and zoogeography of the species listed are discussed and furthermore, a new key to the Balkanic Uropodina species is provided.

Keywords. Acari, Uropodina, faunistics, taxonomy, Balkan Peninsula, key to the species.

INTRODUCTION

Uropodina is one of the most characteristic groups of the Mesostigmata mites. They can be characterized as follows: relative short legs, reduced setae on legs, usually fused sternal and ventral shields, hypostomal setae situated in a row and the position of stigmata between coxae II and III.

Currently there are more than 2200 species known from all around the world, but uropodids reach their maximum diversity in the tropics. In spite of this fact, the most intensively studied countries [Slovakia (Mašán 2001), Romania, Germany (Wiśniewski 1993), Poland (Błoszyk 1999) and Hungary (Kontschán 2008)] are found in Europe. Seemingly, the most species rich country is Slovakia with more than 140 species listed (Mašán 2001). However, larger parts of Europe are scarcely investigated and the Uropodina fauna of the Balkan Peninsula is especially poorly studied.

Currently, the Balkan Peninsula consists of nine countries (in alphabetic order): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Macedonia, Montenegro, Serbia (with Kosovo) and European part of Turkey. Although the Southern part of Romania lies on the Balkan Peninsula, some 90% of this country is found outside the

Balkan, therefore its fauna is not dealt with in the present work.

The main goals of the present paper are summarizing all of the so far known data on the Uropodina mites of the Balkan Peninsula and give a general insight into the composition and distribution of the Uropodina fauna.

HISTORY OF THE UROPODINA RESEARCH IN THE BALKAN

The first mention of the Uropodina mites in the Balkan can be found in Willmann's (1941) monograph, in which he presented the cave dwelling mites of the Balkan of which five belonged to the suborder Uropodina. More than 50 years later, only a few more records and species were reported in the large summarizing work by Wisniewski & Hirschmann (1993) mentioning 13 species (two from Bulgaria, four from Greece, four from Croatia, one from Bosnia-Herzegovina and two from the ex-Yugoslavia). Parallel with these studies, Athias-Binche & Błoszyk (1985) studied the *Crinitodiscus* species with several zoogeographic notes to the occurrences in the Balkan Peninsula and later Stochowiak *et al.* (2008) presented some new occurrences of *Cilliba sellnicki* Hirschmann & Zirngiebl-Nicol, 1964 from Croatia.

The present author is working continuously on exploration the Uropodina fauna of the Balkan Peninsula since 2003, and firstly reported 19 species from Albania (Kontschán 2003a).

Kontschán (2003b, 2010) studying the Uropodina fauna of Greece, described four new species and listed 14 species first time from this country. Uropodina materials from the former Yugoslavian countries (Croatia, Serbia-Montenegro and Macedonia) were studied in several cases as well (Kontschán 2005, 2007b, 2011), which resulted in reporting new occurrences of several species, description of six new species and resurrection of the genus *Capitodiscus* on the basis of a new species collected in Croatia. From Bulgaria, Kontschán (2004, 2007a) listed 14 species for the first time and furthermore described two species new to science.

MATERIAL AND METHODS

Soil, leaf litter, moss, lichen, ant, termites and bird nests were collected in different part of the Balkan Peninsula. The materials were put into plastic bags and during the expedition were placed in fridge boxes. After arriving home, the materials collected were extracted using the Berlese-method in the Hungarian Natural History Museum.

The clean mite samples were separated under stereo microscope. The Uropodina specimens were cleared by lactic acid, placed on deep and half covered slides, and identified under scientific microscope. The mites identified are stored in 70% ethanol and deposited in the Soil Zoology Collection of the Hungarian Natural History Museum.

All measurements are given in micrometres (μm). Collectors' acronyms are as follows: CSZ: Szilvia Czigány, DL: László Dányi, EZ: Zoltán Péter Erőss, FZ: Zoltán Fehér, HA: András Hunyadi, KJ: Jenő Kontschán, KT: Tibor Kovács, MD: Dávid Murányi, SZT: Tímea Szederjesi, UZS: Zsolt Ujvári.

TAXONOMY

UROPODINA

Superfamily Polyaspidioidea Evans, 1972

Trachytidae Trägårdh, 1938

Trachytes aegrota (C. L. Koch, 1841)

(Figures 1a, b and 10)

Celaeno aegrota C.L. Koch, 1841: 32.

Trachytes aegrota: Michael 1894: 313.

New records. Albania. Dibër district, Lurë area, Fushë Lurë, mixed pine-beech forest beneath the lakes, leaf litter 1410m, N41°47.758' E20°12.599', 20.V.2010., FZ, MD, UZS. *Bosnia-Herzegovina.* Ozren Mts, pine forest beneath the Mt. Ozren, 1361m, N43°58.581' E18°31.061' moss from soil, 05.X.2007., DL, KJ, MD. *Bulgaria.* Berkovitsa Province, Stara Planina, Berkovitsa, litter from beech forest E of Kom settlement, 1590m, N43°10.722' E23°04.922', 14.VIII.2009., MD. *Macedonia.* Šar Planina, Gorno Jelovce, stream in a beech forest S of the village, 1169m, N41°46'31.0" E20°48'14.1", from litter, 15.X.2006. DL, KJ, MD., Jakupica Mts, Kapinovo, Babuna River and its gallery forest below the village, 575m, N41°36'54.3" E21°27'02.8", from litter, 19.X.2006. DL, KJ, MD. *Montenegro.* Visitor Mts., Murino SW 6 km, gorge of the sidestream of Dosova stream at a sink-hole, 1425 m (mixed spruce forest, streamside vegetation) N42°38.022' E19°51.005', 12.X.2009. DL, FZ, KJ, MD., Savino Polje E 1 km, Đalovica klisura, bank of Bistrica Reka, 609m. N43°04.244' E19°51. 15.X.2008. DL, FZ, KJ, MD. *Serbia.* Zlatibor district, Maljen Mts, Brajkovići, stream and its gallery N of the village, litter from mixed gallery forest, 445m, N44°02.244' E19°54.827', 17.III.2011. KT, MD., Đerdap Mts, Majdanpek, dry beech forest, N44°24'59.0" E21°56'16.6", from litter, 13.X.2006. DL, KJ, MD., Đerdap Mts, Dobra, Reka Pesača, N44°34, 670, E21°59, 250, 386m, beech forest with stream, 28.X.2010. DL, KJ, UZS.

Previous records from the Balkan Peninsula. *Albania.* Mountain pass Shtylëss, Ibë (Kontschán 2003a). *Bulgaria.* Rila (Kontschán 2007a), *Greece.* Visina (Kontschán 2010). *Macedonia.* Popova Šapka (Kontschán 2005). *Montenegro.* Velika (Kontschán 2007b).

Distribution. Holarctis.

Remark. These are the first records from Bosnia-Herzegovina and Serbia.

***Trachytes arcuatus* Hirschmann & Zirngiebl-Nicol, 1969**

(Figures 1c and 10)

Previous records from the Balkan Peninsula. Albania. Ndrsen (Kontschán 2003a). Croatia. Novo Zvečevo (Kontschán 2005).

Distribution. Central and Southern Europe.

***Trachytes baloghi* Hirschmann & Zirngiebl-Nicol, 1969**

(Figure 10)

New records. Bulgaria. Smoljan province, Perelik Mts, Progled, Čepelarska River and its forest sidebrook NW the village 1260m, N41°41.207' E24°41.961', 31.V.2012. KJ, MD, SZT., Kărdžhali province, Šarta Mts, Pelin, mixed pine forest NE of the village, 645m, N41°31.070' E25°47.010', 29.V.2012. KJ, MD, SZT., Smoljan province, Zălti Djal Mts, Ribnica, Ribnica Stream W of the village, 780m, N41°27.929' E24°52.417', 30.V.2012., KJ, MD, SZT. Greece. West Greece, Aetolia-Acarmania peripheral unit, Panetoliko Mts, Agios Vlasios, open brook, pine forest and forest puddle S of the village, 825m, N38°48.360' E21°30.676', 07.V. 2011. KJ, MD, SZT, UZS., Arkadia county, Parnon Mts, Mesorrahi, chestnut and oak mixed forest, S of the village, 900m, N37°22.222' E22°32.121', 02.IV.2009. DL, KJ, MD. Macedonia. Dojransko Basin, Nikolik, brook in macchia, 15.III.2008. CSZ, MD. Serbia. Đerdap Mts, between Miroč and Brza Palanka, N44°28.616, E22°21.074, 407m, beech forest, 27.X.2010. DL, KJ, UZS.

Previous records from the Balkan Peninsula. Albania. Quafësthamë (Kontschán 2003a), Bulgaria. Rupite (Kontschán 2004), Rila and Black Sea coastal hills (Kontschán 2007a).

Distribution. Central- and Southern Europe.

Remark. These are the first records from Greece, Macedonia and Serbia.

***Trachytes irenae* Pecina, 1970**

(Figure 10)

New records. Bosnia-Herzegovina. Ozren Mts, Vilić, Rača Stream and its gallery beneath the village, 978m, N43°59.577' E18°31.099', leaf litter, 05.X.2007. DL, KJ, MD. Bosnia-Herzegovina. Grmeč Mts, Lanište Pass, secondary forest edge W of the pass, 524m, N44°32.750' E16°41.166', from soil, 02.X.2007. DL, KJ, MD.

Distribution. Central Europe.

Remark. This is the first record from Bosnia-Herzegovina.

***Trachytes pi* Berlese, 1910**

(Figure 10)

Previous records from the Balkan Peninsula. South-Herzegovina (Willmann 1941).

Distribution. Central Europe.

***Trachytes parnonensis* Kontschán, 2010**

(Figure 10)

Previous records from the Balkan Peninsula. Greece. Parnon Mts (Kontschán 2010).

Distribution. Greece.

***Trachytes lamda* Berlese, 1904**

(Figure 10)

New records. Bulgaria. Berkovitsa Province, Stara Planina, Berkovitsa, litter from beech forest E of Kom settlement, 1590m, N43°10.722' E23°04.922', 14.VIII.2009. MD. Greece. Evrytania peripheral unit, Anatoliki Fragista, small river, stream and plane tree forest N of the village, 550m, N38°57.577' E21°36.750'07.V.2011. KJ, MD, SZT, UZS. Montenegro. Osječenica 3 km S along the Morinj–Vilusi road, 940 m, beech forest, N42°40.658' E18°38.515', 09.X.2008. DL, FZ, KJ, MD.

Distribution. Europe.

Remark. These are the first records from Bulgaria, Greece, and Montenegro.

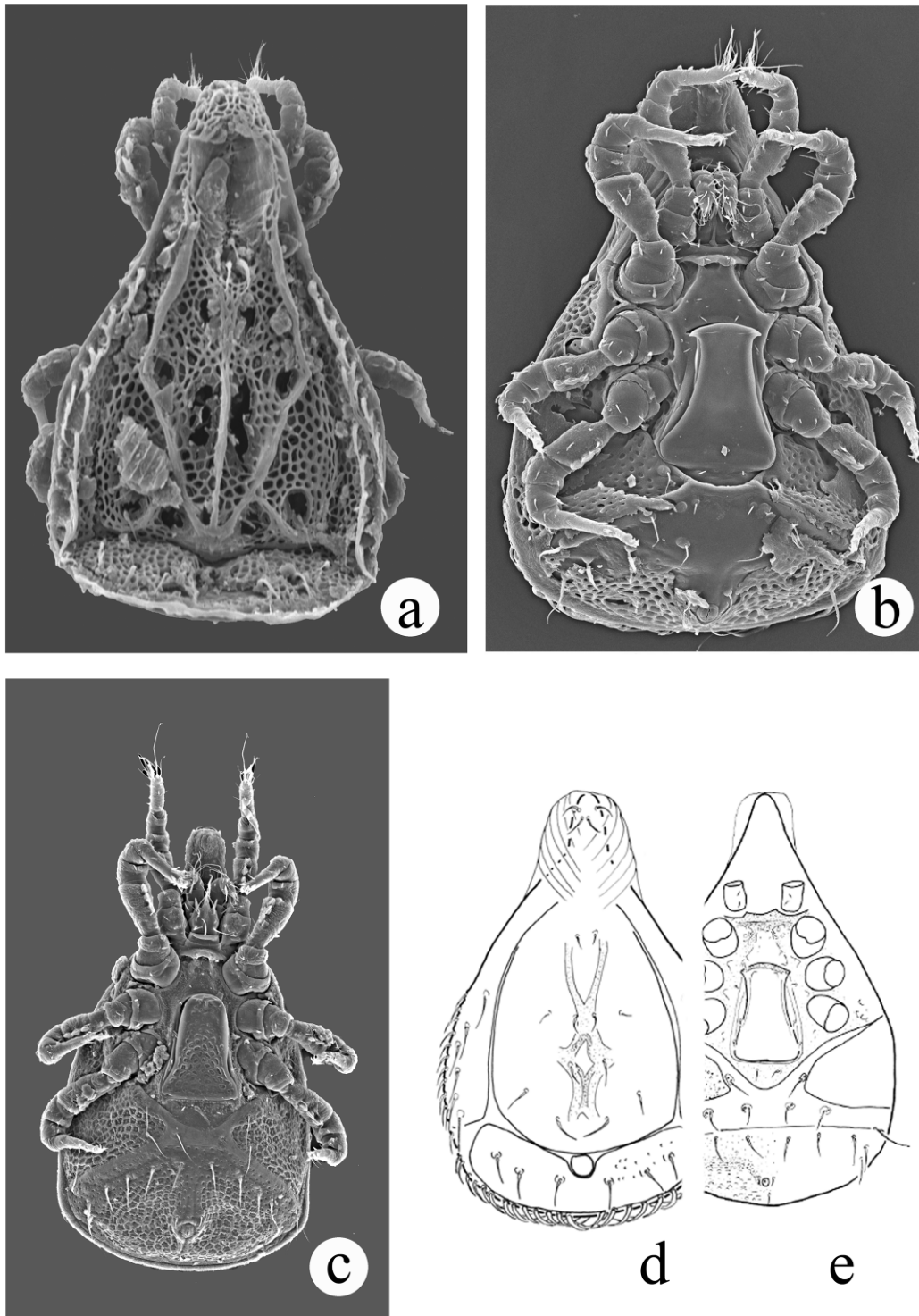


Figure 1. *Trachytes* species from the Balkan Peninsula; a = Dorsal view, b = ventral view of *T. aegrota* (scanning micrographs), c = ventral view of *T. arcuatus* (scanning micrograph), d = Dorsal view, e = ventral view of *T. szonjaae* (after Kontschán 2007b and modified).

***Trachytes carpathicus* Kontschán, 2007**

(Figure 10)

New record. Croatia. Papuk Mts, Slatinski Drenovac, Jankovac Str. and its gallery above the village, 243m, N45°31.966' E17°42.116', from moss, 01.X.2007. DL, KJ, MD.

Distribution. Romania, Croatia.

Remark. This is the first record from Croatia.

***Trachytes macedoniensis* Kontschán, 2005**

(Figure 10)

Previous records from the Balkan Peninsula. Macedonia. Gorno Jelovce (Kontschán 2005).

Distribution. Macedonia.

***Trachytes mystacinus* Berlese, 1910**

(Figure 10)

Previous records from the Balkan Peninsula. Croatia. Medvednica, Mala Kapella, Paklenica National Park (Kontschán 2007b).

Distribution. Slovenia, Slovakia, Austria, Switzerland, Italy, and Croatia.

Remark. This species seems to be an Alpine species.

***Trachytes papukiensis* Kontschán, 2005**

(Figure 10)

Previous records from the Balkan Peninsula. Croatia. Papuk Mountains (Kontschán 2005).

Distribution. Croatia.

