

***Leiopsammodius belloi* (Pierotti, 1981) in Hungary
(Coleoptera: Scarabaeidae: Aphodiinae)**

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Abstract – Occurrence of *Leiopsammodius belloi* (Pierotti, 1981) is reported from Hungary for the first time. The species was first found in Csataszög (Jász-Nagykun-Szolnok county), at the sandy bank of Tisza river, then in Sándorfalva (Csongrád-Csanád county). With 3 figures.

Key words – new record, psammophilous species

INTRODUCTION

To date, 38 species of the genus *Leiopsammodius* Rakovič, 1981 are known; most of them live in the Old World, 14 in the Palaearctic (RAKOVIČ *et al.* 2016). In Hungary, one species, *Leiopsammodius haruspex* (Ádám, 1980) has been collected so far, which was described from the vicinity of Szeged on the basis of a single specimen (ÁDÁM 1980), and has recently been found in Greece (ZIANI *et al.* 2015).

The second species, *Leiopsammodius belloi* (Pierotti, 1981) (Fig. 1) was described from Greece, and its first data are reported this time from Hungary, based on specimens found in 2019 and 2020.

Abbreviations – CLN = private collection of László Náday (Budapest); CSI = private collection of Sándor Ilniczky (Budapest); HNHM = Hungarian Natural History Museum (Budapest).

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Fig. 1. *Leiopsammodius belloii* (Pierotti, 1981) (photo by János Romsauer)



Fig. 2. The collecting site (Csataszög) of *Leiopsammodius belloii* (photo by Béla Tallósi)



Fig. 3. Map of the collecting site at Csataszög and its surroundings (source: openstreetmap.org)

MATERIAL, HABITAT AND COLLECTING

Material – **Jász-Nagykun-Szolnok county:** Csataszög, N47.2668°, E20.3557°, 22.IV.2019, leg. Sándor Illiczky (8 specimens, CSI; 1 specimen, HNHM); same but 1.VI.2020, leg. Sándor Illiczky (3 specimens, CSI). **Csongrád-Csanád county:** Sándorfalva, Vöröscsárda-dűlő, N46.3967°, E20.1229°, 4.VIII.2019, leg. Valentin Szénási (1 specimen, CLN).

Habitat – The habitat (Figs 2–3) is a ca 50 m long and 20 m wide sand bench on the right bank of the Tisza River, which is regularly submerged during high water levels. The vegetation mainly consists of rough cocklebur (*Xanthium strumarium*), a neophyton from North America, along with other herbs and grasses.

Collecting – The specimens collected by the first author at Csataszög were mostly found by sifting and floating the sand around cocklebur roots from a depth of 10–30 cm. In addition to *Leiopsammodius belloii*, *Psammodius asper* (Fabricius, 1775) and *Rhyssalus germanus* (Linnaeus, 1767) occurred in large numbers.

At the same place, with the same methods the first author tried to collect additional specimens of the species in question four further occasions (28. VII.2018, 12.V.2019, 12.VII.2019, 9.IV.2020.), at a similarly low water level. At that times, specimens of *Leiopsammodius belloii* could not be found, however, *Psammodius asper* was always present in large numbers.

Using the methods described above, the species was found in several parts of Greece, each time on sandy banks of smaller rivers or streams, among the roots of different plants, in the company of different *Psammodius* Fallén, 1807 and *Rhyssalus* Mulsant, 1842 species: Central Macedonia, Thessaloniki regional unit,

Stavros, 22.X.2017, leg. Sándor Ilniczky (3 specimens, CSI); same but 5.V.2018, leg. Sándor Ilniczky (39 specimens, CSI, 1 specimen HNHM); Thessaly, Larissa regional unit, Paleopyrgos, 25.VI.2018, leg. Sándor Ilniczky (1 specimen, CSI); Peloponnese, Messenia regional unit, Kalamata, 27.X.2019, leg. Sándor Ilniczky (10 specimens, CSI). It was especially common in late autumn and spring, while in summer only one specimen was collected.

DISCUSSION

Leiopsammodius belloii (Pierotti, 1981) is distributed in Asia Minor and Southeast Europe (Albania, Greece, Serbia) (PIEROTTI 1981, ÁDÁM 1993, RAKOVIČ & KRÁL 2015, RAKOVIČ *et al.* 2016, BYK *et al.* 2019). The closest locality to Hungary is the Deliblatska Peščara (Deliblato Sands) in Serbia (ÁDÁM 1993), which is separated by a distance of about 320 km from the Hungarian site Csataszög and 180 km from Sándorfalva.

According to RAKOVIČ (1986), *Leiopsammodius strumae* (Chromý, 1983), described from the valley of the Struma river, Kresna, Bulgaria (CHROMÝ 1983), is closely related to or synonymous with *L. belloii*. However, this opinion was not confirmed in subsequent papers of the author (e.g. RAKOVIČ *et al.* 2016).

The following key is provided to the identification of the *Leiopsammodius* and *Psammodius* species occurring in Hungary.

- 1 (4) Pronotum with transversal rows of coarse punctures only, at most with vestiges of transversal furrows *Leiopsammodius* Rakovič, 1981
- 2 (3) Tenth elytral interval short, vanishing in middle of elytra, not reaching apex. Midlongitudinal line of metaventrite with anteriorly shortened furrow. 2.2 mm *Leiopsammodius haruspex* (Ádám, 1980)
- 3 (2) Tenth elytral interval long, almost reaching apex of elytra (vanishing in posterior quarter). Midlongitudinal line of metaventrite with complete furrow. 2.6–3.3 mm *Leiopsammodius belloii* (Pierotti, 1981)
- 4 (1) Pronotum with five more or less well-developed transversal furrows *Psammodius* Fallén, 1807
- 5 (6) Lateral margin of pronotum with fine, acutely pointed setae. 2.5–3.9 mm
..... *Psammodius laevipennis* (A. Costa, 1844)
- 6 (5) Lateral margin of pronotum with thick, clavate setae.
- 7 (8) Genae with setae. Lateral margin of pronotum with relatively long, closely spaced setae (number of setae between anterior and posterior angles 14 in most cases). 2.6–3.6 mm *Psammodius pierottii* (Pittino, 1978)
- 8 (7) Genae without setae. Lateral margin of pronotum with relatively short, loosely spaced setae (number of setae between anterior and posterior angles 12 in most cases).
- 9 (10) Mature specimens usually dark-coloured (dark brown or brownish black). Hind tibiae remarkably widened only at their apex. Hind tarsi relatively long. Tarsal claws small, corneous. Hind wings fully developed. Capable of flight. 2.2–3.9 mm *Psammodius asper* (Fabricius, 1775)
- 10 (9) Mature specimens usually light-coloured (reddish brown). Hind tibiae remarkably widened as far as their posterior third. Hind tarsi relatively short. Tarsal claws minuscule, setiform. Hind wings more or less shortened in most specimens. Flightless. 2.4–3.3 mm *Psammodius danubialis* (Ádám, 1989)

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