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Thiasophila szujeckii sp. n. (Coleoptera, Staphylinidae, Aleocharinae)—a cryptic species associated with *Formica truncorum* in Poland

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Abstract

The article describes a new rove beetle species, *Thiasophila szujeckii* sp. n., in southeastern Poland. This new species is associated exclusively with *Formica truncorum*. The authors describe its sexual dimorphism of habitus, structure of antennae, eighth abdominal tergite and eighth sternite. *T. szujeckii* sp. n. shares most morphological features with *T. angulata* and *T. lohsei* known in Europe. Characters of adults which differentiate the new species from the above-mentioned ones include body size, coloration, structure of ligula, aedeagus, parameres and spermatheca. In order to confirm morphological distinctiveness of *T. angulata* and *T. szujeckii*, mitochondrial cytochrome oxidase II gene (COII) partial sequences of both taxa was analyzed.

Key words: Rove beetle, myrmecophile, new species, entomology, taxonomy, cytochrome oxidase II gene, COII, Poland

Introduction

Genus *Thiasophila* Kraatz, 1856 (Staphylinidae, Aleocharinae, Oxypodini), includes 11 species (†‡*T. angulata* (Erichson, 1837), *T. aynumosir* Maruyama & Zerche, 2014, †*T. bercionis* Berhauer, 1926, †‡*T. canaliculata* Mulsant & Rey, 1875, †‡*T. inquilina* (Märkel, 1845), *T. kaszabi* Zerche, 1987, †*T. lohsei* Zerche, 1987, *T. nipponica* Maruyama & Zerche, 2014, *T. pexa* Motschulsky, 1860, *T. shinanonis* Maruyama & Zerche, 2014, and †*T. wockii* (G. Schneider, 1862)) distributed in the Palearctic region, among them 6 species were recorded in Europe (†) and 3 are known in Poland (‡) (Zerche 1987; Smetana 2004; Maruyama & Zerche 2014). Members of this genus (body length of the Palearctic species: 1.8–4.3 mm) are myrmecophilous rove beetles associated with ants of the genera *Formica*, *Lasius* and *Camponotus*. However, most *Thiasophila* species are associated exclusively with single host species thus their distribution ranges are usually fairly limited (Zerche 1987; Maruyama & Zerche 2014; Smetana 2004). Among the European species, only *T. angulata*, is distributed throughout Europe and in some Asian regions, and is associated with ten ant host species (*Formica aquilonia*, *F. lugubris*, *F. polycetena*, *F. pratensis*, *F. rufa*, *F. sanguinea*, *F. truncorum*, *F. uralensis*, *Lasius brunneus* and *L. fuliginosus*) (Zerche 1987; Päivinen *et al.* 2002, 2003; Smetana 2004; Staniec & Zagaja 2008). Faunistic studies on Staphylinidae associated with ant colonies, conducted in south-eastern Poland, revealed that *T. angulata* is a dominant species in the assemblages of those beetles. It constitutes approximately 22% of all rove beetles captured in ant colonies (Staniec & Zagaja 2008).

Recently, detailed morphology of its immature developmental stages was described (Zagaja *et al.* 2014). In this study the authors try to determine whether there are any differences in the structure of the preimaginal stages of *T. angulata* depending on the host species. Previously, host-dependent interspecific variability of adult structure of this species was recorded several times by Lohse (1974), Burakowski *et al.* (1981) and Koch (1989). The study revealed that this variability occurs in larvae. Mature larvae of *T. angulata* inhabiting *F. truncorum* nest mounds are larger and have more slender antennae than larvae associated with other ant hosts (*F. rufa* and *F. polycetena*) (Zagaja *et al.* 2014). Host-dependent variability of *T. angulata* adults was also revealed by the conducted studies (authors'