

FIRST RECORDS OF MITES (ACARI: MESOSTIGMATA) FROM SLOVAKIA

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Abstract: Seven species of mesostigmatid mites – *Eugamasus cavernicolus* Trägårdh, 1912; *Parasitellus ignotus* (Vitzthum, 1930) (family Parasitidae); *Gamasolaelaps pygmaeus* Bregetova, 1961 (Veigaiidae); *Iphidozercon poststigmatus* Gwiazdowicz, 2003 (family Ascidae); *Proctolaelaps bombophilus* (Westerboer, 1963) (family Melicharidae); *Neocypholaelaps favus* Ishikawa, 1968; *Sinoseius pinnatus* Huhta et Karg, 2010 (family Ameroseiidae) – are recorded as new to Slovak fauna.

Key words: Acari, Mesostigmata, the first record, Parasitidae, Veigaiidae, Ascidae, Ameroseiidae, Melicharidae, Slovakia.

INTRODUCTION

During various faunistic investigations and revisions of material seven mite species were found previously not recorded from Slovakia. Five species we considered uncommon or rare (they are infrequently encountered probably due to their specific microhabitat demands), and two species (*Iphidozercon poststigmatus* and *Eugamasus cavernicolus*) are relatively common in Slovakia, but they were often misidentified with related species.

MATERIAL AND METHODS

Mites were collected using a variety of quantitative methods (mainly substrate samples, pitfall traps or sifting) and individual collecting on insects. The various substrates (leaf litter and soil, guano, compost, nests of birds and bumblebees, the brood samples from apiaries) were kept in plastic polyethylene bags. Mites were extracted from substrates to 70% ethylalcohol solution by Tullgren's apparatus with a 40W light bulb as a heat source. The material was processed to yield microslides using the chloralhydrate Swan's medium. Photographs were

taken using Leica DM 1000 compound microscope with ICC50 Camera Module (LAS EZ application v. 4.5).

RESULTS AND DISCUSSION

Parasitidae

Eugamasus cavernicolus Trägårdh, 1912 (Fig. 1)

Material examined: **Slovenský kras** Karst, jaskyňa na Kečovských lúkach Cave (N 48°30', E 20°28', altitude 450 m, DFS 7488 – reference grid number of the Databank of Slovak Fauna), 9. 9. 2010, pitfall traps in cave – 7 ♀♀, leg. A. Mock; **Levočské vrchy** Mts., jaskyňa pod Jankovcom Cave (N 49°09', E 20°39', altitude 1090 m, DFS 6889), 1. 4. 2011, leaf litter with guano in cave – 1 ♀, leg. P. Ľuptáčík; loc. ibid, 9. 9. 2010, pitfall trap in cave – 1 ♀, leg. A. Mock.

Material revised: **Malé Karpaty** Mts., Lošonec – lom quarry (N 48°29', E 17°23', altitude 310 m, DFS 7570), 24. 5. 1999, oak-hornbeam forest, sifting from the leaf litter and upper part of soil – 1 ♀, leg. M. Holecová (FENĎA & ČICEKOVÁ 2005: misidentified as *Eugamasus monticolus* Berlese, 1905); **Slovenský kras** Karst, Majkova jaskyňa Cave (N 48°32', E



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20°32', altitude 500 m, DFS 7489), 5. 3. 1998, litter in cave – 1 ♀, 1 DN, leg. Ľ. Kováč (PAPAČ et al. 2006: misidentified as *Eugamasus monticolus*). All det. P. Fend'a.

Species is known from caves (MICHERDZIŃSKI 1969), from the nests of a mole *Talpa europaea* L. (HYATT 1980) and from various terrestrial habitats (HYATT 1980, KARG 1993). Distribution: Europe (KARG 1993), Iran (KAZEMI et al. 2013). First record from Slovakia.

***Parasitellus ignotus* (Vitzthum, 1930) (Fig. 2)**

Material examined: **Považské podolie** Basin, Trenčín Town (N 48°53', E 18°01', altitude 208 m, DFS 7174), 22. 8. 1999, nest of *Bombus lapidarius* Linnaeus, 1758 (det. J. Lukáš) – 18 ♀♀, 12 ♂♂, 189 deutonymphs, 6 protonymphs, leg. J. Lukáš, det. P. Fend'a.

