

Onychiurus szeptyckii* (Collembola, Onychiuridae), a new species from Poland

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Abstract. *Onychiurus szeptyckii* sp. n. is described from Poland (Beskid Sądecki Mountains, Carpathians). This species belongs to the *Onychiurus obsiones* group sensu KAPRUS², 2008 and is related to *O. obsiones* CASSAGNAU, 1963 and *O. orienteuropaeus* KAPRUS² 2008.

Key words: Collembola, *Onychiurus*, new species, Poland.

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I. INTRODUCTION

In the course of faunistic investigations in the “Barnowiec” reserve in the Beskid Sądecki Mountains (Carpathians, S Poland), 120 species of springtails were found (SMOLIS & SKARŻYŃSKI, 2006a). Two of them, *Micranurida bescidica* SMOLIS & SKARŻYŃSKI, 2004 and *Rusekianna bescidica* SMOLIS & SKARŻYŃSKI, 2006 were described as new to science (SMOLIS & SKARŻYŃSKI 2004, 2006b). Description of the third species, a member of the genus *Onychiurus* GERVAIS, 1841 sensu WEINER (1996) is given below. Up to date the genus *Onychiurus* was represented in Polish fauna by only two species: *O. ambulans* (LINNAEUS, 1758) sensu STACH, 1934 and *O. rectospinatus* STACH, 1922 (POMORSKI 1998). *Onychiurus szeptyckii* sp. n. is the first representative of the recently distinguished *obsiones* group (KAPRUS² 2008) in Poland.

A new species is dedicated to Prof. Andrzej SZEPTYCKI who has contributed so very much to the knowledge of Collembola and Protura.

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II. TAXONOMY

Onychiurus szeptyckii sp. n.

Figs 1-6

Allonychiurus sp.: SMOLIS & SKARŻYŃSKI 2006a: 70

T y p e m a t e r i a l. Holotype (male) and 1 paratype (male): Poland, Carpathians, Beskid Sądecki Mountains, “Barnowiec” reserve, soil in rock crevices, beech forest (*Luzullo-fagetum*), 900 m a. s. l., 23. IX. 2003, leg. A. SMOLIS, D. SKARŻYŃSKI (deposited in the collection of the Department of Biodiversity and Evolutionary Taxonomy, Wrocław University, Poland).

D i a g n o s i s. Small size (0.6 mm). Dorsal pseudocellar formula: 32/033/33333, ventral: 2/000/00010. Antennal III-organ with 5 papillae and 4 guard setae. 6 + 6 setae on thoracic tergum I. 2, 3, 3 setae on subcoxae 1 of I, II, III pairs of legs, respectively. Seta m_0 on abdominal tergum IV absent. On abdominal tergum V setae a_2 present, m_2 absent, setae a_3 as macrosetae. Empodial appendages half as long as inner edge of claws. 7 distal setae on tibiotarsi. Ratio: anal spines/inner edge of claws III = 0.6.

D e s c r i p t i o n. Length of the body 0.6 mm, colour white, granulation fine and uniform.

Dorsal pseudocellar formula: 32/033/33333, ventral: 2/000/00010. Subcoxae of I, II, III pairs of legs with 1 pseudocellus. Parapseudocelli invisible.

Dorsal chaetotaxy of abdominal terga IV-VI as in Fig. 1. Formula of dorsal sensilla: 1/011/111121. Setae (macro- and microsetae) and sensilla comparatively short (Figs 1, 2). Lateral microsensilla on thoracic terga II-III present. Seta d_0 on head present. Thoracic tergum I with 6 + 6 setae. Seta m_0 on abdominal tergum IV absent. On abdominal tergum V setae a_2 present, m_2 absent and setae a_3 as macrosetae. Medial seta p_0 on abdominal tergum VI present (Fig. 1). 2, 3, 3 setae on subcoxae 1 of I, II, III pairs of legs, respectively. Meso- and metathoracic sterna with 1 + 1 setae.