***Trachytes szonjaae* Kontschán, 2007**

(Figures 1d, e and 10)

New record. Bosnia-Herzegovina. Konjic, sidestream of the Neretva River at their conflu-

ence, 290m, N43°38.322' E17°58.433', form leaf litter, 07.X.2007. DL, KJ, MD.

Previous records from the Balkan Peninsula. Croatia. Vetermicka (Kontschán 2007b).

Distribution. Croatia and Bosnia-Herzegovina.

Remark. This is the first record from Bosnia-Herzegovina.

***Polyaspinus feheri* Kontschán, 2003**

(Figures 2 and 10)

New record. Albania. Vlorë county, Çikë Mts, pine forest N of the Llogara Pass, moss, 11.III. 2008., CSZ, MD. *Greece.* Epirus, Preveza peripheral unit, Thesprotiko Mts, Vrisoula, stream and its plane tree gallery, and roadside puddle S of the village, 220m, N39°14.904' E20°41.735', 05.V.2011. KJ, MD, SZT, UZS.

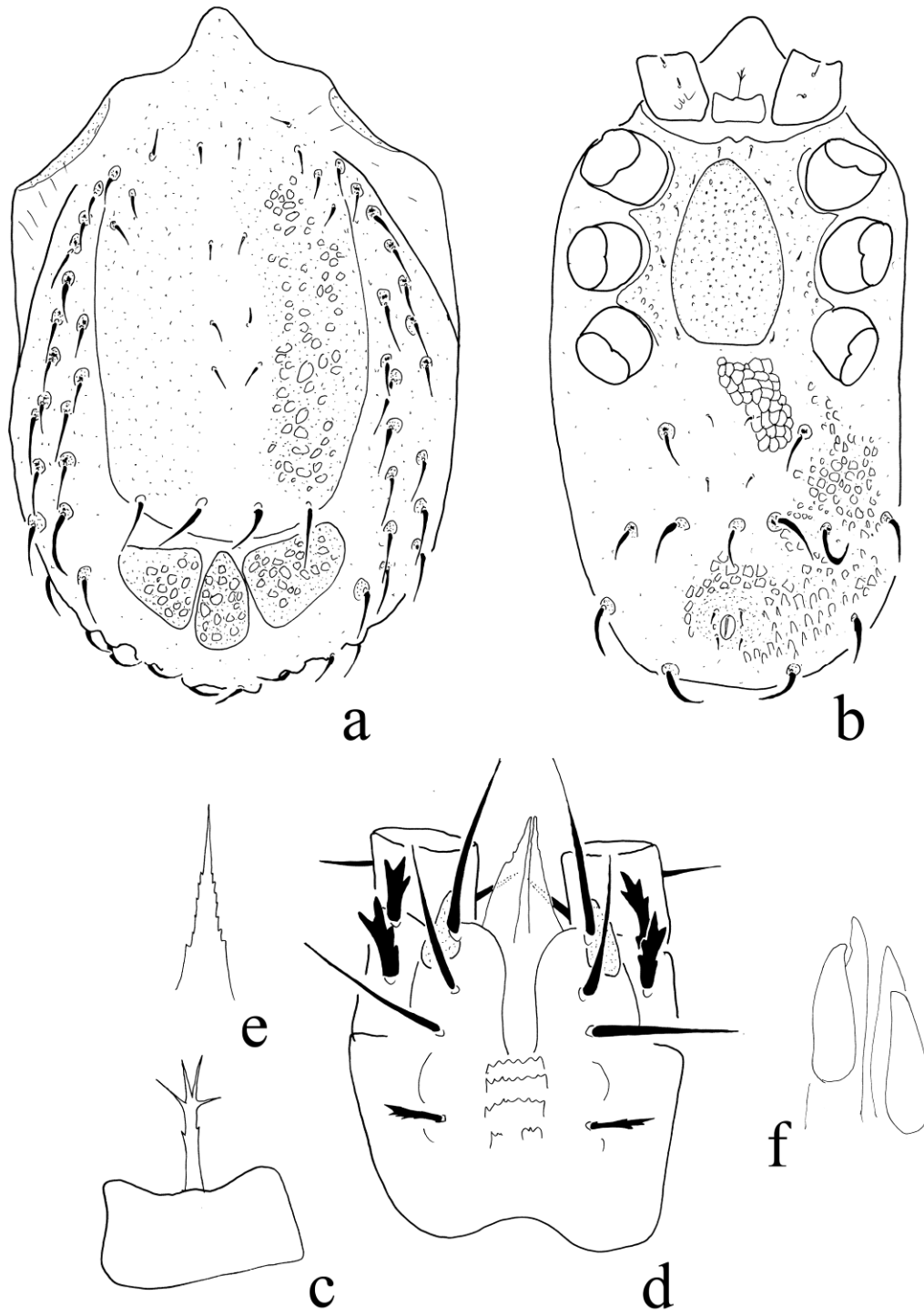
Previous records from the Balkan Peninsula. Albania. Quafësthamë (Kontschán 2003a).

Distribution. Albania and Greece.

Remarks. Kontschán (2003a) described this species exclusively on male specimens. The intensive collection works conducted recently in the Balkan peninsula resulted in finding several females of this species as well. Herewith is the description of the females.

Measurements. Length of idiosoma 590–620 µm, width 240–250 µm. Shape oblong, posterior margin rounded.

Dorsal idiosoma (Figure 2a). Dorsal and marginal shield fused anteriorly. Marginal shield reduced, caudally divided into several rounded platelets bearing needle-like setae. Dorsal shield covered by irregular pits and bearing smooth and needle-like setae, two pairs of long setae situated near posterior margin of dorsal shield. Pygidial shield present and divided into three parts, shape of medial part triangular. Surface of pygidial segments covered by irregular pits and not bear-



Figures 2. *Polyaspinus feheri* Kontschán, 2003. a = dorsal view, b = ventral view, c = tritosternum, d = ventral view of gnathosoma, e = epistome, f = ventral view of chelicera.

ing setae. Setae on membranous cuticle similar in shape and length to setae of dorsal shield.

Ventral idiosoma (Figure 2b). Most surface of sternal shield smooth, near coxae II–IV covered by some oval pits. Sternal setae short, smooth and needle-like, St1 localized near anterior margin of sterna shield, St2 at level of central area of coxae II, St3 at level of posterior margin of coxae II, St4 at level of central area of coxae III, St5 situated near basal edges of genital shield. Ventral shield with two pairs of short and needle-like setae on central area, other ventral setae long, robust and situated on small platelets. Adanal setae short and needle-like. Surface of ventral shield covered by reticulate sculptural pattern near basal line of genital shield and irregular pits can be found on caudal area of ventral idiosoma. Genital shield scutiform, covered by small oval pits and without process on its apical margin. Base of tritosternum wide, tritosternal laciniae divided into four smooth branches (Figure 2c).

Gnathosoma (Figure 2d). Corniculi horn-like, internal malae longer than corniculi and smooth. Hypostomal setae as follows: h1–h3 smooth and long, h4 short and marginally serrate. Palp trochanter with two robust and serrate setae. Epistome marginally serrate (Figure 2e), fixed digit of chelicerae longer than movable digit, without internal sclerotized nodes (Figure 2f).

Legs. All legs with wide and large lamellae.

Notes. Kontschán (2003a) mentioned that this species easy to recognized on the basis of the shape of medial segments of pygidial shield in males, this is true for the females as well, and furthermore the female differs from the other *Polyaspinus* species in the surface of genital shield, which is covered by small oval pits in *P. feheri*, but smooth in the other *Polyaspinus* species.

Polyaspididae Berlese, 1913

***Polyaspis patavinus* Berlese, 1881**

(Figure 10)

Previous records from the Balkan Peninsula. Bulgaria. Rupite (Kontschán 2004). *Serbia*. Fruska Gora (Kontschán 2005).

Distribution. Europe.

Superfamily Uropodoidea Evans, 1957

Trematuridae Berlese, 1917

***Trematurella graeca* (Kontschán, 2003) comb. nov.**

(Figure 10)

Trichouropoda graeca Kontschán, 2003b: 187–189.

New record. Greece. Central Greece: Evrytania peripheral unit, Klisto, forest brook, spruce forest, wet meadow and roadside puddle N of the village, 1145m, N39°07.326' E21°49.064'. 08.V. 2011., KJ, MD, SZT, UZS.

Previous records from the Balkan Peninsula. Greece. Thessaloniki (Kontschán 2003b), Tetrizi Mountains (Kontschán 2010).

Distribution. Greece.

Remarks. When Kontschán (2003) described this species, he followed Wiśniewski & Hirschmann's (1993) system and therefore placed this species into the large and heterogeneous genus *Trichouropoda*. However, the species of the genus *Trematurella* with long and pilose dorsal and ventral setae and large deep irregular sculptural pattern well differ from the other *Trichouropoda* sensu lato species (Błoszyk 1999). *T. graeca* shares all these characteristics therefore I transfer it to the genus *Trematurella*.

***Trematurella elegans* (Kramer, 1882)**

(Figures 3d and 10)

Uropoda elegans Kramer, 1882: 406–407.

Trematurella elegans: Błoszyk 1984: 70.

Previous records from the Balkan Peninsula. Greece: Thessaloniki (Kontschán 2003b).

Distribution. Europe.

***Trematurella plana* (Sellnick, 1931)**

(Figure 10)

Uropina plana Sellnick, 1931: 730–736.

Trematurella plana: Hirschmann 1979: 64.

Previous records from the Balkan Peninsula. Bulgaria. Kozhuh hill (Kontschán 2004).

Distribution. Europe.

***Oodinychus ovalis* (C. L. Koch, 1839)**

(Figures 3a and 11)

Notaspis ovalis C. L. Koch, 1839: 21.

Oodinychus ovalis: Berlese 1920: 158.

New records. Albania. Mat district, Dejë Mts, limestone rocks in the upper valley of the Varoshit stream 1360m, N41°39.905' E20°12.497' moss from tree, 18.X.2010. FZ, MD, UZS. *Croatia.* Konavli Mts, Ljuta (near Gruda), Ljuta Potok, at the Konavoski dvori watermill, 60m gallery forest, N42°32.076' E18°22.610', 07.X.2008. DL, FZ, KJ, MD. *Macedonia.* Sum, spring lake, grassland and pine forest above the Ohrid Lake, 16.10.2006 707m, N41° 10'58.3" E20° 37'55.7", from soil, 16X.2006. DL, KJ, MD. *Montenegro.* Sinjajevina Mts, Gornji Lipovo (ca. 12 km W of the Podgorica–Bijelo Polje road), spring section of Plašnica Stream, 1132m, rocky grassland, N42°52.924' E19°23.987', 11.X.2008, DL, FZ, KJ, MD., Osječenica 3 km S along the Morinj–Vilusi road, 940m, beech forest, N42° 40.658' E18°38.515', 09.X.2008. DL, FZ, KJ, MD., Sinjajevina Mts, Gornji Lipovo NW 4 km, 1351m, beech forest, N42°53.829' E19°23.140', 11.X.2008., DL, FZ, KJ, MD., Vojnik Mts, Mokro, ca. 5 km S of Šavnik on the Jasenov Polje–Žabljak road, 1062m, beech forest, N42°56.858' E19°05.463', 09.X.2008. DL, FZ, KJ, MD. *Serbia.* Đerdap Mts, Klokočevac, stream valley with oak forest, 156m, N44°18'45.2" E22°08'57.1", leaf litter, 12.X.2006. DL, KJ, MD.

Previous records from the Balkan Peninsula. Albania. Quafësthamë and Torovicë (Kontschán 2003a). *Bulgaria.* Arkutino (Kontschán 2004). *Greece.* Purgon (Kontschán 2003b). *Macedonia.* Mavrovi Anovi (Kontschán 2005). *Montenegro.* Grncar (Kontschán 2007b). *Serbia.* Fruska Gora (Kontschán 2005).

Distribution. Palearctis.

***Oodinychus karawaiewi* (Berlese, 1904)**

(Figures 3b and 11)

Urodinychus karawaiewi Berlese, 1904: 270–271.

Oodinychus karawaiewi: Schweitzer 1961: 188.

Trichouropoda querceti Hirschmann, 1972: 12–13.

(Błoszyk 1999: 142.)

New records. Albania. Has district, Pashtrik Mts, rocks and alpine grassland beneath the peak region, soil beneath cliffs 1730m, N42°12.417' E20°31.709', 22.V.2010., FZ, MD, UZS. *Macedonia.* Jakupica Mts, Kapinovo, Babuna River and its gallery forest below the village, 19.10.2006 575m, N41°36'54.3" E21°27'02.8", litter, 19.X.2006., DL, KJ, MD.

Previous records from the Balkan Peninsula. Croatia. Papuk Mountains (Kontschán 2005).

Distribution. Europe.

Remark. These are the first records from Albania and Macedonia.

***Trematura patavina* (Canestrini, 1885)**

Trichouropoda patavina Canestrini, 1885: 190.

Trematura patavina: Berlese 1917: 12.

Previous records from the Balkan Peninsula. Bulgaria. No exact locality is given (Kontschán 2004).

Distribution. Palearctis.

***Pseuduropoda pecinai* (Hirschmann, 1972)**

(Figure 11)

Trichouropoda pecinai Hirschmann, 1972: 15.

Pseuduropoda pecinai: Hirschmann 1979: 64.

Previous records from the Balkan Peninsula. Croatia. Papuk Mountains (Kontschán 2005).

Distribution. Central Europe.

***Leiodynychus orbicularis* (C.L. Koch, 1839)**

(Figures 3c and 11)

Notaspis orbicularis C.L. Koch, 1839: 24.

Leiodynychus orbicularis: Berlese 1917: 12.

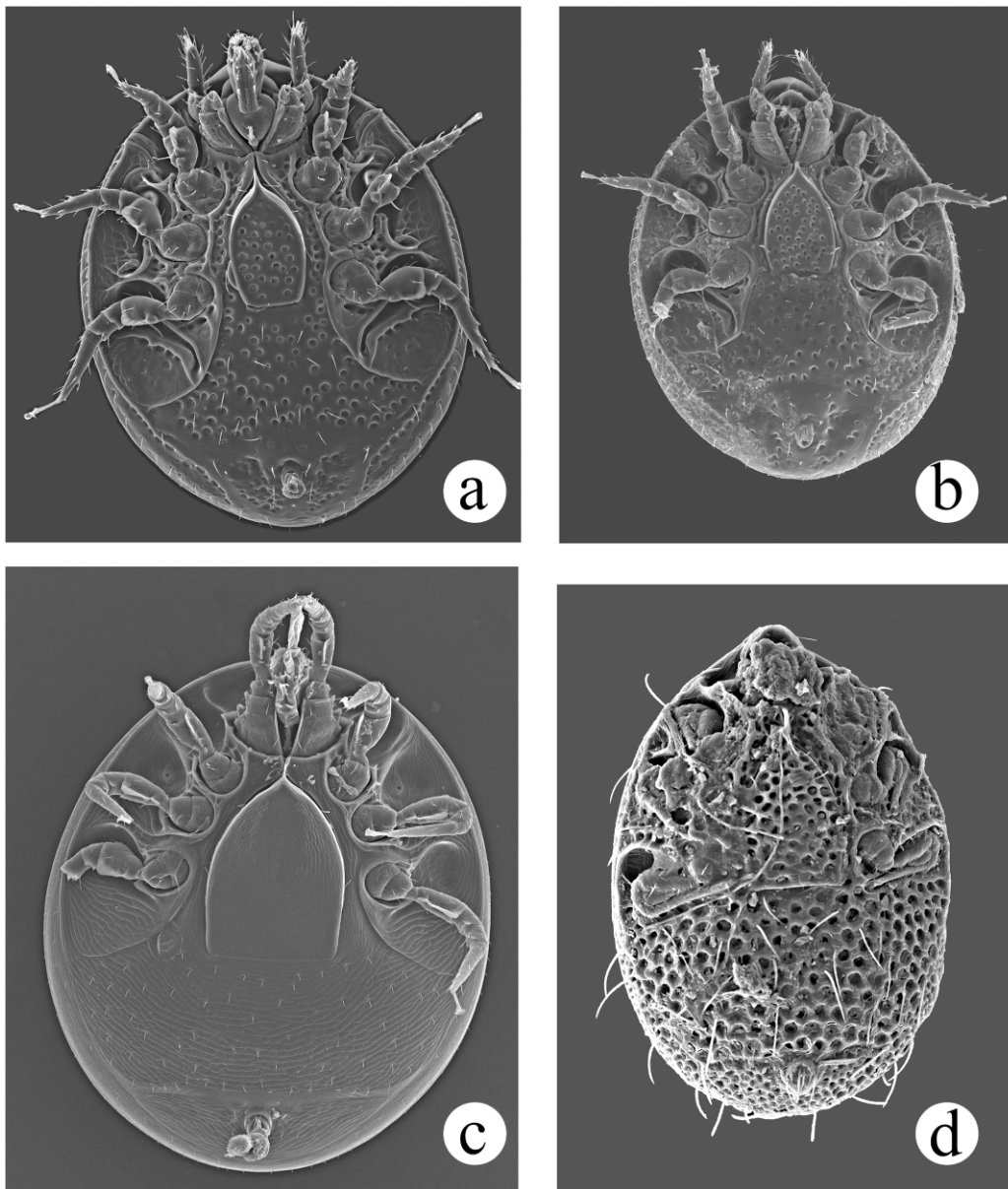


Figure 3. Ventral view of Trematurid species from the Balkan Peninsula. a = *O. ovalis*, b = *O. karawaiawi*, c = *L. orbicularis*, d = *T. elegans*.

