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First record of *Myrmecophilus quadrispinus* (Perkins, 1899) (Orthoptera: Myrmecophilidae) in the Western Palaearctic

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Myrmecophilus quadrispinus (Perkins, 1899) is considered a cryptogenic tramp species, so far recorded from Hawaii, New Caledonia, Japan (Ryukyu Islands and Bonin Islands), Mauritius, Samoa, Taiwan (Hsu *et al*., 2020) and Peru (Naveda & Stalling, in prep.). It has been found in city gardens, under stones alongside anthropogenically disturbed areas and among ornamental plants being transported by boats (Hsu *et al*., 2020; Desutter-Grandcolas, 1997). This, together with its tendency to occur with invasive ants such as *Anoplolepis gracilipes, Paratrechina longicornis, Solenopsis* and *Pheidole*, suggests that *M. quadrispinus* is introduced into new territories alongside and through the same pathways as its ant hosts, primarily as a result of human commerce (Hsu *et al*., 2020). It has also been recorded in association with *Carebara, Polyrhachis, Nylanderia, Camponotus, Diacamma* and *Brachyponera*, and is a generalist species which inhabits the nests of both native and non-native ants wherever it is introduced (Hsu *et al*., 2020). This species has poor host mimicry capabilities, appears to be unable to obtain the cuticular hydrocarbons of ants and must stave off frequent aggressive interactions from its hosts simply by swiftly running away (Komatsu, Maruyama & Itino, 2009; Desutter-Grandcolas, 1997).

So far, only three species of *Myrmecophilus* have been recorded from the Maltese Islands, all of which have a Mediterranean distribution: *Myrmecophilus ochraceus* (Fischer, 1853); *Myrmecophilus baronii* Baccetti, 1966 and *Myrmecophilus fuscus* Stalling, 2013 (Stalling & Cassar, 2020). However, recent fieldwork targeted at the study of myrmecophilous arthropods found in the Maltese Islands has revealed a fourth species—*M. quadrispinus*. Specimens were collected from two sites in the southern region of mainland Malta; an adult male from Żebbuġ in 2019 (leg. T. Cassar) and another six adult males, two adult females and one nymph of indeterminate sex from Paola collected during several site-visits in 2020 and 2021 (leg. D. Mifsud). In both cases, the individuals were encountered scurrying on the surface of tiled floors inside private residences, a fact which conforms to the notion that *M. quadrispinus* is introduced into new territories alongside invasive ants which inhabit urbanized environments. However, despite concerted efforts, no specimens of *M. quadrispinus* have been collected in direct association with any host ants in Malta, and hence their Western Palaearctic hosts remain unknown. The genera *Solenopsis, Pheidole* and *Nylanderia* are possible candidates as they are known to occur in the Maltese Islands (Mifsud & Lapeva-Gjonova, 2019). This species may also occur in Żurrieq (Wied Babu area) and Balzan, as photographs which may correspond to this species have been uploaded to social media by homeowners seeking identification—the specimens appear very dark in colour, a characteristic only potentially shared with *M. baronii*, but it is unlikely that this rare species would occur in human habitation.

The collected specimens were identified as *M. quadrispinus* based on their characteristic and unique combination of characters: uniform dark brown coloration of the head and body, yellowish cerci, three slender dorsal spines positioned in the proximal, medial and distal portions of the metatarsus; and the double-pointed outer ovipositor valvae of the females (as viewed laterally). All other *Myrmecophilus* species show either a different coloration of the body or cerci, a different shape of the ovipositor, or a different number, shape or position of the spines on the tarsus.

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FIGURE 1. *Myrmecophilus quadrispinus*, adult female. Paola, Malta, 2021. Scale bar: 1 mm.

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