Antennal segment IV with subapical organite and microsensillum. Antennal III-organ with 5 papillae, 4 guard setae, 2 smooth sensory clubs and 2 small sensory rods (Fig. 3).

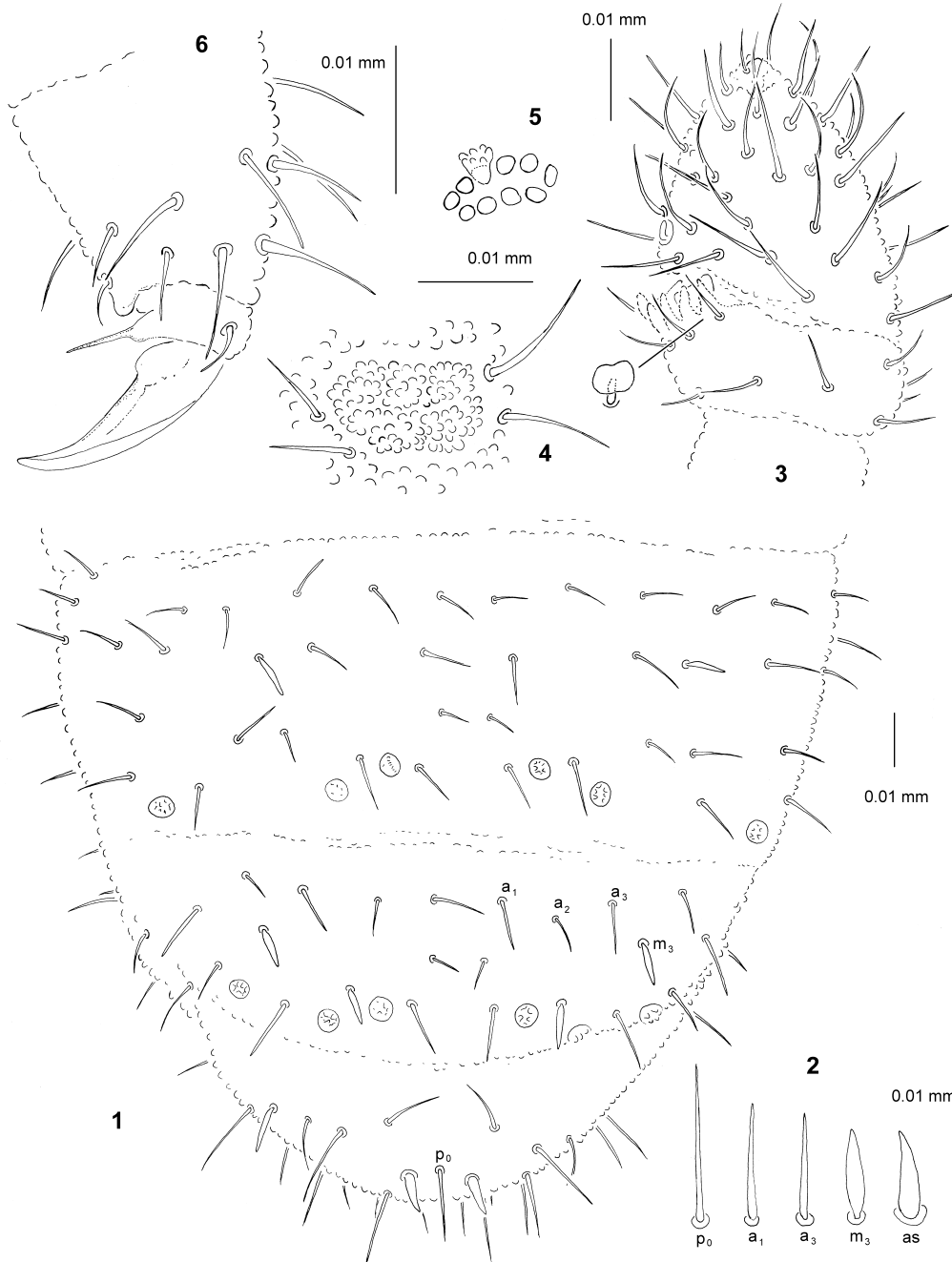
Postantennal organ composed of 9-10 granulated vesicles, 2 times longer than neighbour pseudocelli (Figs 4, 5). Labium A type.