New records. Montenegro. Savino Polje 1km E of Đalovica klisura, bank of Bistrice Reka, 609m, gallery, N43°04.244' E19°51.687', 15.X.2008., DL, FZ, KJ, MD., Krivošije Mts, Mokrine 2km NW on the Herceg Novi–Trebinje road, near the Trebinje junction, 560m, open macchia N42°30.855' E18°29.242', 07.X.2008., DL, FZ, KJ, MD.

Previous records from the Balkan Peninsula. Croatia. Papuk Mountains (Kontschán 2005).

Distribution. Europe.

Remark. This is the first record from Montenegro.

Nenteriidae Hirschmann, 1979

***Nenteria stylifera* (Berlese, 1904)**

(Figure 11)

Urodinychus stylifer Berlese, 1904: 21–22.

Nenteria stylifera: Hirschmann & Zirngiebl-Nicol 1964: 21.

New record. Macedonia. Sum, spring lake, grassland and pine forest above the Ohrid Lake, 707m, N41°10'58.3" E20°37'55.7", from soil, 16.X.2006., DL, KJ, MD.

Distribution. Europe.

Remark. This is the first record from Macedonia.

Dinychidae Berlese, 1916

***Dinychus arcuatus* (Trägardh, 1943)**

(Figure 11)

Phyllodinychus arcuatus Trägardh, 1943: 8–10.

Dinychus arcuatus: Sellnick, 1945: 44.

New records. Croatia. Papuk Mts, Slatinski Drenovac, Jankovac Str. and its gallery above the village, 243m, N45°31.966' E17°42.116', from moss, 01.X.2007. DL, KJ, MD. *Montenegro.* Sinjajevina Mts, 16 km E of Boan, on the pass of Šavnik–Kolašin road, 1587m, peatbog, wet grassland, secondary mixed forest, N42°54.541', E19°16.271', 10.X.2008., DL, FZ, KJ, MD.

Previous records from the Balkan Peninsula. Albania. Quafësthamë (Kontschán 2003a), *Macedonia.* Galičica Mountains (Kontschán 2005).

Distribution. Europe.

Remark. These are the first records from Croatia and Montenegro.

***Dinychus eroessi* Kontschán, 2003**

(Figure 11)

Previous records from the Balkan Peninsula. Albania. Mountain pass Shtylëss, Torovicë (Kontschán 2003a).

Distribution. Albania.

***Dinychus perforatus* Kramer, 1882**

(Figure 11)

New records. Bulgaria. Berkovitsa Province, Stara Planina, Berkovitsa, litter from beech forest E of Kom 1590m, N43° 10.722'E23°04.922', 14.VIII.2009. MD. *Greece.* Drama county, Orvilos Mts, stream in alder gallery, and limestone rocks above Katafito, 823m, N41°20.725' E23°40.463', leaf litter, 31.III.2007., DL, EZ, FZ, KJ, MD.

Previous records from the Balkan Peninsula. Bulgaria. Rila Mountains (Kontschán 2007a). *Croatia.* Ivansica Mountains (Kontschán 2007b).

Distribution. Europe.

Remark. This is the first record from Greece.

***Dinychus rilaensis* Kontschán, 2007**

(Figure 11)

Previous records from the Balkan Peninsula. Bulgaria. Rila Mountains (Kontschán 2007a).

Distribution. Bulgaria.

***Dinychus woelkei* Hirschmann & Zirngiebl-Nicol, 1969**

(Figure 11)

New record. Montenegro. Sinjajevina Mts, Gornji Lipovo (ca. 12 km W of the Podgorica–Bijelo Polje road), spring section of Plašnica Stream, 1132m, rocky grassland, N42°52.924' E19°23.987', 11.X.2008., DL, FZ, KJ, MD.

Distribution. Central and Southern Europe.

Remark. This is the first record from Montenegro and from Balkan Peninsula.

***Dinychus bincheaearinatus* Hirschmann, Wagrowska-Adamczyk & Zirngiebl-Nicol, 1984**

(Figure 11)

New record. Bulgaria. Smoljan prov., Radjuva Planina, Pavelsko, beech forest and alpine grassland SE of the village, 1545m, N41°49.826' E24°

44.657', 31.V.2012., KJ, MD, SZT. *Montenegro*. Žijovo Mts, Katun Rikavac, beech forest 2 km W of Rikavačko Jezero, 1467m, secondary beech forest, N42°34.497' E19°35.870', 13.X.2008., DL, FZ, KJ, MD.

Previous records from the Balkan Peninsula. South-Bosnia (Willmann 1941).

Distribution. Central and Southern Europe.

Remark. This is the first record from Montenegro.

Urodiaspididae Trägårdh, 1944

***Urodiaspis pannonica* Willmann, 1951**

(Figures 4c and 11)

Discourella shcherbakae Hirschmann, 1972: 13–14. (Mašán 2001: 184).

New records. *Albania*. Mat district, Dejë Mts, limestone rocks in the upper valley of the Varoshit stream 1360m, N41°39.905' E20°12.497', 18.V.2010. FZ, MD, UZS., Has district, Pashtrik Mts, rocks and alpine grassland beneath the peak region, soil beneath cliffs 1730m, N42°12.417' E20°31.709', 22.V.2010. FZ, MD, UZS., Shkodër district, Prokletije Mts, Okol, old beech forest near the village moss and leaf litter 840m, N42°24.077' E19°45.948', 23.V.2010. FZ, MD, UZS., Has district, Pashtrik Mts, rocks and alpine grassland beneath the peak region, soil beneath cliffs 1730m, N42°12.417' E20°31.709', 22.V.2010. FZ, MD, UZS. *Bosnia-Herzegovina*. Ozren Mts, pine forest beneath the Mt. Ozren, 1361m, N43°58.581' E18°31.061', moss from soil, 05.X.2007. DL, KJ, MD. *Greece*. Rodopi county, Sapka Mts, torrent in an oak forest 14km E of Nea Sanda, 651m, N41°07.672' E25°53.223', termite nest and decaying tree, 04.IV.2007. DL, EZ, FZ, KJ, MD. *Macedonia*. Jakupica Mts, Kapinovo, Babuna River and its gallery forest below the village, 575m, N41°36'54.3" E21°27'02.8", leaf litter, 19.X.2006. DL, KJ, MD., Ogražden Mts, beech forest with a brook at the Prevedena Pass, 1167m, N41°33'57.6" E22°50'38.6", from leaf litter, 18.X.2006., DL, KJ, MD., Belasica Mts, Kole-

šino, waterfall of the Kolešino Stream in platan-beech forest above the village, ca. 500m, N41°23' E22°48', from litter, 18.X.2006. DL, KJ, MD., Šar Planina, Gorno Jelovce, stream in a beech forest S of the village, 1169m, N41°46'31.0" E20°48' 14.1", from litter, 15.X.2006. DL, KJ, MD. *Montenegro*. Sinjajevina Mts, Gornji Lipovo (ca. 12 km W of the Podgorica–Bijelo Polje road), spring section of Plašnica Stream, 1132m, rocky grassland, N42°52.924' E19°23.987', 11.X.2008. DL, FZ, KJ, MD., Lovćen Mts, 2 km from the Lovćen peak towards Njeguši, 1377m, beech forest, N42°23.994' E18°49.882', 08.X.2008. DL, FZ, KJ, MD. *Serbia*. Đerdap Mts, Majdanpek, mixed beech forest, 604m, N44°25'45.1" E21°57'17.5", from leaf litter, 13.X.2006., DL, KJ, MD. *Turkey*. Istranca Mts, stream and its alder gallery along the Demirköy–Dupnisa mağarasi road, 445m, N41°50.123' E27°39.666', leaf litter, 07.IV.2007. DL, EZ, FZ, KJ, MD., Kuru Mts, degraded oak forest at the pass of the Keşan–Gelibolu road, 300m, N40°42.446' E26°47.030', mixed moss, leaf litter and decaying tree, 05.IV.2007., DL, EZ, FZ, KJ, MD.

Previous records from the Balkan Peninsula. *Albania*. Mountain pass Shtylëss (Kontschán 2003a). *Greece*. Ossa Mountains and Vrontous Mountains (Kontschán 2010). *Macedonia*. Galičica Mountains, Gorno Jelovce (Kontschán 2005). *Montenegro*. Velika (Kontschán 2007b).

Distribution. Europe.

Remarks. These are the first records from Bosnia-Herzegovina and Serbia.

***Urodiaspis tecta* (Kramer, 1876)**

(Figures 4a,b and 11)

Notaspis tectus Kramer, 1876: 79.

Urodiaspis tecta: Berlese 1916: 25.

New record. *Albania*. Has district, Pashtrik Mts, Salghinë, rocky maple-hazel forest N of the village, soil and leaf litter beneath trees 1405m, N42°12.046' E20°31.998', 22.V.2010. FZ, MD, UZS., Has district, Pashtrik Mts, rocks and alpine grassland beneath the peak region, soil beneath

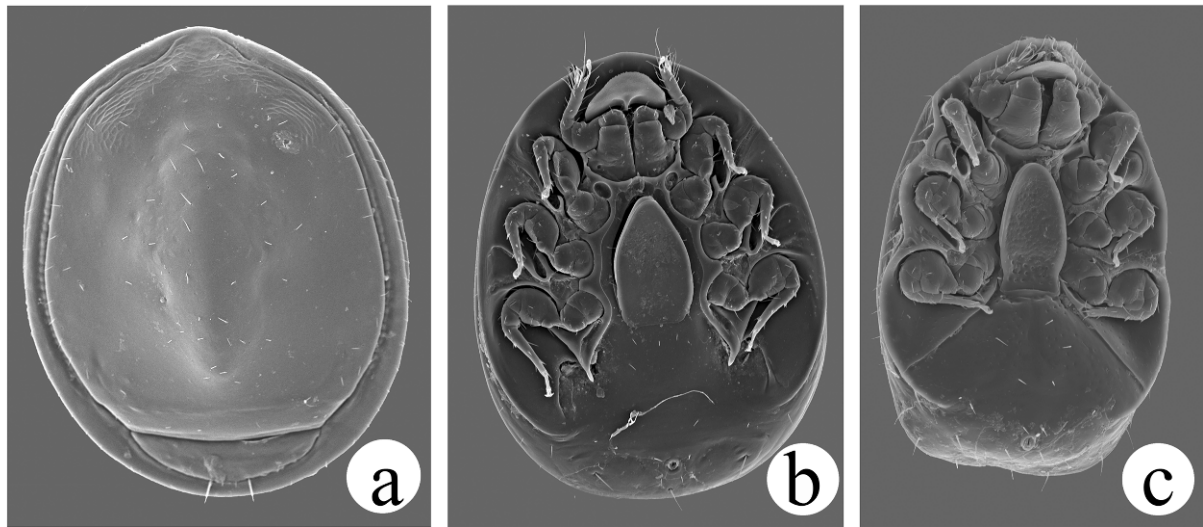


Figure 4. Scanning micrographs of Urodiaspis species from the Balkan; a = dorsal view, b = ventral view of *U. tecta*, c = ventral view of *U. pannonica*.

cliffs 1730m, N42°12.417' E20°31.709', 22.V.2010. FZ, MD, UZS. *Bosnia-Herzegovina*. Bjelašnica Mts, Igman, old mixed pine forest W of the village, 1352m, N43°43.607' E18°16.467', moss and leaf litter, 06.X.2007. DL, KJ, MD. *Serbia*. Đerdap Mts, Majdanpek, mixed beech forest, 604m, N44°25'45.1" E21°57'17.5", leaf litter, 13.X.2006., DL, KJ, MD.

Previous records from the Balkan Peninsula. *Bulgaria*. Vithosa (Kontschán 2004) and Black sea coastal hills (Kontschán 2007a). *Serbia*. Bje-luhe (Kontschán 2007b).

Distribution. Europe.

Remark. These are the first records from Albania and Bosnia-Herzegovina.

Urodinychidae Berlese, 1917

***Uroobovella fracta* (Berlese, 1916)**

(Figure 11)

Phaulodinychus fractus Berlese, 1916: 137.

Uroobovella fracta: Hirschmann & Zirngiebl-Nicol 1962: 58, 70.

New records. *Albania*. Dibër district, Lurë area, Fushë Lurë, inflowing brooks in mixed pine-beech forest at Vogël Lake, leaf litter 1700m, N41°47.552' E20°11.675', leaf litter, 20.V.2010. FZ, MD, UZS. *Montenegro*. Osječenica 3 km S along the Morinj–Vilusi road, 940m, beech forest, N42°40.658' E18°38.515', 09.X.2008., DL, FZ, KJ, MD.

Previous records from the Balkan Peninsula. *Albania*. Quafësthamë (Kontschán 2003a). *Greece*. Sapka Mountains (Kontschán 2010).

Distribution. Central and Southern Europe.

Remarks. This is the first record from Montenegro.

***Uroobovella difolveolata* Hirschmann & Zirngiebl-Nicol, 1962**

Previous records from the Balkan Peninsula. *Bulgaria*. Not exact localityis given (Kontschán 2004).

Distribution. Central and Southern Europe.

***Uroobovella marginata* (C. L. Koch, 1839)**

Notaspis marginatus C. L. Koch, 1839: 22.
Uroobovella marginata: Hirschmann & Zirngiebl-Nicol 1965: 62.

Previous records from the Balkan Peninsula. Bulgaria. No exact locality is given (Kontschán 2004).

Distribution. Europe.

***Uroobovella graeca* Kontschán, 2010**

(Figures 5a,b and 11)

Previous records from the Balkan Peninsula. Greece. Falakro, Orvilos and Dit-Rodopi Mountains (Kontschán 2010).

Distribution. Greece.

***Uroobovella pulchella* (Berlese, 1904)**

(Figures 5f,g and 11)

Trachyuropoda (Janetiella) pulchella Berlese, 1904: 21.
Uroobovella pulchella: Hirschmann & Zirngiebl-Nicol 1962: 59, 73.