European species associated with bumblebees (KARG 1993). First record from Slovakia.

Veigaiiidae

***Gamasolaelaps pygmaeus* Bregetova, 1961**

(Fig. 3)

Material examined: **Malé Karpaty** Mts., Bratislava City, Botanical garden (N 48°08', E 17°04', altitude 135 m, DFS 7868), 9. 5. 2012, soil samples in park – 2 ♀♀, leg. B. Mangová; loc. ibid, 9. 5. 2012,

soil samples from heated glasshouse – 5 ♀♀, leg. B. Mangová and P. Fend'a; loc. ibid, 7. 6. 2012, soil samples from heated glasshouse – 2 ♀♀, leg. P. Fend'a; loc. ibid, 7. 6. 2012, outdoors compost – 1 ♀, leg. P. Fend'a. All det. P. Fend'a.

Species was recorded in Georgia (BREGETOVA 1977b) and Russian Far East (Sakhalin, Kuriles) (MARCHENKO 1998). In Europe, known from botanical garden in St. Petersburg (BREGETOVA 1977b). First record from Slovakia.



Figure 1. *Eugamasus cavernicolus*, female's endogynium and field of small spines under the anterior part of ventrianal shield (scale: 100 µm).



Figure 2. *Parasitellus ignotus*, deutonymph, opisthotal shield with accessory setae, seta z5 overlapping on opisthotal shield (scale: 100 µm).



Figure 3. *Gamasolaelaps pygmaeus*, female, dorsal view (scale: 100 µm).

Ascidae***Iphidozercon poststigmatus* Gwiazdowicz, 2003** (Fig. 4)

Material revised: **Bukovské vrchy** Mts., Nová Sedlica Village, Grófske chyžky (N 49°05', E 22°27', altitude 620 m, DFS 6900), 21. 9. 1999, reed stand (*Phragmites australis*) with *Carex* sp., moist soil – 1 ♀, leg. P. Fend'a (FENĎA & MAŠÁN 2003, KALÚZ & FENĎA 2005: misidentified as *Iphidozercon gibbus* Berlese, 1903); **Cerová vrchovina** Highland, Petrovce Village, Fenek (N 48°10', E 20°02', altitude 250 m, DFS 7886), 2. 10. 2007, wet alder forest, moist soil – 1 ♀, leg. P. Fend'a; Hostice Village, water dam (N 48°14', E 20°05', altitude 190 m, DFS 7786), 2. 10. 2007, reed stand (*Phragmites australis*), moist soil – 1 ♀ (FENĎA & MAŠÁN 2009: misidentified as *Iphidozercon gibbus*); **Slovenský kras** Karst, Silica Village, Jašteričie jazierko (N 48°34', E 20°32', altitude 590 m, DFS 7489), 21. 10. 1987, growth of *Typha latifolia*, moist soil – 1 ♀, leg. S. Kalúz (KALÚZ 1995: published as *Iphidozercon* sp.; KALÚZ & FENĎA 2005: misidentified as *Iphidozercon gibbus*, also figures 43 and 44). All det. P. Fend'a.

Central European species reported from moist soils, so far known only from Poland (GWIAZDOWICZ 2003, 2007). First record from Slovakia. Other published findings of the genus *Iphidozercon* from lowlands (Borská nížina, Podunajská rovina and Východoslovenská rovina) belongs to *Iphidozercon gibbus* (FENĎA & SCHNIEREROVÁ 2005, MAŠÁN & ORSZÁGH 1994, MAŠÁN & STANKO 2005).

