

## MYRMECOPHILUS FUSCUS STALLING, 2013: NEW FOR THE FAUNA OF CROATIA (ORTHOPTERA: MYRMECOPHILIDAE)

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The occurrence of the ant cricket *Myrmecophilus fuscus* Stalling, 2013 in Croatia is reported in this study. The first evidence of *M. fuscus* from Croatia comes from Solin, Split-Dalmatia region. Both adults and nymphs of this species were found in ant nests of *Crematogaster scutellaris* (Olivier, 1791) in dead wood of pine forests. The identification of *M. fuscus* is discussed and photographs of this species are presented.

**Key words:** Dalmatia, distribution, Europe, faunistics, myrmecophiles

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Ovaj rad izvještava o nalazu mravoljupca, *Myrmecophilus fuscus* Stalling, 2013. u Hrvatskoj. Nalaz ove vrste iz Solina prvi je nalaz *M. fuscus* iz Hrvatske. Odrasle jedinke i nimfe ove vrste pronađene su u gnijezdima mrava *Crematogaster scutellaris* (Olivier, 1791) u mrtvom drvetu u borovoj šumi. U radu se raspravlja o identifikaciji *M. fuscus* te su priložene fotografije ove vrste.

**Ključne riječi:** Dalmacija, rasprostranjenost, Europa, faunistika, mravoljupci

Ant crickets (genus *Myrmecophilus* Berthold, 1827) are small insects known to live in ant nests, mostly as kleptoparasites (SCHIMMER, 1909; WETTERER & HUGEL, 2008). The genus *Myrmecophilus* has an almost cosmopolitan distribution. To date, there are 10 known species in Europe and 63 species worldwide (CIGLIANO *et al.*, 2020; HSU *et al.*, 2020). So far, only two species have been recorded in Croatia: *Myrmecophilus hirticaudus* Fischer von Waldheim, 1846 on the island of Cres (STALLING & BIRRER, 2013) and *Myrmecophilus myrmecophilus* (Savi, 1819) in Split (BACCETTI, 1992). The records of other *Myrmecophilus* species are omitted in the checklist of Croatian crickets and grasshoppers due to lack of evidence (SKEJO *et al.*, 2018).



Fig. 1. Habitat of *Myrmecophilus fuscus*. November 2020, Split, Croatia (Photo: A. Gjeldum)

In November 2020, Anton Gjeldum and Tino Milat checked ant nests for the presence of *Myrmecophilus* crickets in the surroundings of Split, Split-Dalmatia region, Croatia. The habitat is characterised by semi-open Aleppo pine forest (*Pinus halepensis*) (Fig. 1). Ant nests were found in the trunks of dead Aleppo pines. After *Myrmecophilus* specimens were caught on cotton gauze by shaking the trunks, they were preserved in 70% ethanol and subsequently pinned and dried. The criteria of STALLING (2013) were followed to perform specimen identification together with direct comparison with specimens of the type series of *Myrmecophilus fuscus*. Subsequently, the ants were identified according to the criteria of ANTWIKI (2020).

A total of 11 *M. fuscus* specimens were collected at a site close to Solin (43.566032, 16.495805), Split-Dalmatia region, Croatia, at about 345 m above sea level. A single adult male was caught on 16 November 2020, while two adult females, five adult males and three male nymphs were found in a nest of *Crematogaster scutellaris* (Olivier, 1791) on 22 November 2020, leg. Anton Gjeldum and Tino Milat, coll. Thomas Stalling (Figs. 2, 3).

The records obtained during this study are the first for Croatia and represent the easternmost record of this species, whose distribution has so far been known from Spain through France and Malta to Italy (STALLING, 2015, STALLING et al., 2015) (Fig. 4). *C. scutellaris* is a typical host ant species along with *Lasius* ants (Fabricius, 1804) (STALLING et al., 2015). *M. fuscus* differs from the two other *Myrmecophilus* species in Croatia by the following characteristics (STALLING, 2013; STALLING & BIRRER, 2013): the coloration is dark ochreous with pale ochreous posterior margins of the pronotum, mesonotum and tergites 1–3 (Fig. 3); (uniformly dark brown coloration in *M. hirticaudus*, pale ochreous with no or inconspicuous pale posterior margins of pronotum, mesonotum, and tergites in *M. myrmecophilus*); the subgenital plate in females is clearly emarginated (rounded in *M. myrmecophilus*); the first segment of the basitarsus has two subapical spines (three in *M. hirticaudus*). This species might have been overlooked in the past due to its cryptic lifestyle and difficult identification. We can assume that in the future *M. fuscus* will be found in other regions of Croatia that have a Mediterranean climate.



**Fig. 2.** *Myrmecophilus fuscus*, adult female, with its host ant *Crematogaster scutellaris*. November 16th 2020, Split, Croatia (Photo: A. Gjeldum)



**Fig. 3.** *Myrmecophilus fuscus*, adult female. November 22th 2020, Split, Croatia. Dorsal (top) and lateral (bottom) view of a preserved specimen. Scale bar 1 mm (Photo: T. Stalling)



**Fig. 4.** Known distribution of *Myrmecophilus fuscus*. Black dots: previously published records; white dot: new finding from Croatia. The map is based on the map by Nzeemin, © GNU Free Documentation License.

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**SUMMARY*****Myrmecophilus fuscus* Stalling, 2013: new for the fauna of Croatia  
(Orthoptera: Myrmecophilidae)**

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Ant crickets (genus *Myrmecophilus* Berthold, 1827) are small myrmecophilous insects. In Croatia, only *Myrmecophilus hirticaudus* Fischer von Waldheim, 1846 and *Myrmecophilus myrmecophilus* (Savi, 1819) have been known so far. In November 2020, *Myrmecophilus fuscus* Stalling, 2013 was found in a semi-open Aleppo pine forest close to Split, Split-Dalmatia region, Croatia. This is the first evidence of *M. fuscus* from Croatia and represents the easternmost record of this species. The species lives in ant nests of *Crematogaster scutellaris* (Olivier, 1791) in dead wood of pine forests.