New records. Serbia. Đerdap Mts, Klokočevac, stream valley with oak forest, 156m, N44° 18'45.2" E22°08'57.1", leaf litter, 12.X.2006. DL, KJ, MD.

Distribution. Europe.

Remarks. This is the first record from Serbia and the whole Balkan Peninsula.

***Uroobovella hungarica* Hirschmann & Zirngiebl-Nicol, 1962**

(Figures 5c and 12)

New records. Bosnia-Herzegovina. Bjelašnica Mts, Igman, old mixed pine forest W of the village, 1352m, N43°43.607' E18°16.467', moss and leaf litter, 06.X.2007. DL, KJ, MD., Grmeč Mts, Lanište Pass, secondary forest edge W of the pass, 524m, N44°32.750' E16°41.166', soil, 02.X.2007., DL, KJ, MD.

Distribution. Central Europe.

Remarks. This is the first record from Bosnia-Herzegovina and from Balkan Peninsula.

***Uroobovella reticulata* (Willmann, 1941)**

(Figure 12)

Pseuduropoda reticulata Willmann, 1941: 42–43.
Uroobovella reticulata: Hirschmann & Zirngiebl-Nicol 1972: 21.

Previous records from the Balkan Peninsula. South-Herzegovina (Willmann 1941).

Distribution. Bosnia-Herzegovina.

***Uroobovella obovata* (Canestrini & Berlese, 1884)**

(Figure 12)

Uropoda obovata Canestrini & Berlese, 1844: 176.
Uroobovella obovata: Berlese 1903: 249.

New records. Turkey.: Istranca Mts, brook in a beech forest along the Pinarhisar–Demirköy road, 778m, N41°45.289' E27°40.830', leaf litter and soil from a beech forest, 06.IV.2007. DL, EZ, FZ, KJ, MD.

Distribution. Europe.

Remark. These are the first records from the European part of Turkey and the Balkan Peninsula.

***Dendrouropoda danyii* (Kontschán, 2007) comb. nov.**

(Figures 5d, e and 12)

Uroobovella danyii Kontschán, 2007b: 185–188.

Previous records from the Balkan Peninsula. Croatia. Nin (Kontschán 2007b).

Distribution. Croatia.

Remarks. The genus *Dendrouropoda* Willmann, 1959 possesses several unique characters, like the long and undulate peritremes and the tree-

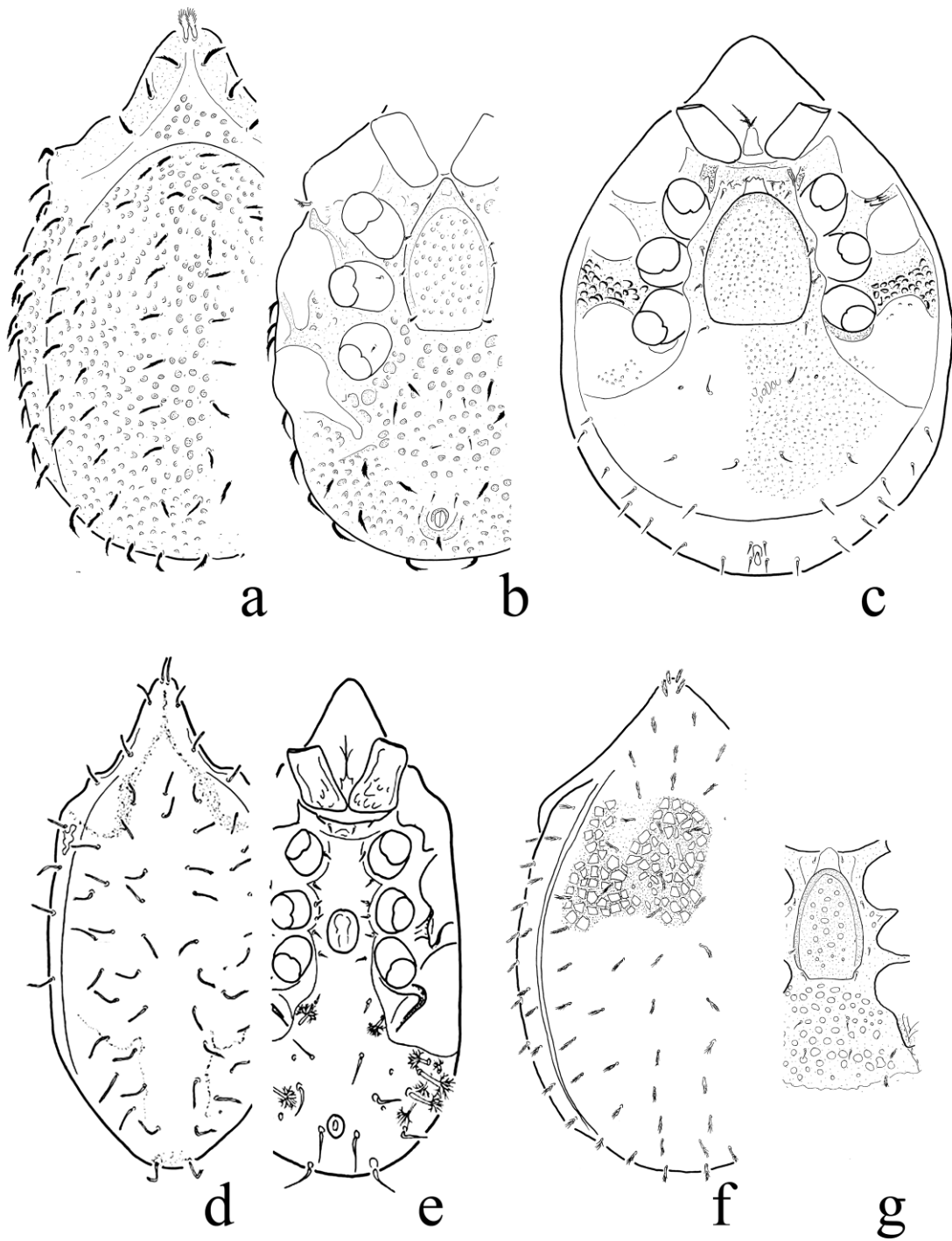


Figure 5. Urodynychid species from the Balkan Peninsula; a = Dorsal view, b = ventral view of *U. parnonensis*, c = ventral view of *Uroob. hungarica*, d = dorsal view, e = ventral view of *D. danyii*, f = dorsal view, g = intercoxal area of *U. pulcherrima* (after Kontschán 2010, 2007b and modified).

like dorsal and ventral setae. These characters can be observed in *U. danyii* as well; therefore here I place it into the genus *Dendrouropoda*.

Trachyuropodidae Berlese, 1917

***Urojanetia muranyii* (Kontschán, 2003) comb. nov.**

(Figure 12)

Trachyuropoda muranyii Kontschán, 2003a: 12–13.

Previous records from the Balkan Peninsula. Albania. Lunik (Kontschán 2003a).

Distribution. Albania.

Remarks. Kontschán (2007c) resurrected the genus *Urojanetia* Berlese, 1917 and gave a new diagnosis for it. On the basis of this diagnosis, *T. muranyii* clearly belongs into this genus.

***Urojanetia graeca* (Sellnick, 1931) comb. nov.**

Trachyuropoda graeca Sellnick, 1931: 736–743.

Previous records from the Balkan Peninsula. Greece.

Distribution. Greece.

Remarks. According to the revised diagnosis of *Urojanetia* Berlese, 1917 (Kontschán 2007c) this species shares all of the important characters with it. Therefore I place *T. graeca* into the genus *Urojanetia*.

***Urojanetia excavata* (Wasmann, 1899)**

(Figures 6d and 12)

Glyphopsis coccinea Wasman var. *excavata* Wasmann, 1899: 168–169.

Urajanetia excavata: Balogh 1938: 108.

New record. Albania. Tepelenë county, Griba Mts, Progonat, Gurrit Stream E of the village, shore moss, 13.III.2008., CSZ, MD.

Distribution. Europe.

Remarks. This is the first records from Albania and Balkan Peninsula.

***Urojanetia cristiceps* (Canestrini, 1884)**

(Figure 12)

Uropoda cristiceps Canestrini, 1884: 720.

Trachyuropoda cristiceps: Berlese 1903: 354–355.

New record. Albania. Dibër district, Lurë area, Humbla, stream in pine forest SE of the settlement, soil and litter beneath pine trees 1215m, N41°48.127' E20°09.272', 05.V.2010. FZ, MD, UZS.

Distribution. Europe.

Remarks. This is the first records from Albania and also the Balkan Peninsula.

***Urotrachys formicaria* (Lubbock, 1881)**

(Figures 6e and 12)

Uropoda formicaria Lubbock, 1881: 386.

Urotrachys formicarius Berlese 1903: 382–384.

New record. Albania. Dibër district, Lurë area, Humbla, stream in pine forest SE of the settlement, soil and litter beneath pine trees 1215m, N41°48.127' E20°09.272', 05.V.2010., FZ, MD, UZS.

Distribution. Europe.

Remarks. This is the first records from Albania and Balkan Peninsula as well.

Oplitidae Johnston, 1968

***Oplitis conspicua* (Berlese, 1903)**

(Figure 12)

Uroplitella conspicua Berlese, 1903: 250.

Oplitis conspicua: Hirschmann & Zirmiebl-Nicol 1964: 22.

New record. Greece. Central Greece, Evrytania peripheral unit, Timfristos Mts, Ano Kalesmeno, forest brook and spruce forest E of the village, 980m, N38°54.931' E21°43.825', 07.V.2011. KJ, MD, SZT, UZS.

Distribution. Europe.

Remarks. This is the first records from Greece and Balkan Peninsula.

Cillibidae Trägårdh, 1944

***Cilliba vellas* Kontschán, 2010**

(Figures 7d, e and 12)

Previous records from the Balkan Peninsula. Greece. Kalpaki (Kontschán 2010).

Distribution. Greece.

***Cilliba sellnicki* Hirschmann & Zirngiebl-Nicol, 1964**

(Figures 7c and 12)

New records. Bulgaria. Smoljan province, Kajnadinski Djal Mts, Rudozem, beech forest NW of the city 975m, N41°30.707' E24°48.871', 30.V.2012. KJ, MD, SZT. *Macedonia.* Šar Planina, Tetovo, Popova Šapka, brook in alpine grassland, 1792m, N42°00'54.6" E20°52'36.7", from moss, 05.X.2006. DL, KJ, MD., Maleševski Planina, Berovo, stream in a beech forest above the Berovo Lake, 975m, N41°40'18.4" E22°55'15.4", leaf litter, 18.X. 2006. DL, KJ, MD. *Montenegro.* Savino Polje 1 km E of Đalovica klisura, bank of Bistrica Reka, 609m, gallery, N43°04.244' E19°51.687', 15.X.2008. DL, FZ, KJ, MD., Lovćen Mts, 2 km from the Lovćen peak towards Njeguši, 1377m, beech forest, N42°23.994' E18°49.882', 08.X.2008. DL, FZ, KJ, MD., Sinjajevina Mts, Gornji Lipovo (ca. 12 km W of the Podgorica–Bijelo Polje road), spring section of Plašnica Stream, 1132m, rocky grassland, N42°52.924' E19°23.987', 11.X.2008. DL, FZ, KJ, MD. *Serbia.* Zlatibor district, Maljen Mts, Brajkovići, stream and its gallery N of the village, litter from mixed gallery forest, 445m, N44°02.244' E19°54.827', 17.III.2011. KT, MD.

Previous records from the Balkan Peninsula. Croatia: Postojne, Plitrička Jezera (Stochowiak et al. 2008).

Distribution. Europe and Middle-East.

Remarks. These are the first records from Macedonia, Montenegro and Serbia.

***Cilliba erlangensis* Hirschmann & Zirngiebl-Nicol, 1969**

(Figures 7b and 12)

Uropoda (Cilliba) erlangensis Hirschmann & Zirngiebl-Nicol, 1969: 26.

Cilliba erlangensis: Błoszyk 1984: 70.

New records. Bosnia-Herzegovina. Konjic, sidestream of the Neretva River at their confluence, 290m, N43°38.322' E17°58.433', leaf litter, 07.X.2007. DL, KJ, MD., Igman Mts, Vrelo Bosne, Bosna Springs, 511m, N43°49.221' E18°16.063', moss from rock, 06.X.2007. DL, KJ, MD. *Croatia.* Konavli Mts., Ljuta (near Gruda), Ljuta Potok, at the Konavoski dvori watermill, 60m, gallery forest, N42°32.076' E18°22.610', 07.X.2008. DL, FZ, KJ, MD. *Montenegro.* Vojnik Mts, Mokro, ca. 5 km S of Šavnik on the Jasenovo Polje–Žabljak road, 1062m, beech forest, N42°56.858' E19°05', 09.X.2008. DL, FZ, KJ, MD. *Serbia.* Đerdap Mts, Majdanpek, mixed beech forest, 604m, N44°25'45.1" E21°57'17.5", leaf litter, 13.X.2006. DL, KJ, MD., Đerdap Mts, Majdanpek, dry beech forest, 141m, N44°24'59.0" E21°56'16.6", from litter, 13.X.2006. DL, KJ, MD. *Turkey.* Istranca Mts, Alabalik stream and its gallery along the Pinarhisar–Demirköy road, 538m, N41°44.667' E27°39.279', leaf litter, 06.IV.2007. DL, EZ, FZ, KJ, MD.

Previous records from the Balkan Peninsula. Albania. Librazhd (Kontschán 2003a). *Croatia.* Mala Kapella, Paklenica National Park (Kontschán 2007b). *Serbia.* Novoselo (Kontschán 2007b) Fruska-Gora (Kontschán 2005).

Distribution. Europe.

Remarks. These are the first records from Bosnia-Herzegovina and Montenegro.

