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New species and new records of mites of the genus *Stigmaeus* (Acari: Prostigmata: Stigmaeidae) from Crimea

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Abstract

Three new species of the genus *Stigmaeus* Koch, 1836 (Acari: Stigmaeidae) are described from various habitats in Crimea: *Stigmaeus kuznetsovi* **sp. nov.** from nests of *Microtus socialis* (Rodentia: Cricetidae); *S. mitrofanovi* **sp. nov.** from galleries of *Pityogenes bistridentatus* (Coleoptera: Curculionidae) under the bark of *Pinus pallasiana*, and *S. silvestris* **sp. nov.** from rotten log of *Pinus pallasiana*. *Stigmaeus corticeus* Kuznetsov and Wainstein, 1977 and *S. maraghehiensis* Bagheri and Ueckermann, 2012 are recorded for the first time in Crimea. A key to species of the genus *Stigmaeus* of Crimea is provided.

Key words: Acarina, Raphignathoidea, systematics, predatory mites

Introduction

The predatory mite family Stigmaeidae (Acari: Prostigmata) is the largest in the superfamily Raphignathoidea and includes about 500 species of 32 valid genera. Among them, the specious genus *Stigmaeus* Koch, 1836 includes about 135 species (Bagheri *et al*. 2013).

In the genus *Stigmaeus,* Summers (1962) established two species groups. The first group is characterized by the robust, broad-body as in *S. siculus* Berlese, the presence of only one pair of the genital setae, setation of femora I-IV 6-5-3-2, genua 4-4-1-1, and by the usually pointed empodial raylets. Summers (1962) also included in this group some "transitional" species with fusiform body such as *S. callunae* Evans. The second group includes only species with fusiform body and characterized by the presence of two genital setae, variable leg setation (usually femora I-IV with 4-4-3-2 setae and genua 6-5-2-2), and the capitate empodial raylets.

At present, ten species of stigmaeids are known from the Crimean Peninsula: *S. glypticus* Summers, 1962, S. *longipilis* (Canestrini, 1889), *S. unicus* Kuznetsov, 1977, *S. elongatus* Berlese, 1886, *S. nikitensis* Kuznetsov, 1978, *S. pilatus* Kuznetsov, 1978, *S. purpurascens* Summers, 1962, *S. planus* Kuznetsov, 1978, *S. pulchellus* Kuznetsov, 1978, and *S. siculus* (Berlese, 1883) (Kuznetsov 1977, 1978a). Almost all their records refer to the Southern coast of Crimea in vicinity of Nikita Botanical Gardens near Yalta (Kuznetsov 1977, 1978a, b, 1984), while large territories of the Crimean Mountains and steppe zone of Crimea remain unstudied. Our study of stigmaeid mites at the Crimean Mountains revealed new records and three new species which clearly belong to the first morphological group.

Material and methods

Mites were collected from various habitats using Berlese funnels or by direct examination of subcortical galleries of beetles and mounted in Hoyer's medium. In the description below, the palpal, idiosomal and the leg setation follows Grandjean (1939, 1944, 1946). The nomenclature of the idiosomal plates follows Summers (1962). All measurements are given in micrometres (μm) for the holotype and if available for paratypes (in parentheses). In descriptions of leg setation the number of solenidia is given in parenthesis**.** Photographs were taken with a digital

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3.	Dorsal setae thin, smooth	*S. solidus*
-	Dorsal setae thick, strongly barbed	*S. glypticus*
4.	Median zonal plate entire	5
-	Median zonal plates paired	6
5.	Eyes present, suranal plate with 2 pairs of setae	*S. unicus*
-	Eyes absent, suranal plate with 3 pairs of setae	*S. elongatus*
6.	Eyes present	7
-	Eyes absent	9
7.	Femur II with 5 setae, dorsal plates reticulated	8
-	Femur II with 4 setae, dorsal plates smooth	*S. pilatus*
8.	Auxillary plates fused with central propodosomal plate, most of dorsal setae long and pointed	*S. nikitensis*
-	Auxillary plates separated from central propodosomal plate, most of dorsal setae relatively short and blunt-ended	*S. corticeus*
9.	Suranal plate with 3 pairs of setae	10
-	Suranal plate with 2 pairs of setae	13
10.	Suranal plate entire	11
-	Suranal plate represented by 2 separate plates	*S. planus*
11.	Lateral zonal plates very small, at least 4 times shorter than marginal plates	12
-	Lateral zonal plates larger, about 2 times shorter than marginal plates	*S. pulchellus*
12.	Setae c_1 situated on small platelets, ratio *ve*/*sci* 1.1	*S. purpurascens*
-	Setae c_1 situated on central hysterosomal plate, ratio *ve*/*sci* 1.4	*S. maraghehiensis*
13.	Supracoxal setae of palps (*elcp*) and legs I (*elcl*) seta-like (Figs. 28, 31)	14
-	Supracoxal setae of palps and legs I peg-like (Figs. 12, 14)	15
14.	Setae *sce*, d_2, e_2 long, smooth and pointed, similar to *ve* and c_2	*S. mitrofanovi* **sp. n.**
-	Setae *sce*, d_2, e_2 short, barbed and blunt-ended, similar to $c_1$and d_1	*S. silvestris* **sp. n.**
15.	Setae *sce* relatively short, blunt-ended, barbed in distal half, similar to c_1	*S. siculus*
-	Setae *sce* long, pointed, barbed in basal half, similar to *ve*	*S. kuznetsovi* **sp. n.**