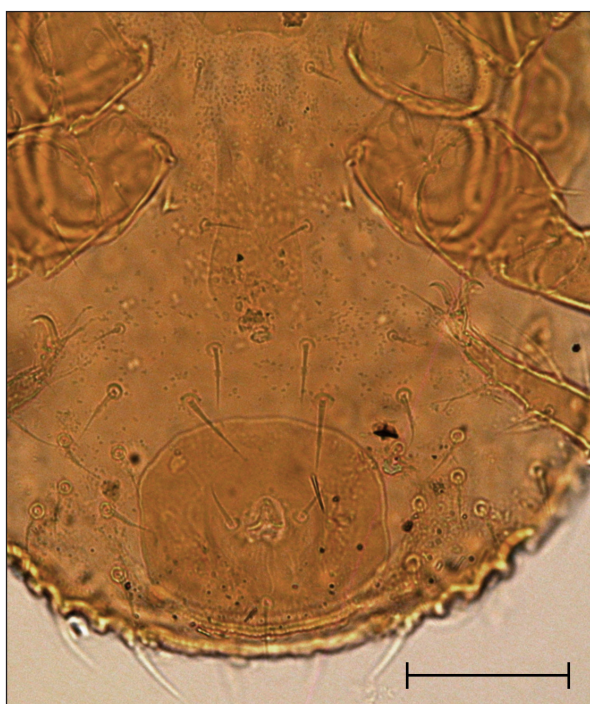


Figure 4. *Iphidozercon poststigmatus*, female, oval anal shield and shape of peritreme beyond the stigma (scale: 50 µm).

Melicharidae***Proctolaelaps bombophilus* (Westerboer, 1963)** (Fig. 5)

Material examined: **Východoslovenská rovina** Lowland, Nature Reserve Zemplínska jelšina (N 48°29', E 21°45', altitude 103 m, DFS 7596), 26. 5. 2011, phoretic on *Bombus* sp. – 1 ♀, leg. R. Zamec. Det. P. Fend'a.

Species associated with bumblebees, it is distributed in Palaearctic region, from Central Europe (WESTERBOER 1963, BREGETOVA 1977a) to west Siberian plain (MARCHENKO 1998). First record from Slovakia.

Ameroseiidae***Neocypholaelaps favus* Ishikawa, 1968** (Fig. 6)

Material examined: **Ipeľská kotlina** Basin, Veľký Krtíš Town (N 48°12', E 19°20', altitude 195 m, DFS 7782), 1. 4. 2006, apiary – 9 ♀♀, 3 ♂♂, 11 deutonymphs, leg. J. Lukáš; **Malé Karpaty** Mts., Devín Village, Fialková dolina (N 48°10', E 17°00', altitude 220 m, DFS 7868), 15. 4. 2006, apiary – 34 ♀♀, 22 ♂♂, 23 deutonymphs, 2 protonymphs, leg. J. Fajčík; **Podunajská rovina** Lowland, Blatná na Ostrove



Figure 5. *Proctolaelaps bombophilus*, female, dorsal view (scale: 100 µm).

Village (N 48°00', E 17°26', altitude 123 m, DFS 7970), 26. 3. 2005, apiary – 1 ♀, leg. J. Fajčík. All det. P. Fend'a.

Species described from apiaries in Japan (ISHIKAWA 1968). The first finding in Europe comes from apiaries in the Czech Republic (HARAGSIM et al. 1978) and there are another two records from Europe only: in Greece, *Neocyphoaelaps favus* is widespread (EMMANOUEL et al. 1983) and in Denmark is considered as a rare species (SCHOUSBOE 1986). First record from Slovakia.

***Sinoseius pinnatus* Huhta et Karg, 2010** (Fig. 7)

Material examined: Čierna hora Mts., Veľký Folkmar Village, Ružín Dam (N 48°51', E 21°03', altitude 460 m, DFS 7192), 15. 2. 1989, frozen nest of *Sitta europaea* Linnaeus, 1758 from nest box – 2 ♀♀, leg. D. Cyprich; Veľký Folkmar Village, jaskyňa Veľká Hoľa Cave (N 48°51', E 21°03', altitude 580 m, DFS 7192), 25. 3. 2009, soil from dysphotic zone – 15 ♀♀, leg. P. Fend'a. All det. P. Fend'a.

So far, only females were found in southwest Finland (bottom of straw shed and grass in garden of old farm) (HUHTA & KARG 2010). First record from Slovakia.

Material is deposited in the first author's collection in Department of Zoology, Faculty of Natural Sciences, Comenius University, Bratislava.

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Figure 6. *Neocyphoaelaps favus*, female, dorsal view (scale: 100 µm).



Figure 7. *Sinoseius pinnatus*, female, dorsal view (scale: 100 µm).

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