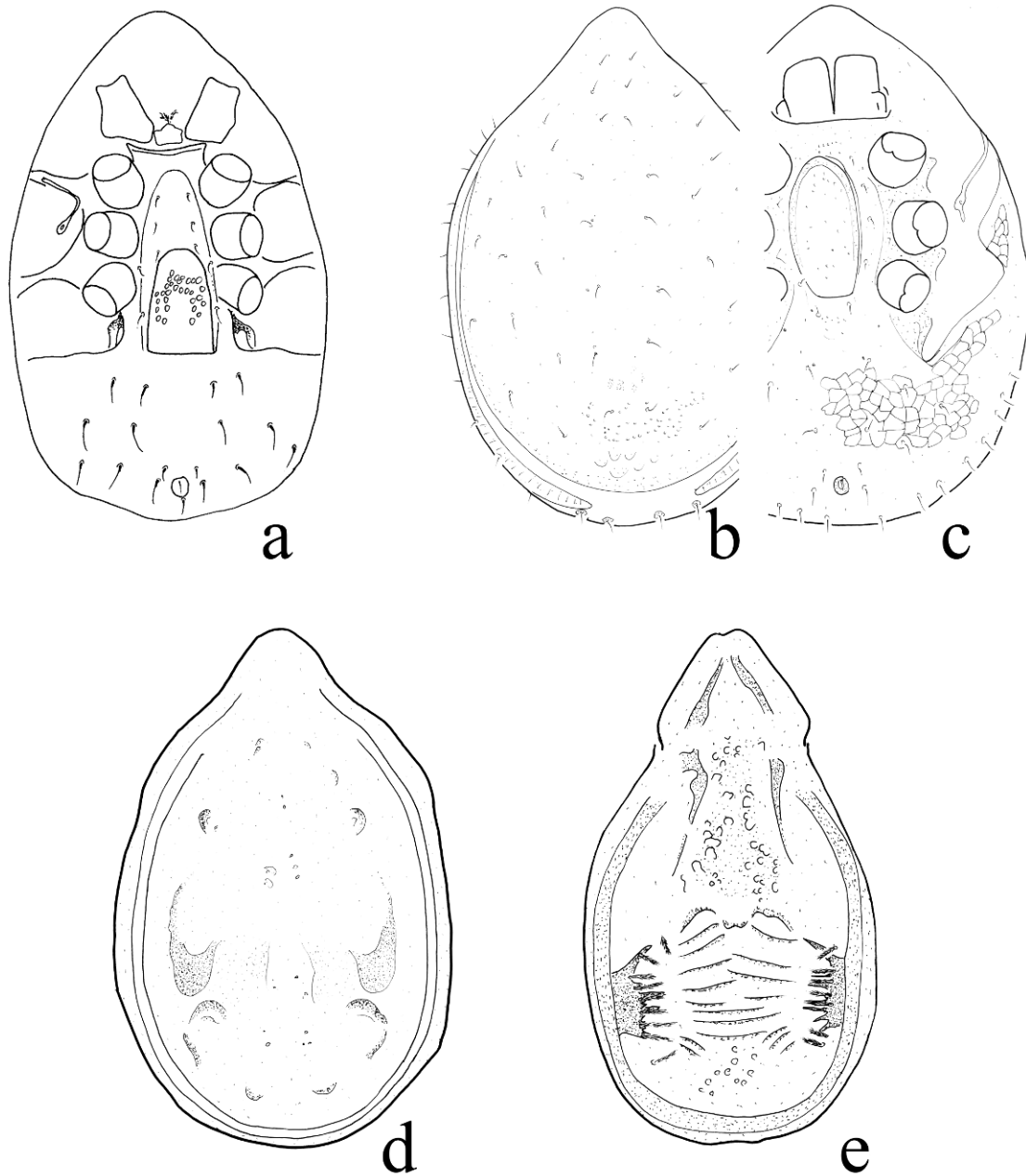


Figure 6. Uropodina species from the Balkan Peninsula; a = ventral view of *Urop. hungarica*, b = dorsal view, c = ventral view of *U. minima*, d = dorsal view of *U. excavata*, e = dorsal view of *U. formicaria*.

***Cilliba cassidea* (Hermann, 1804)**

(Figures 7a and 12)

Notaspis cassideus Hermann, 1804: 93.

Cilliba cassidea: Michael, 1894: 307.

New records. Bosnia-Herzegovina. Konjic, sidestream of the Neretva River at their confluence, 290m, N43°38.322' E17°58.433', leaf litter, 07.X.2007. DL, KJ, MD. *Macedonia.* Šar Planina, Tetovo, Popova Šapka, spring in a meadow and

degraded beech forest, 1426m, N42°00'57.7" E20°54'38.6", from litter, 15.X.2006. DL, KJ, MD., Šar Planina, Gorno Jelovce, stream in a beech forest S of the village, 1169m, N41°46'31.0" E20°48'14.1", from litter, 15.X.2006. DL, FZ, KJ, MD. *Montenegro*. Visitor Mts, 6 km SW of Murino, gorge of the sidestream of Dosova stream at a sink-hole, 1425m, mixed spruce forest, streamside vegetation, N42°38.022' E19°51.005', 12.X.2008. DL, FZ, KJ, MD., Lovćen Mts, 2 km from the Lovćen peak towards Njeguši, 1377m, beech forest, N42°23.994' E18°49.882', 08.X.2008. DL, FZ, KJ, MD., Sinjajevina Mts, Gornji Lipovo (ca. 12 km W of the Podgorica–Bijelo Polje road), spring section of Plašnica Stream, 1132m, rocky grassland, N42°52.924' E19°23.987', 11.X.2008. DL, FZ, KJ, MD. *Serbia*. Đerdap Mts, Majdanpek, mixed beech forest, 604m, N44°25'45.1" E21°57'17.5", leaf litter, 13.X.2006., DL, KJ, MD.

Previous records from the Balkan Peninsula. Albania. Quafësthamë (Kontschán 2003a). *Croatia.* Psunj Mts (Kontschán 2005), Medvednica and Ivansica Mts, Mala Kapella (Kontschán 2007b). *Greece.* Olimpos Mts (Kontschán 2003b). *Montenegro.* Velika (Kontschán 2007b). *Serbia.* Bjeluhe (Kontschán 2007b), Fruska-Gora (Kontschán 2005). South-Herzegovina (Willmann 1941).

Distribution. Europe.

Uropodidae Kramer, 1881

***Uropoda hungarica* Kontschán, 2004**

(Figures 6a and 12)

New records. Serbia. Đerdap Mts, Majdanpek, mixed beech forest, 604m, N44°25'45.1" E21°57'17.5", leaf litter, 13.X.2006., Đerdap Mts, Majdanpek, mixed beech forest, 604m, N44°25'45.1" E21°57'17.5", leaf litter, 13.X.2006. DL, KJ, MD.

Previous records from the Balkan Peninsula. Croatia. Papuk Mts (Kontschán 2005), Medvednica (Kontschán 2007b).

Distribution. Hungary and Croatia.

Remarks. This is the first record from Serbia.

***Uropoda kargi* Hirschmann & Zirnbiegel-Nicol, 1969**

(Figure 12)

Previous records from the Balkan Peninsula. Albania. Ndrsen (Kontschán 2003a).

Distribution. Europe.

***Uropoda mazsalakiae* Kontschán, 2005**

(Figure 12)

Previous records from the Balkan Peninsula. Croatia. Bibinje (Kontschán 2005), Nin, Sibenik, Grebastica (Kontschán 2007b). *Greece.* Trinisa (Kontschán 2010).

Distribution. Croatia and Greece.

***Uropoda mitis* (Leonardi, 1899)**

(Figure 13)

Dinychus mitis Leonardi, 1899: 924–926.

Uropoda (Phaulodinychus) mitis: Hirschmann & Zirnbiegl-Nicol 1969: 127.

New records. Greece. Epirus, Preveza peripheral unit, Mitikas, bush and rocky seashore of the Ionian Sea at the village, N39°00.106' E20°42.084', 05.V.2011. KJ, MD, SZT, UZS., Rodopi county, Sapka Mts, torrent in an oak forest 14km E of Nea Sanda, 651m, N41°07.672' E25°53.223', termite nest and decaying tree, 04.IV.2007. DL, EZ, FZ, KJ, MD.

Distribution. Italy and Greece.

Remarks. This is the first record from Greece.

***Uropoda minima* Kramer, 1882**

(Figures 6b, c and 13)

Cilliba minima: Kontschán 2007a: 40.

New records. Albania. Vlorë county, Çikë Mts, pine forest N of the Llogara Pass, moss, 11.III.2008., CSZ, MD. *Greece.* Epirus, Preveza

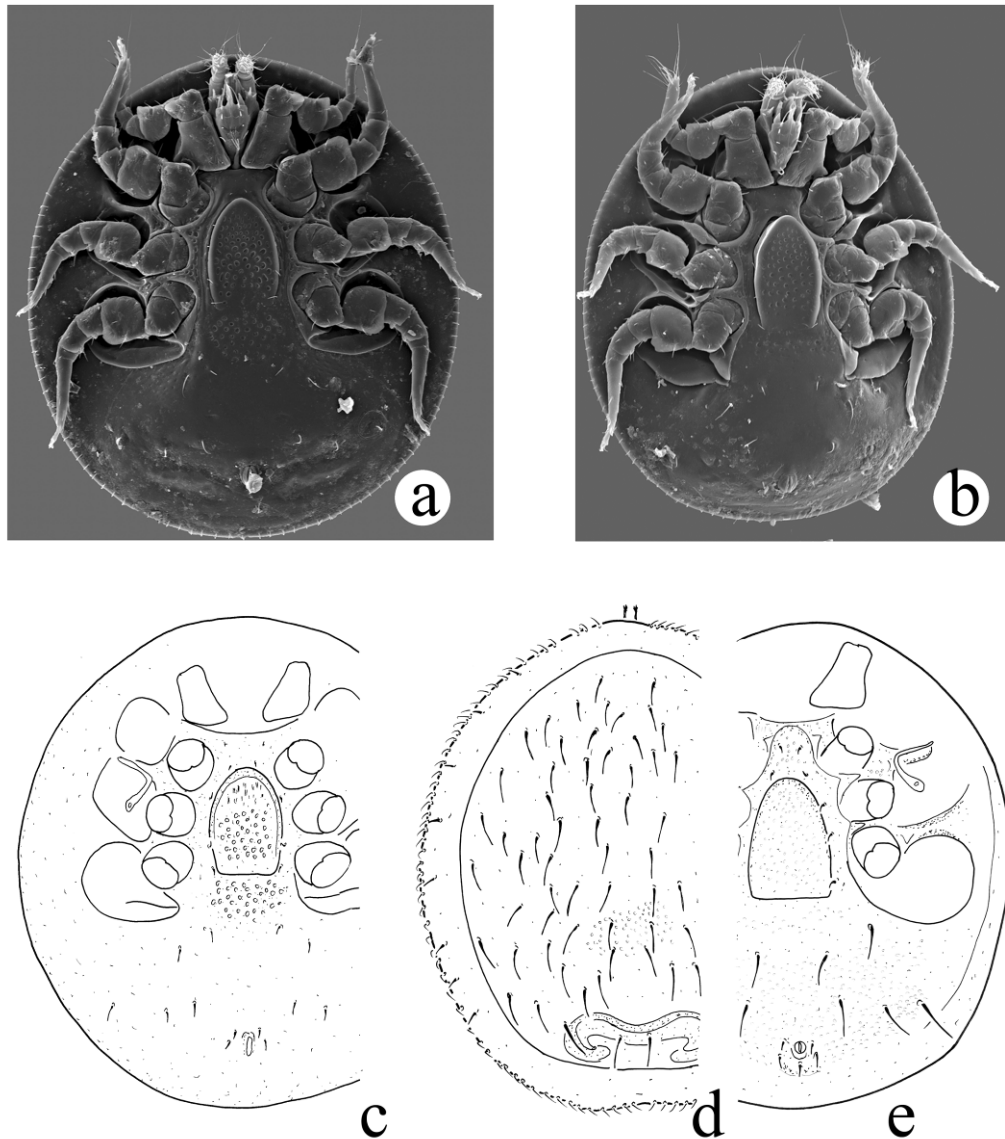


Figure 7. Cillibid species from the Balkan Peninsula; a = ventral view of *C. cassidea*, b = ventral view of *C. erlangensis*, c = ventral view of *C. sellnicki*, d = dorsal view, e = ventral view of *C. vellas* (after Kontschán 2010 and modified).

peripheral unit, Mitikas, bush and rocky seashore of the Ionian Sea at the village, N39°00.106' E20°42.084', 05.V.2011. KJ, MD, SZT, UZS., Central Greece: Evrytania peripheral unit, Timfristos Mts, Ano Kalesmeno, forest brook and spruce forest E of the village, 980m, N38°54.931' E21°43.825', 07.V.2011. KJ, MD, SZT, UZS., Kozani county, Morfi, open oak forest with a tem-

porary brook W of the village, sifted litter and soil, 14.III.2008. CSZ, MD., Thessaly, Trikala peripheral unit, Kerketio Mts, Pertouli, open stream and wet meadow E of the village, 1175m, N39°32.588' E21°30.662', 09.V.2011. KJ, MD, SZT, UZS., Thrace, Evros peripheral unit, Anatoliki Rodopi, Roussa, open brook and dry forest N of the village 360m, N41°18.636' E26°01.055',

28.V.2012. KJ, MD, SZT. *Macedonia*. Sum, spring lake, grassland and pine forest above the Ohrid Lake, 707m, N41°10'58.3" E20°37'55.7", from soil, 16.X.2006. DL, KJ, MD., Šar Planina, Tetovo, Popova Šapka, brook in alpine grassland, 1792m, N42°00'54.6" E20°52'36.7", bird nest 15.X.2006. DL, KJ, MD., Šar Planina, Gorno Jelovce, stream in a beech forest S of the village, 1169m, N41°46'31.0" E20°48'14.1", from litter, 15.X.2006. DL, KJ, MD., Zajaz municipality, Zajaska planina, beech forest at Straza Pass litter 1220m. N41°40.306'E20°51.258', 18.VII.2010. MD., Zajaz municipality, Zajaska planina, beech forest at Straza Pass litter 1220m. N41°40.306' E20°51.258', 18.VII.2010. MD. *Montenegro*. Vojnik Mts, Mokro, ca. 5 km S of Šavnik on the Jasenov Polje–Žabljak road, 1062m, beech forest, N42°56.858' E19°05.463', 09.X.2008., DL, FZ, KJ, MD.

Previous records from the Balkan Peninsula. Albania. Quafësthamë and Torovicë (Kontschán 2003a). *Bulgaria.* Rupite, Rhodope (Kontschán 2004), Rila (Kontschán 2007a). *Croatia.* Papuk Mts (Kontschán 2005). *Greece.* Planitero, Ossa Mts, Taigetos Mts, Vrontous Mts (Kontschán 2010).

Distribution. Europe.

Remarks. These are the first records from Macedonia and Montenegro.

***Uropoda silvatica* Hutu, 1976**

(Figure 13)

New records. Albania. Vlorë county, Çikë Mts, pine forest N of the Llogara Pass, moss, 11.III.2008., CSZ, MD.

Previous records from the Balkan Peninsula. Albania. Quafësthamë (Kontschán 2003a). *Bulgaria.* Rupite (Kontschán 2004).

Distribution. Romania, Albania, Bulgaria.

***Neodiscopoma splendida* (Kramer, 1882)**

(Figures 8b and 13)

Uropoda splendida Kramer, 1882: 414–416.
Neodiscopoma splendida Vitzthum 1943: 785.

New records. Albania. Has district, Pashtrik Mts, Salghinë, rocky maple-hazel forest N of the village, soil and leaf litter from beneath trees 1405m, N42°12.046' E20°31.998', 22.V.2010. FZ, MD, UZS. Dibër district, Lurë area, Mërkuth, limestone rocks under mixed forest, S of the village, soil and leaf litter from rock split 1015m, N41°48.808' E20°08.384', 20.V.2010. FZ, MD, UZS. Mat district, Dejë Mts, limestone rocks in the upper valley of the Varoshit stream 1360m, N41°39.905' E20°12.497', 18.V.2010. FZ, MD, UZS. Periferi Shkodër, W of Shllak (18 km from the Mes bridge) 1020m, limestone rocks, 16.IV.2006. EZ, FZ, HA, MD. Krujë county, Krujë, pine forest beneath the city, litter and moss, 06.III.2008. CSZ, MD. Vlorë county, Çikë Mts, pine forest N of the Llogara Pass, moss, 11.III.2008. CSZ, MD. Periferi Dibër, ca. 3 km W of Cidhnë along the footpath to Gurrë-Lurë, gorge of Pr. i Setës 730 m, 12.IV.2006. EZ, FZ, HA, MD. Mat district, Dejë Mts, Varoshit stream at the Shkanderbeu Cliff, N of Murrë Pass, opened mixed forest (beech, oak, hornbeam, sallow, juniper), leaf litter, 970m, N41°38.791' E20°11.408', 18.V.2010. FZ, MD, UZS. Dibër district, Korab Mts, Radomirë, alpine meadow, spring and stream E of the village, moss from rocks 1440m, N41°49.043' E20°30.013', 17.V.2010., FZ, MD, UZS. Shkodër district, Prokletije Mts, Kir, rocky torrent S of the village, dry mixed forest, moss and litter from cliffs 320m, N42°12.854' E19°42.349', 23.V.2010. EU, FZ, KJ, MD. *Bosnia-Herzegovina.* Konjic, sidestream of the Neretva River at their confluence, 290m, N43°38.322' E17°58.433', from leaf litter, 07.X.2007. DL, KJ, MD. Ozren Mts, Vilić, Rača Stream and its gallery beneath the village, 978m, N43°59.577' E18°31.099', from leaf litter, 05.X.2007. DL, KJ, MD. Bjelašnica Mts, Igman, old mixed pine forest W of the village, 1352m, N43°43.607' E18°16.467', from leaf litter and moss, 06.X.2007. DL, KJ, MD. Grmeč Mts, Lanište Pass, secondary forest edge W of the pass, 524m, N44°32.750' E16°41.166', from soil, 02.X.2007. DL, KJ, MD. *Bulgaria.* Smoljan province, Kajnadiniski Djal Mts, Rudozem, beech forest NW of the city 975m, N41°30.707' E24°48.871', 30.V.2012. KJ, MD, SZT. *Croatia.* Konavli Mts., Ljuta



Figure 8. *Neodiscopoma* species in the Balkan Peninsula; a = dorsal view of *N. pulcherrima*, b = ventral view of *N. splendida*, c = dorsal view of *N. abantica*, d = ventral view of *N. abantica*.