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References

Bagheri, M., Ghorbani, H., Ueckermann, E.A., Navaei-Bonab, R., Saber, M. & Mehrvar, A. (2012) *Stigmaeus maraghehiensis*, a new species of the genus *Stigmaeus* Koch (Acari: Stigmaeidae) from northwest Iran. *International Journal of Acarology*, 39, 551–557.
http://dx.doi.org/10.1080/01647954.2011.583272

Bagheri, M., Maleki, N. & Paktinat-Saeej, S. (2013) Two new species of the genus *Stigmaeus* (Acari: Trombidiformes: Stigmaeidae) from Iran. *International Journal of Acarology*, 38, 35–39.
http://dx.doi.org/10.1080/01647954.2013.841287

Berlese, A. (1883) Acarofauna sicula. *Bollettino della Societ Entomologica Italiana*, 15, 212–220.

Berlese, A. (1886) Acari donnosi alle piante cultivate. *Podova*, 1–31.

Berlese, A. (1910) Acari nuovi. Manipulus V. *Redia*, 6, 199–214.

Canestrini, G. (1889) Prospetta dell' Acarofouna Italiana, Famiglia dei Tetranychini. *Atti Reale Istituto Veneto di Scienze, Lettere ed Arti*, 6, 591–537.

Faraji, F. & Ueckermann, E.A. (2006) A new species of *Stigmaeus* from Spain, redescription of *S. corticeus* Kuznetsov & Wainstein and a key to the European species of *Stigmaeus* (Stigmaeidae). *Acarologia*, 46, 87–93.

Grandjean, F. (1939) Les segments postlarvaires de l'hysterosoma chez les oribates (Acariens). *Bulletin Societe Zoology France,* 64, 273–284.

Grandjean, F. (1944) Observations sure les Acariens de la famille des Stigmaeidae. *Archives des Sciences physiques et naturelles*, 26, 103–131.

Grandjean, F. (1946) Au sujet de l'organe de Clapar` ede, des eupathides multiples et des taenidies mandibulaires chez les Acariens actinochitineux. *Archives des Sciences physiques et naturelles*, 28, 63–87.

Kethley, J.B. (1990) Acarina: Prostigmata (Actinedida). *In*: Dindal, D.L. (Ed.), *Soil Biology Guide*. Wiley, New York, 667–756.

Khaustov A.A. & Kuznetsov, N.N. (1997) Raphignathoid mites (Acariformes: Raphignathoidea) of North-Eastern Ukraine, with the description of a new species of the genus *Caligonella*. Vestnik zoologii, 31, 80–83. [in Russian]
Koch, C.L. (1836) Deutschlands Crustaceen, Myriapoden und Arachniden, *Regenshurg*, Fasc. 4, no. 9, 1–40.
Kuznetsov, N.N. (1977) New species of the family Stigmaeidae from Crimea. *Zoologicheskiy zhurnal*, 56, 635–638. [in Russian]
Kuznetsov, N.N. (1978a) Revision of the genus *Stigmaeus* (Acariformes, Stigmaeidae). *Zoologicheskiy zhurnal*, 57, 682–694. [in Russian]
Kuznetsov, N.N. (1978b) New records of raphignathoid mites (Raphignathoidea, Acariformes). *Biologicheskie nauki*, 12, 49–54. [in Russian]
Kuznetsov, N.N. (1984) Two new genera of the family Stigmaeidae (Acariformes). *Zoologicheskiy zhurnal*, 63, 1105–1107. [in Russian]
Kuznetsov, N.N. & Wainstein, B.A. (1977) New species of the family Stigmaeidae (Acariformes) in the fauna of the USSR. *Zoologicheskiy zhurnal*, 56, 476–479. [in Russian]
Özçelik, S. & Dogan, S. (2011) A systematic investigation on Stigmaeid mites (Acari: Stigmaeidae) of Uzunoluk forest (Erzurum, Turkey). *Turkish Journal of Entomology*, 35, 699–719. [in Turkish]
Summers, F.M. (1962) The genus *Stigmaeus* (Acarina: Stigmaeidae). *Hilgardia*, 33, 491–537.
Wood, T.G. (1981) New species and records of Stigmaeidae (Acari: Prostigmata) from New Zealand. III. Genus *Stigmaeus* Koch. *New Zealand Journal of Zoology*, 8, 369–377.
http://dx.doi.org/10.1080/03014223.1981.10430615