

# First record of *Formica rufibarbis* Fabricius, 1793 (Hymenoptera: Formicidae) from Cyprus

První nález *Formica rufibarbis* Fabricius, 1793 (Hymenoptera: Formicidae) na Kypru

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**Abstract:** The first record of *Formica rufibarbis* Fabricius, 1793 from Cyprus is reported. One nest of this species was found in the Troodos Mountains in 2009. At present, two species of the genus *Formica*, *F. clara* Forel, 1886 and *F. rufibarbis*, are known to occur on the island.

**Abstrakt:** V příspěvku představujeme první nález mravence *Formica rufibarbis* Fabricius, 1793 na Kypru. V pohoří Troodos bylo v roce 2009 nalezeno jedno hnízdo tohoto druhu. V současné době je z ostrova znám výskyt dvou druhů rodu *Formica* – *F. clara* Forel, 1886 a *F. rufibarbis*.

**Key words:** Hymenoptera, Formicidae, *Formica rufibarbis*, first record, Cyprus

## INTRODUCTION

At an area of 9,251 km<sup>2</sup>, Cyprus is the third largest island in the Mediterranean. Its position at the crossroads between Europe, Asia and Africa, its rugged terrain, specific climatic conditions, and human influence make the island a place with a diverse landscape and a high habitat and species diversity. Moreover, its isolation since the Miocene salinity crisis supports the formation of significant endemic biota, particularly plants (Delipetrou et al. 2008). The fauna was strongly endemic in the Pleistocene (Marra 2005). Currently, it also contains endemics, but probably not so many as would be expected (Göçmen et Böhme 2002).

At this time, the presence of 33 mammal species, 400 bird species, 25 amphibian and reptile species, and 250 fish species are known from Cyprus. The number of insect species is estimated at about 6,000, to which should be noted that in its research, greater emphasis is placed on economically important species (MARDE, Department of Forests 2023).

The Cypriot ant fauna is considered to be relatively understudied (Demetriou et al. 2023). To date, five subfamilies with 65 native species and subspecies have been reported from the island: Ponerinae (2), Proceratiinae (1), Myrmicinae (38), Dolichoderinae (3) and Formicinae (21). The genus *Formica* was represented by only one species – *F. clara* Forel, 1886 (see Janicki et al. 2016, Guénard et al. 2017, Demetriou et al. 2023). During our stay in Cyprus in 2009, we noticed the occurrence of another *Formica* species, *F. rufibarbis*. In this paper, we present details of this find.

## METHODS

Identification was conducted by Bezděčka et Bezděčková according to Seifert et Schultz (2009) and verified by Petr Werner in 2020. Nomenclature follows Bolton (2023). The sample was taken from the nest by the authors using hand collecting.

## RESULTS AND DISCUSSION

### MATERIAL EXAMINED:

*Formica rufibarbis* Fabricius, 1793, Cyprus, Troodos, Olympus, 34.9287278 N, 32.8710261 E, 1861 m a.s.l.; 23. 4. 2009; 5 w, P. Bezděčka et K. Bezděčková lgt. and det., P. Werner rev. 2020, Muzeum Vysočiny Jihlava coll.

Collecting circumstances: The nest was located under a stone, on the edge of a hiking trail, in an open place in a very sparse pine forest.

The Palaearctic *Formica rufibarbis* group had been plagued by taxonomic problems for a long time. In 2009, Seifert et Schultz presented its revision, clarifying the nomenclature and defining precise diagnostic characters for individual members. However, the zoogeographical knowledge of the group remains unsatisfactory due to confusion regarding identification of its species in the past (Seifert et Schultz 2009).

The name-giving species *F. rufibarbis* is no exception. Missing type material and a vague original description led Seifert and Schultz (2009) to fixing its neotype and redescription, but distributional data are still deficient (see Seifert et Schultz 2009, Arcos 2020, Schifani et al. 2022).

The find of *F. rufibarbis* in Cyprus is not surprising. The occurrence of this taxon (sensu Seifert et Schultz 2009) had already been reported from neighbouring countries: Turkey, Lebanon, and Greece. Additionally, another member of the *F. rufibarbis* group, *F. clara*, had already been recorded in Cyprus (Seifert et Schultz 2009). The presence of both species, *F. rufibarbis* and *F. clara* (sensu Seifert et Schultz 2009), is also known from Turkey and Greece (Seifert et Schultz 2009, Borowiec et Salata 2022).

*F. rufibarbis* may be confused with *F. clara* in some cases (Seifert et Schultz 2009, Arcos 2020, Schifani et al. 2022). However, according to Seifert et Schultz (2009), the characters presented in their revision allow *F. rufibarbis* to be safely

separated from all other species of the group. The specimens we found in Cyprus showed clear morphological characters of *F. rufibarbis* (including the sample means of unilateral numbers of setae: pronotum 12.8 +/-1.46, mesonotum 6.6 +/- 1.62, petiole scale 2.8 +/- 0.4).

To the best of our knowledge, the find of *F. rufibarbis* in Cyprus represents a record of a species previously unknown from the island, which means an expansion of the list of native ant species and subspecies of Cyprus to 66. It also supports the assumption that the ant fauna of the island is still unsatisfactorily explored, so with more intensive research, further discoveries can be expected.

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