(near Gruda), Ljuta Potok, at the Konavoski dvori watermill, 60m, gallery forest, N42°32.076' E18° 22.610', 07.X.2008. DL, FZ, KJ, MD. Greece. Central Greece, Phthiotis peripheral unit, Paleokastro, oak forest S of the village, 685m, N38° 58.653' E21°54.221', 08.V.2011. KJ, MD, SZT, UZS., West Greece: Aetolia-Acarania peripheral

unit, Panetoliko Mts, Agios Vlasios, open brook, pine forest and forest puddle S of the village, 825m, N38°48.360' E21°30.676', 07.V. 2011. KJ, MD, SZT, UZS., Aetolia-Acarania peripheral unit, Panetoliko Mts, Agios Vlasios, open brook, pine forest and forest puddle S of the village, 825m, N38°48.360' E21°30.676', 07.V. 2011. KJ,

MD, SZT, UZS. *Macedonia*. Dojransko Basin, Nikolik, brook in macchia, 15.III.2008. CSZ, MD. Belasica Mts, Kolešino, waterfall of the Kolešino Stream in platan-beech forest above the village, ca. 500m, N41°23' E22°48', from moss, 18.X.2006. DL, KJ, MD. Ogražden Mts, beech forest with a brook at the Prevedena Pass, 1167m, N41°33'57.6" E22°50'38.6", leaf litter, 18.X.2006. DL, KJ, MD. Šar Planina, Tetovo, Popova Šapka, brook in alpine grassland, 1792m, N42°00'54.6" E20°52'36.7", bird nest from soil, 15.X.2006., DL, KJ, MD. Belasica Mts, Kolešino, waterfall of the Kolešino Stream in platan-beech forest above the village, ca. 500m, N41°23' E22°48', from litter, 18.X.2006. DL, KJ, MD. Sveti Naum, springs and spring lake above the Ohrid Lake, 704m, N40°54'35.7" E20°44'52.1", from litter, 16.X.2006. DL, KJ, MD. Maleševski Planina, Berovo, stream in a beech forest above the Berovo Lake, 18.10.2006 975m, N41°40'18.4" E22°55'15.4", leaf litter, 18.X.2006. DL, KJ, MD. *Montenegro*. Krivošije Mts, Crkvice SE, near Zvečava spring, 720m, pasture and secondary forest, N42°32.990' E18°39.295', 07.X.2008., DL, FZ, KJ, MD. Visitor Mts., 6 km SW of Murino, gorge of the sidestream of Dosova stream at a sink-hole, 1425m, mixed spruce forest, streamside vegetation, N42°38.022' E19°51.005', 12.X.2008., DL, FZ, KJ, MD. Savino Polje 1 km E of Đalovica klisura, bank of Bistrica Reka, 609m, gallery, N43°04.244' E19°51.687', 15.X.2008., DL, FZ, KJ, MD. Krivošije Mts, Mokrine 2 km, NW on the Herceg Novi–Trebinje road, near the Trebinje junction, 560m, open macchia wood, N42°30.855' E18°29.242', 07.X.2008. DL, FZ, KJ, MD. Prokletije Mts, Vušanje 2 km, S of Oko and Grlja stream, 1034m, mixed beech forest, N42°30.704' E19°50.088', 12.X.2008. DL, FZ, KJ, MD. Vojnik Mts, Mokro, ca. 5 km S of Šavnik on the Jasenovo Polje–Žabljak road, 1062m, beech forest, N42°56.858' E19°05.463', 09.X.2008. DL, FZ, KJ, MD. *Serbia*. Đerdap Mts, Majdanpek, mixed beech forest, 604m, N44°25'45.1" E21°57'17.5", leaf litter, 13.X.2006., DL, KJ, MD. Đerdap Mts, Klokočevac, stream valley with oak forest, 156m, N44°18'45.2" E22°08'57.1", from leaf litter, 12.X.2006. DL, KJ, MD. Đerdap Mts, Majdanpek, dry beech forest, 141m, N44°24'59.0" E21°56'16.6", from litter, 13.X.2006. DL, KJ, MD. Zlatibor district, Maljen Mts, Brajkovići, stream and its gallery N

of the village, litter from mixed gallery forest, 445m, N44°02.244' E19°54.827', 17.III.2011. KT, MD.

Previous records from the Balkan Peninsula. *Albania*. Quafësthamë and Quafëmollë (Kontschán 2003a), *Bulgaria*. Rila, Stara Planina (Kontschán 2007a). *Croatia*. Papuk and Psunj Mountains (Kontschán 2005), Mala Kapella (Kontschán 2007b). *Greece*. Polilimnio, Vitina, Kalpaki (Kontschán 2010). *Macedonia*. Ohrid, Popova Sapka (Kontschán 2005). *Montenegro*. Velika (Kontschán 2007b). *Serbia*. Fruska-Gora (Kontschán 2005), Đerdap (Kontschán 2007b). South-Herzegovina (Willmann 1941).

Distribution. Europe.

***Neodiscopoma pulcherrima* (Berlese, 1903)**

(Figures 8a and 13)

Discopoma pulcherrima Berlese, 1903: 247.

Neodiscopoma pulcherrima Schweitzer 1961: 182.

New records. *Montenegro*. Bjelasica Mts, Biogradsko Jezero, 1105m, N42°54.030' E19°35.736', 11.X.2008., DL, FZ, KJ, MD. *Serbia*. Đerdap Mts, Dobra, Reka Pesača, N44°34', 670, E21°59', 250, 386m, beech forest with stream, leaf litter from alder forest, 28.X.2010. DL, KJ, UZS.

Previous records from the Balkan Peninsula. *Croatia*. Papuk Mountains (Kontschán 2005), I-vansica Mts, and Mala Kapella (Kontschán 2007b).

Distribution. Europe.

Remarks. This is the first record from Montenegro.

***Neodiscopoma abantica* (Bal & Özkan, 2007)
comb. nov.**

(Figures 8c, d and 13)

Uropoda abanticus Bal & Özkan, 2007: 43–47.

New records. *Greece*: Drama county, Falakro Mts, beech forest beneath the sky centre, 1186m, N41°17.582' E24°00.422', from beech forest, 31.III.2007., leg. DL, EZ, FZ, KJ, MD.

Distribution. Turkey and Greece.

Remarks. Bal & Özkan (2007) placed this species into the very diverse genus *Uropoda sensu lato*. According to my observation the species of the genus *Neodiscopoma* differ from the other *Uropoda* species by the following characters: central area of dorsal shield strongly sclerotized and elevated from the other areas, marginal shield reduced caudally and the caudal setae are situated on small platelets. *U. abanticus* shares all these characters therefore it should be transferred to the genus *Neodiscopoma*.

This is the first record from Greece.

Discourellidae Baker & Wharton, 1952

***Discourella modesta* (Leonardi, 1899)**

(Figure 13)

Calaeno modesta Leonardi, 1899: 924.

Discourella modesta Berlese, 1917:10.

New records. *Albania.* Mirditë district, Oroshi area, Nanshenë, limestone rocks near the village, rock moss from rocky grassland, 1165m, N41° 52.154' E20°07.118', 21.V.2010. FZ, MD, UZS., Mat district, Dejë Mts, limestone rocks in the upper valley of the Varoshit stream 1360m, N41° 39.905' E20°12.497', 18.V.2010. FZ, MD, UZS., Skrapar county, Bogovë, oak forest at the Osum River and its sidestream N of the village, litter and moss, 10.III.2008. CSZ, MD., Vlorë county, Çikë Mts, pine forest N of the Llogara Pass, moss, 11.III.2008. CSZ, MD. Periferi Dibër, ca. 3 km W of Cidhnë along the footpath to Gurrë-Lurë, gorge of Pr. i Setës, 730m, 12.IV.2006. EZ, FZ, HA, MD. *Greece.* Central Greece, Evrytania peripheral unit, Timfristos Mts, Ano Kalesmeno, forest brook and spruce forest E of the village, 980m, N38°54.931' E21°43.825', 07.V.2011. KJ, MD, SZT, UZS., Epirus, Preveza peripheral unit, Thesprotiko Mts, Vrisoula, stream and its plane tree gallery, and roadside puddle S of the village, 220m, N39°14.904' E20°41.735', 05.V.2011. KJ, MD, SZT, UZS. *Macedonia.* Belasica Mts, Kolešino, waterfall of the Kolešino Stream in platan-beech forest above the village, ca. 500m,

N41°23' E22°48', from litter, 18.X.2006. DL, KJ, MD., Maleševski Planina, Berovo, stream in a beech forest above the Berovo Lake, 975m, N41°40'18.4" E22°55'15.4", leaf litter, 18.X.2006. DL, KJ, MD. *Montenegro.* Lovćen Mts, 2 km from the Lovćen peak towards Njeguši, 1377m, beech forest, N42°23.994' E18°49.882', 08.X.2008. DL, FZ, KJ, MD., Vojnik Mts, Mokro, ca. 5 km S of Šavnik on the Jasenovo Polje–Žabljak road, 1062m, beech forest, N42° 56.858' E19°05.463', 09.X.2008. DL, FZ, KJ, MD.

Previous records from the Balkan Peninsula. *Albania.* Quafësthamë, Zerqan (Kontschán 2003a). *Bulgaria.* Rhodope (Kontschán 2004), Black sea coastal hills (Kontschán 2007a). *Croatia.* Krk Island (Kontschán 2007b). *Greece.* Thessaloniki (Kontschán 2003b), Vitina (Kontschán 2010). *Macedonia.* Gorno Jelovce (Kontscán 2005).

Distribution. Europe.

Remarks. This is the first record from Montenegro.

***Discourella bulgarica* Kontschán, 2007**

(Figure 13)

New records. *Serbia.* Krajište Mts, Vučedelce, brooks in beech forest above the village, 1055m, N42°39'46.4" E22°18'17.3", moss from soil, 20.X.2006. DL, KJ, MD.

Previous records from the Balkan Peninsula. *Bulgaria.* Rila (Kontschán 2007a).

Distribution. Bulgaria and Serbia.

Remarks. This is the first record from Serbia.

***Capitodiscus admirandus* Kontschán, 2011**

(Figures 9c,d and 13)

Previous records from the Balkan Peninsula. *Croatia:* Konavli Mts (Kontschán 2011).

Distribution. Croatia.

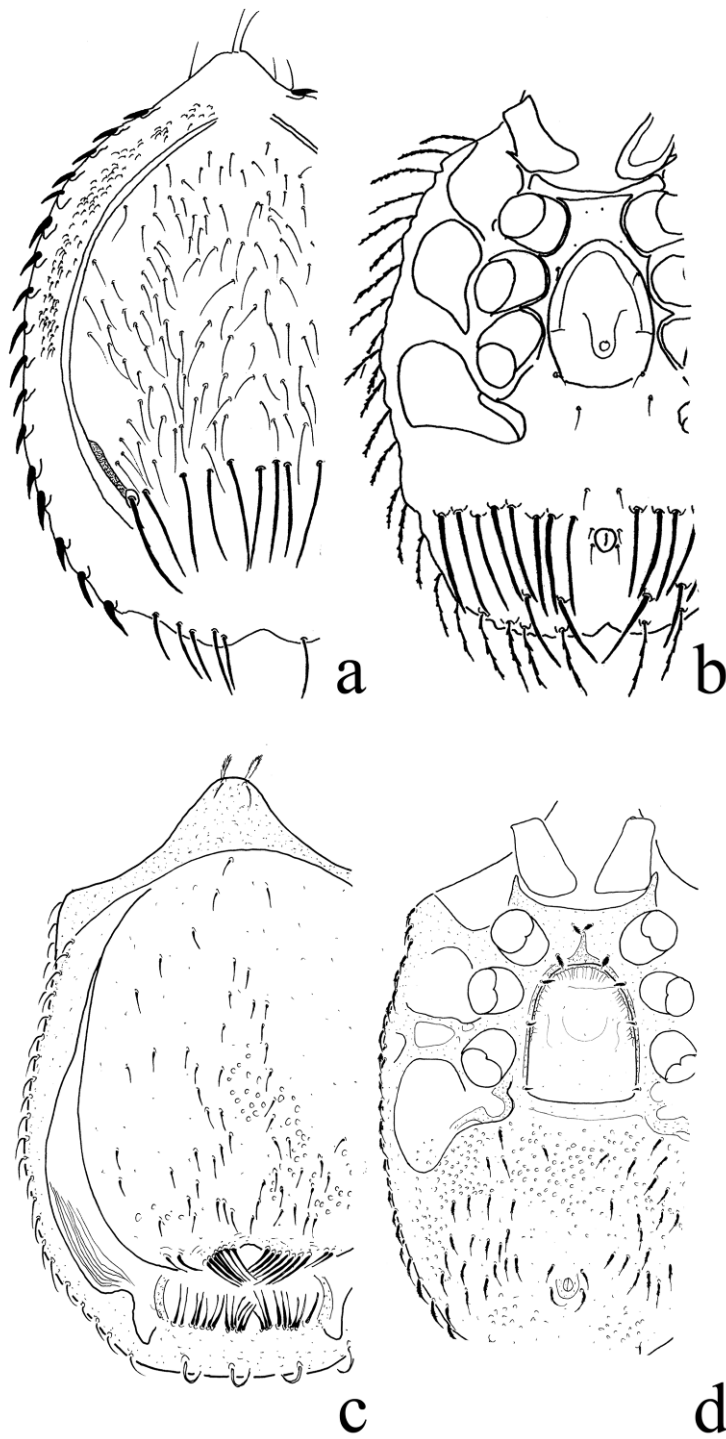


Figure 9. Discourellid species from the Balkan Peninsula; a = dorsal view, b = ventral view of *C. mahunkai*, c = dorsal view, d = ventral view of *C. admirandus* (after Kontschán 2003a, 2010 and modified).

***Crinitodiscus beieri* Sellnick, 1931**

(Figure 13)

New records. Albania. Has district, Pashtrik Mts, Salghinë, rocky maple-hazel forest N of the village, soil and leaf litter beneath trees 1405m, N42°12.046' E20°31.998', 22.V.2010. FZ, MD, UZS., *Albania.*: Mirditë district, Oroshi area, Nanshenë, limestone rocks near the village, rock moss from rocky grassland 1165m, N41°52.154' E20°07.118', 21.V.2010. FZ, MD, UZS., Mirditë district, Oroshi area, Ndërshenë, limestone rocks N of the village, moss beneath cliffs 1135m, N41°51.034' E20°05.842', 21.V.2001. FZ, MD, UZS., Periferi Dibër, ca. 3 km W of Cidhnë along the footpath to Gurrë-Lurë, gorge of Pr. i Setës, 730m, 12.IV.2006. EZ, FZ, HA, MD. *Bosnia-Herzegovina.* Drvar, Titovo pećina cave and its surroundings, 476m, N44°22.800' E16°23.230', leaf litter, 03.X.2007. DL, KJ, MD. *Macedonia.* Maleševski Planina, Berovo, stream in a beech forest above the Berovo Lake, 975m, N41°40'18.4" E22°55'15.4", leaf litter, 18.X.2006., DL, KJ, MD. *Montenegro.* Lovćen Mts, Krstac 6 km SE towards the Lovćen peak from the Kotor-Njeguši road, 1294m, stony macchia, N42°24.022' E18°47.641', 08.X.2008. DL, FZ, KJ, MD.