Ventral tube with 6 + 6 setae. Furca reduced to small field of very fine granulation, single row of 2 + 2 posterior setulae present. Male ventral organ absent.

Inner teeth on claws absent. Empodial appendages half as long as inner edge of claws, basal lamellae absent. 7 distal setae on tibiotarsi (Fig. 6).

Anal spines short (0.6 of inner edge of claw III) (Figs 1, 2).

D i s c u s s i o n. *O. szeptyckii* sp. n. belongs to the *Onychiurus obsiones* group sensu KAPRUS' (2008). It clearly differs from all members of the group in morphology (*O. szeptyckii* sp. n. - empodial appendages half as long as inner edge of claws, v. empodial appendages as long as inner edge of claws) and habitat preferences and geographic range (*O. szeptyckii* sp. n. - soil in mountain beech forest in Poland, v. sandy habitats in arid and semiarid regions of N Africa, SE Europe, Minor and Middle Asia) (see KAPRUS' 2008). It is related to *Onychiurus obsiones* CASSAGNAU, 1963 and *O. orienteuropeus* KAPRUS' 2008 from which it differs in arrangement of setae on abdominal tergum V (*O. szeptyckii* sp. n. - a_2 present, m_2 absent, v. a_2 absent, m_2 present), character of setae a_3 on abdominal tergum V (*O. szeptyckii* sp. n. and *O. obsiones* - macrosetae, *O. orienteuropeus* - microsetae), number of setae on subcoxae 1 (*O. szeptyckii* sp. n. and *O. orienteuropeus* - 2, 3, 3, *O. obsiones* - 2, 3, 4) and chaetotaxy of ventral tube (*O. szeptyckii* sp. n. and *O. orienteuropeus* - without 1 + 1 setae at the base, *O. obsiones* - with 1 + 1 setae).



Figs 1-6. *Onychiurus szeptyckii* sp. n. 1 – arrangement of pseudocelli and chaetotaxy of abdominal terga IV-VI; 2 – dorsal ordinary setae (p_0 , a_1 , a_3), sensillum m_3 and anal spine (as); 3 – antennal segments III-IV, dorsal view; 4 – postantennal organ; 5 – arrangement of bases of vesicles in postantennal organ; 6 – tibiotalarsal chaetotaxy and claw III, lateral view.

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REFERENCES

- KAPRUS' I. J. 2008. Revision of the palaeartic *Onychiurus* species of *obsiones* group (Collembola: Onychiuridae). *Invertebrate Zoology*, **5**: 53-64.
- POMORSKI R. J. 1998. *Onychiurinae* of Poland (Collembola: Onychiuridae). *Genus*, supplement, Biologica Silesia: 201 pp.
- SMOLIS A., SKARŻYŃSKI D. 2004. A new species of the genus *Micranurida* BÖRNER, 1901 from Poland (Collembola: Neanuridae). *Genus*, **15**: 1-5.
- SMOLIS A., SKARŻYŃSKI D. 2006a. Springtails (Collembola) of the "Barnowiec" reserve in the Beskid Sądecki Mountains (Polish Carpathians). *Naukovi Zapysky Derzhavnoho Prirodznavezoho Muzeiu, Lviv*, **22**: 69-77.
- SMOLIS A., SKARŻYŃSKI D. 2006b. *Rusekianna bescidica*, a new species from Poland (Collembola: Symphypleona). *Genus*, **17**: 317-322.
- WEINER W. M. 1996. Generic revision of Onychiurinae (Collembola: Onychiuridae) with cladistic analysis. *Annales de la Société Entomologique de France (N. S.)*, **32**: 163-200.