Previous records from the Balkan Peninsula. Greece. Parnassos Mts, Tetrasi Mts (Kontschán 2010), Greece (Athias-Binche & Błoszyk 1985).

Distribution. Greece.

Remarks. These are the first records from Albania, Bosnia Herzegovina, Macedonia and Montenegro.

***Crinitodiscus mahunkai* Kontschán, 2003**

(Figures 9a, b and 13)

Previous records from the Balkan Peninsula. Albania. Tucep (Kontschán 2003a).

Distribution. Albania.

KEYS TO THE UROPODINA MITES OF THE BALKAN PENINSULA

The keys presented here is adequate only for the Uropodina mites collected in the Balkan Peninsula. It cannot be used for identification of Uropodina mites collected in other regions of the world.

Key to superfamilies

1. Base of tritosternum wide, coxae I narrow and doesn't cover the base of tritosternum (Polyaspidioidea) **A**
- Base of tritosternum narrow, coxae I wide and covers the base of tritosternum (Uropodoidea) **B**

(A) Key to Polyaspidioidea

1. Pygidial shield small and postmarginal shield present or pygidial shield divided into two or three segments (Trachytidae) **2**
- Pygidial shield large and not divided, postmarginal shield absent (Polyaspididae) *Polyaspis patavinus*
2. Idiosoma pear-like, chelicerae with long hyaline process (*Trachytes*) **3**
- Idiosoma oval, chelicerae without long hyaline process (*Polyaspinus*) *Polyaspinus feheri*
3. Genital shield of female rounded anteriorly, anterolateral angles not pointed **4**
- Genital shield of females not rounded anteriorly, anterolateral angles pointed **7**
4. Genital shield of female wide *Trachytes lamda*
- Genital shield of female narrow **5**
5. Supplementary long setae situated on lateral margins of ventrianal shield *Trachytes mystacinus*
- Supplementary long setae absent on lateral margins of ventrianal shield **6**
6. St3 situated near anterior margin of genital shield, anterior area of genital shield smooth *Trachytes papukensis*
- St3 situated near antero-lateral margin of genital shield, anterior area of genital shield ornamented by irregular pits *Trachytes arcuatus*

7. Vertex with broad and ribbed lateral parts **8**
 – Vertex without broad and ribbed lateral parts **10**
8. X-like strongly sclerotized line on dorsal shield present *Trachytes szonjaae*
 – X-like strongly sclerotized line on dorsal shield absent **9**
9. Inguinal and peritrematal shield fused, vertex with narrow lateral parts *Trachytes baloghi*
 – Inguinal and peritrematal shield separated, vertex with wide lateral parts *Trachytes aegrota*
10. Ventrianal shield fused with inguinal shield **11**
 – Ventrianal shield not fused with inguinal shield **12**
11. Setae X4 and X5 placed on small platelets and situated on membranous cuticle, small pygidial shield oval *Trachytes parnonensis*
 – Setae X4 and X5 situated on fused shields, small pygidial shield triangular *Trachytes irenae*
12. Genital shield robust, anterior area wide
 *Trachytes macedoniensis*
 – Genital shield ax-like, anterior area narrow **13**
13. Surface of genital shield covered by web-like structure *Trachytes pi*
 – Surface of genital shield covered by small oval pits *Trachytes carpathicus*

(B) Key to Uropodoidea species

1. Internal malae divided into several pilose branches (moustache-like) **2**
 – Internal malae not divided into several pilose branches **8**
2. Idiosoma oval, with strongly sclerotised surface structures, h2 situated laterally to h3 (Trachyropodidae) **4**
 – Idiosoma rounded, without strongly sclerotised surface structures, h2 situated anteriorly to h3 (Oplitidae) *Oplitis conspicua*
4. Parallel strongly sclerotized transversal lines situated at level of coxae IV on dorsal shield (*Urotrachys*) *Urotrachys formicaria*
 – Parallel strongly sclerotized transversal dorsal lines absent (*Urojanetia*) **5**
5. Two pairs of U-like strongly sclerotized dorsal ridges present *Urojanetia excavata*
 – Two pairs of U-like strongly sclerotized dorsal ridges absent **6**
6. Strongly sclerotized dorsal ridges and bulges absent **7**
 – One pair of dorsal sclerotized bulges present
 *Urojanetia muranyii*

7. Idiosoma oval, central area elevated
 *Urojanetia graeca*
 – Idiosoma rounded, central area not elevated
 *Urojanetia cristiceps*
8. Corniculi with lateral teeth (Trematuridae) **9**
 – Corniculi without lateral teeth **16**
9. Genital shield linguliform, with rounded anterior margin **10**
 – Genital shield scutiform with process on its anterior margin **11**
10. Ventral shield with numerous additional spilose setae, surface of ventral shield covered by reticulate sculptural pattern (*Trematura*) *Trematura patavina*
 – Ventral shield without additional setae, all ventral setae smooth and needle-like, surface of ventral shield with small oval pits (*Pseuduropoda*)
 *Pseuduropoda pecinai*
11. Marginal, dorsal and ventral shields with long setae, surface of idiosoma covered by large irregular or oval pits (*Trematurella*) **12**
 – Idiosoma without long setae, surface of idiosoma with oval pits or reticulate sculptural pattern **14**
12. Surface of genital shield mostly smooth, only basal area covered by some oval pits **13**
 – Entire surface of genital shield covered by large irregular pits *Trematurella elegans*
13. All sternal setae short *Trematurella plana*
 – St3 and St4 three times longer than other sternal setae *Trematurella graeca*
14. Surface of idiosoma covered by reticulate sculptural pattern (*Leiodynychus* *Leiodynychus orbicularis*
 – Surface of idiosoma covered by pits (*Oodynychus*) **15**
15. Surface of idiosoma covered by oval pits
 *Oodynychus ovalis*
 – Surface of idiosoma covered by irregular pits
 *Oodynychus karawaiewi*
16. Paralacinae present (Nenteriidae)
 *Nenteria stylifera*
 – Paralacinae absent **17**
17. Internal sclerotized node associated with levantor tendon present **18**
 – Internal sclerotized node associated with levantor tendon absent **34**
18. Pedofossae present, internal malae not divided apically **24**
 – Pedofossae absent, internal malae divided apically (Dinychidae) **19**

19. Poststigmatid part of peritreme present..... **20**
 – Poststigmatid part of peritreme absent
 *Dinychus bincheaecarinatus*
20. Poststigmatid part of peritreme short, reaching only to coxae IV **21**
 – Poststigmatid part of peritreme long **23**
21. Ventral shield near basal margin of genital shield coered by oval pits, dorsal shield ornamented by oval pits **22**
 – Ventral shield near basal margin of genital shield with dotted sculptural pattern, dorsal shield without oval pits *Dinychus eroessi*
22. Basal line of genital shield situated at level of anterior margin of coxae IV, poststigmatid part of peritreme reaching to posterior margin of coxae IV
 *Dinychus perforatus*
 – Basal line of genital shield situated at level of central area of coxae IV, poststigmatid part of peritreme reaching to central area of coxae IV *Dinychus arcuatus*
23. Sternal shield without ornamentation
 *Dinychus rilaensis*
 – Sternal shield with large, rounded web-like sculptural pattern *Dinychus woelkei*
24. Postdorsal shield always present, idiosoma flattend, apical part of fixed digit of chelicerae rounded (Urodiaspidae) **25**
 – Postdorsal shield absent, idiosoma domed on dorsal part, apical part of fixed digit of chelicerae long and finger-like (Urodinychidae) **26**
25. Idiosoma oblong, pygidial shield caudally fused to marginal shield *Urodiaspis pannonica*
 – Idiosoma oval, pygidial shield not fused to marginal shield *Urodiaspis tecta*
26. Dorsal and ventral part of body with tree-like setae (*Dendrouropoda*) *Dendrouropoda danyii*
 – Dorsal and ventral part of body without tree-like setae **27**
27. Idiosoma strongly sclerotized and strongly ornamented, dorsal and ventral setae pilose or serrate **28**
 – Idiosoma not strongly sclerotized and not strongly ornamented, dorsal and ventral setae smooth **29**
28. Genital shield scutiform, idiosoma covered by oval pits *Uroobovella graeca*
 – Genital shield linguliform, idiosoma covered by irregular pits *Uroobovella pulchella*
29. Peritreme short, without long prestigmatid parts
 *Uroobovella fracta*
 – Peritreme long, with long prestigmatid part **30**
30. Preanal suture present *Uroobovella hungarica*
 – Preanal suture absent **31**
31. Prestigmatid part of peritreme hook-like **32**
 – Prestigmatid part of peritreme not hook-like
 *Uroobovella difolveolata*
32. Genital shield with anterior process **33**
 – Genital shield without anterior process
 *Uroobovella obovata*
33. Anterior process of genital shield long and divided apically, surface of genital shield with reticulate sculptural pattern *Uroobovella marginata*
 – Anterior process of genital shield short and not divided apically, surface of genital shield with small oval pits *Uroobovella reticulata*
34. Marginal shield not divided into platelets on caudal area, peritreme L-shaped (Cillibidae) **35**
 – Marginal shield reduced, on caudal area with or without small platelets, peritreme usually not L-shaped **38**
35. Caudal area of dorsal shield bearing a large depression *Cilliba vellas*
 – Large depression absent on dorsal shield **36**
36. Dorsal shield completely separated from marginal shield *Cilliba cassidea*
 – Dorsal shield fused with marginal shield anteriorly ... **37**
37. Idiosoma oval, genital shield with uniform pits, V2 setae longer than other ventral setae
 *Cilliba erlangensis*
 – Idiosoma circle, genital shield with elongated pits anteriorly and oval pits on basal surface, V2 not longer than other ventral setae *Cilliba sellnicki*
38. Setae h1 serrate or pilose, internal malae marginally strongly pilose (Discourellidae) **47**
 – Setae h1 smooth, internal malae smooth or finely pilose (Uropodidae) **39**
39. Idiosoma strongly sclerotized, central area elevated from other part of dorsal shield, dorsal shield ornamented with ridges (*Neodiscopoma*) **40**
 – Idiosoma not strongly sclerotized, dorsal shield without ridges (*Uropoda*) **42**
40. Lateral branches from elevated central area present **41**
 – Lateral branches from elevated central area absent
 *Neodiscopoma abantica*
41. Four lateral branches present
 *Neodiscopoma splendida*
 – Three lateral branches present
 *Neodiscopoma pulcherrima*

42. Peritreme straight 44
 – Peritreme not straight 43
43. Peritreme L-shaped *Uropoda hungarica*
 – Peritreme with several loops *Uropoda mitis*
44. Separated anal shield present *Uropoda silvatica*
 – Anal shield fused with ventral shield 45
45. Marginal shield not reduced *Uropoda kargi*
 – Marginal shield reduced 46
46. Marginal shields reaching to caudal area of dorsal body, four setae situated on small platelets on membranous cuticle *Uropoda minima*
 – Marginal shields not reaching to caudal area of dorsal body, six setae situated on small platelets on membranous cuticle *Uropoda mazsalakiae*
47. Marginal shield divided into platelets on caudal area (*Discourella*) 48
 – Marginal shield not divided into platelets 49
48. Separated pygidial shield present, dorsal setae long *Discourella modesta*
 – Separated pygidial shield absent, dorsal setae short *Discourella bulgarica*
49. Ventral setae at level of anal opening long and needle-like, chelicerae without several large teeth (*Crinitodiscus*) 50
 – Ventral setae at level of anal opening as long as other ventral setae, chelicerae long and bearing numerous large teeth (*Capitodiscus*) *Capitodiscus admirandus*
50. Anterior process of genital shield present
 *Crinitodiscus beieri*
 – Anterior process of genital shield absent
 *Crinitodiscus mahunkai*

DISSCUSSION

64 species were collected in the countries of the Balkan Peninsula. Most of the species are reported from the smallest country (Albania with 24 recorded species) and interestingly the largest country; Serbia (with 13 species found) proved to be the least species-rich in the Balkan (Table 1). The reason of this phenomenon is the different intensity of the collection work in the Balkan Peninsula. Most of collection trips were led to Albania (Murányi *et al.* 2011), whereto more than 30 expeditions were organized between 2004 and

2012, but only 1–2 trips was conducted in the European part of Turkey or Serbia during the same interval.

Most of the species found possess wide Holarctic, Palearctic or European distribution; these species were very common in the soil samples of this region. The most frequent species were *N. splendida*, *O. ovalis*, *U. pannonica*, *U. minima*, *C. cassidea* and *D. modesta*, these species are recorded for most of European countries as well and often represent the dominant Uropodina species in the soil samples.

Several species like *O. karawaiewi*, *T. aegrotata*, *T. baloghi* and *C. sellnicki* appeared also often in the samples collected however, they are less frequent in the Balkan Peninsula than in the other part of Europe.

Several species occur only in the northern part of the Balkan Peninsula, two species of them (*Urop. hungarica* and *Uroob. hungarica*) are distributed from the Southern Carpathian Basin to the northern part of the Balkan Peninsula. *N. pulcherrima* is distributed in the whole Carpathian Basin and its area slightly covers the North Balkan as well.

Interestingly, an Anatolian species has also been recorded from the Balkan Peninsula *N. abantica* found in Greece was reported also for the first time from Europe. This species was described near from the Abant Lake in western Anatolia and taking into account the close tectonic relationship of Anatolia and Greece (Rögl 1999) this distribution is not surprising.

An other distribution worth reporting is shown by *U. mitis*. This species was previously recorded only from Italy, and currently we have two new occurrences from Eastern and Western Greece. *U. mitis* has a very complicated and complex peritreme. Krantz (1974) found this species on submerged sea grass and supposed that the complex peritreme has an important role during the submerged period providing oxygene demand of the animals. The microtricha of the peritreme trap and

retain an air film that allows them to stay underwater. I suppose that *U. mitis* has salt tolerance as well, similarly to *U. mazsalakiae* and *D. danyi*, which occur on the littoral regions of the Balkan Peninsula. The latter two species can be found in a specific habitat; they live among decayed sea grass, where several other mites, worms and talitrids can be observed.

Similar Italian-Balkan distribution type can be observed in the genus *Capitodiscus* as well. First species of it *C. venustus* occurs in Italy, but the second one *C. admirandus* was collected in the Balkan-Peninsula (Croatia).

Several widely distributed Balkanic endemisms were also recorded. *U. silvatica* was described from southern part of Romania and later

was found in Albania and in Bulgaria. *C. beieri* firstly was presented from Greece. Athias-Binche & Błoszyk (1985) assumed the northern border of the distribution of the genus *Crinitodiscus* is the Albanian Alps, but later *C. beieri* was found in Bosnia-Herzegovina and Montenegro as well. *P. feheri* is a typical West-Balkan species occurring only in Albania and western part of Greece. *D. bulgarica* which have been collected in South Serbia and West Bulgaria seems to be an East Balkanic species. Most of the endemic species in the Balkan Peninsula are known only from the type locality, it can be suppose that these species will later be found in other localities as well.

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Table 1. Number of species found in the different countries of the Balkan Peninsula

Albania	Bosnia-Herzegovina	Bulgaria	Croatia	Greece	Macedonia	Montenegro	Serbia (with Kosovo)	European part of Turkey
24	12	17	21	22	14	17	13	3

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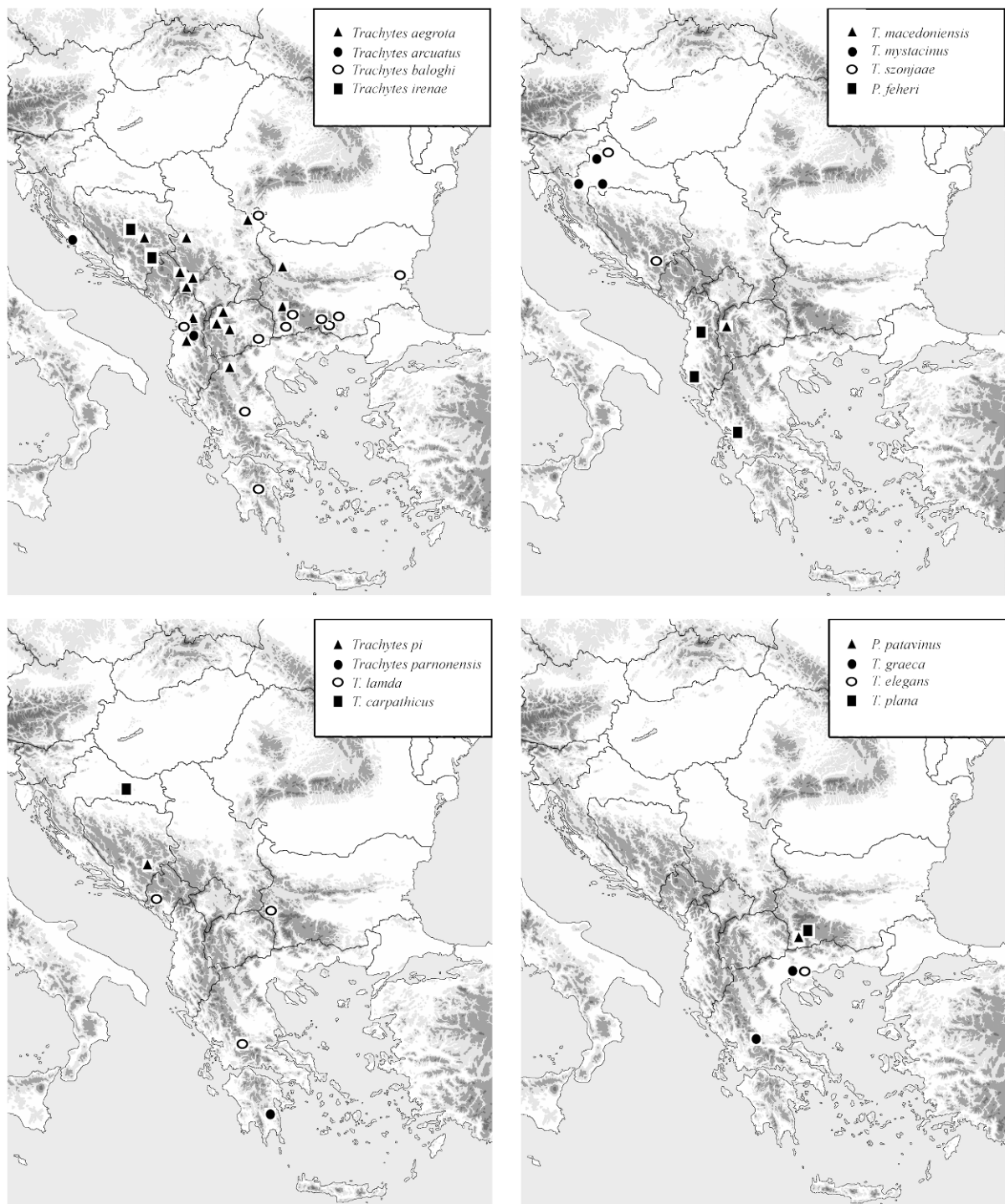


Figure 10. Occurrences of Uropodina species on the Balkan Peninsula I.

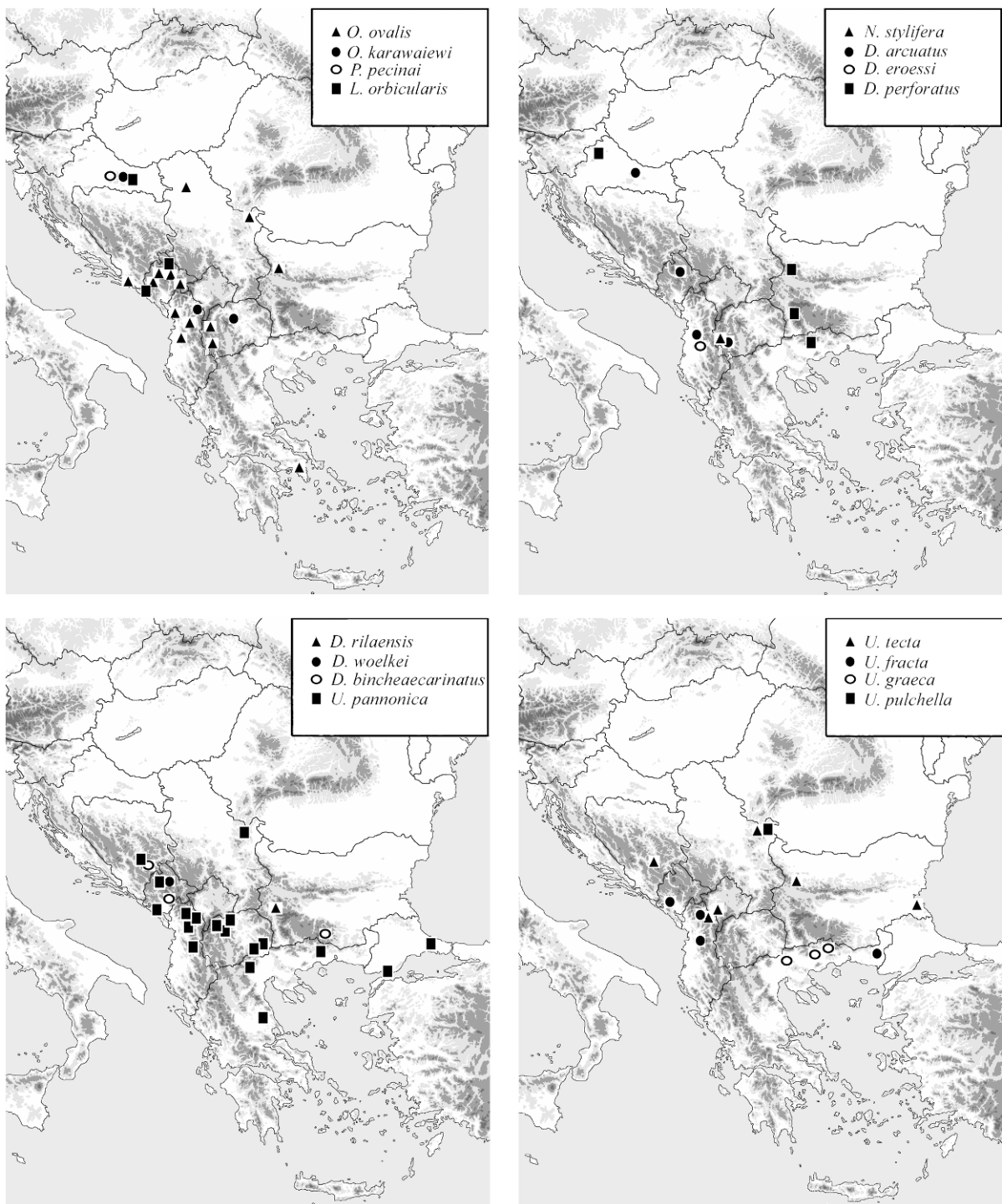


Figure 11. Occurrences of Uropodina species on the Balkan Peninsula II.

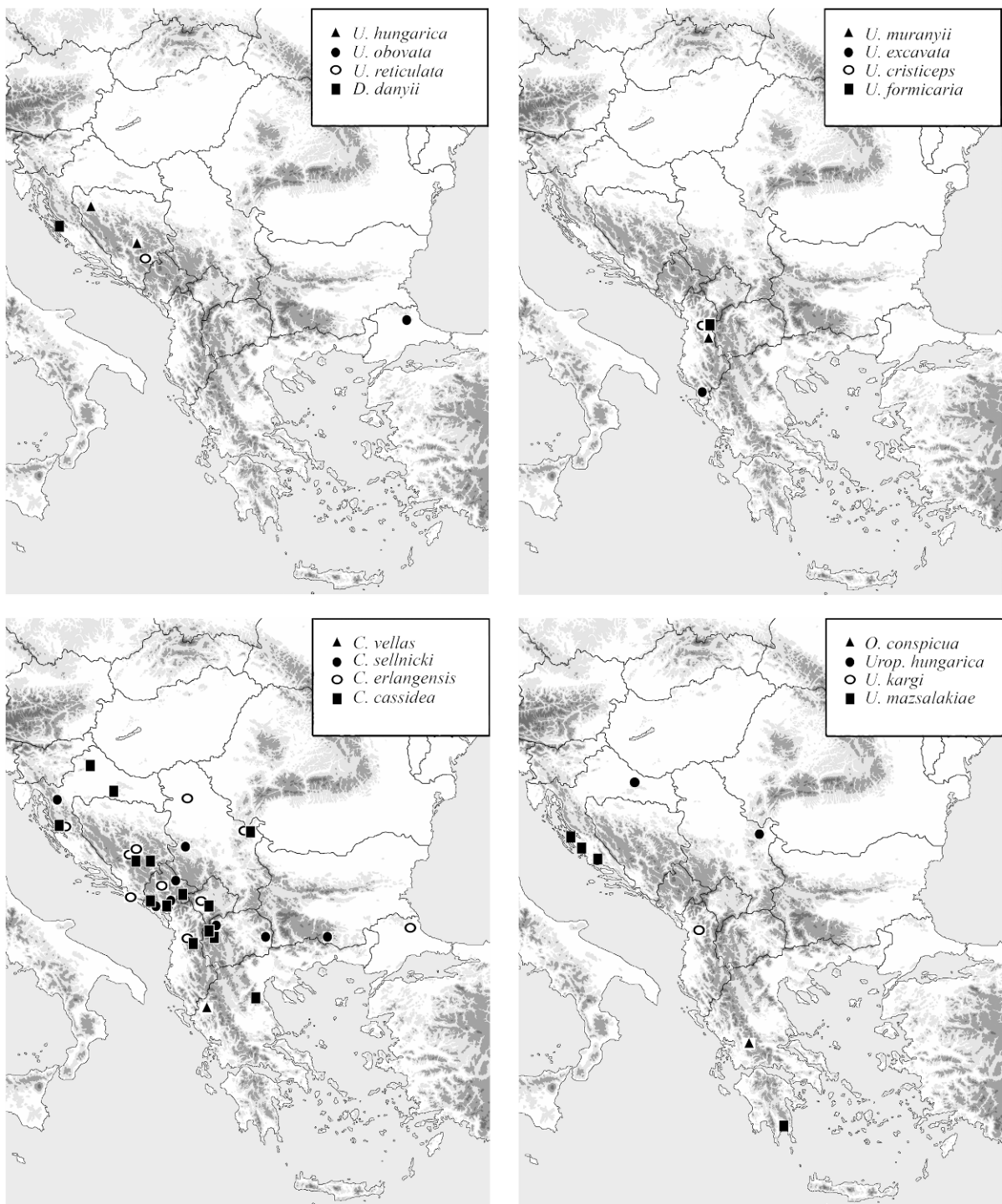
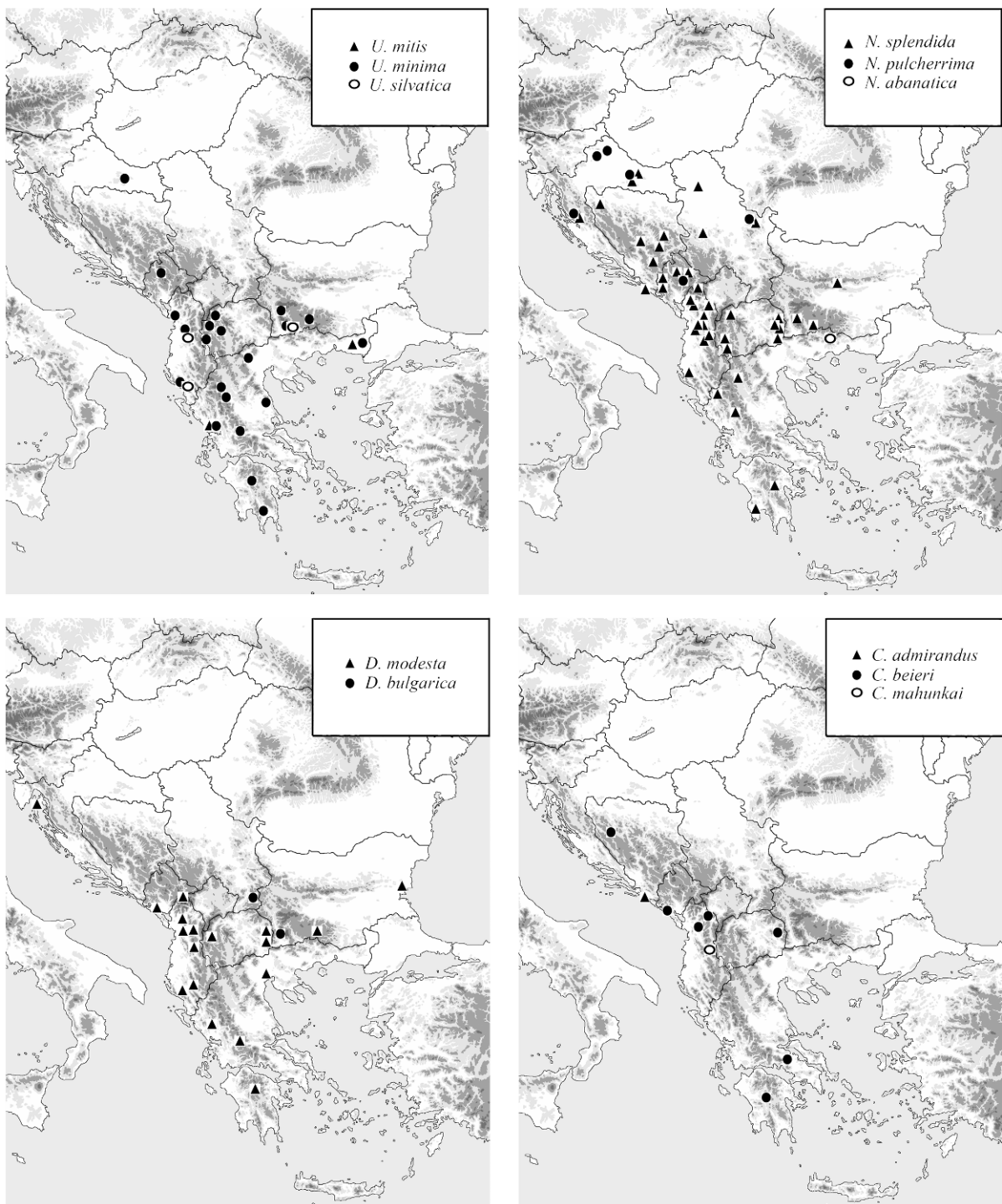


Figure 12. Occurrences of Uropodina species on the Balkan Peninsula III.



Figures 13. Occurrences of Uropodina species on the Balkan Peninsula IV.