

The distribution of the subgenus *Coptoformica* MÜLLER, 1923 (Hymenoptera: Formicidae) in the Palaearctic Region

Roland SCHULTZ & Bernhard SEIFERT

Abstract

Ten described and two undescribed *Coptoformica* MÜLLER, 1923 species (Hymenoptera: Formicidae, genus *Formica*) are currently known from the Palaearctic Region. Three of them – *Formica exsecta* NYLANDER, 1846 et *mesasiatica* DLUSSKY, 1964, *F. pressilabris* NYLANDER, 1846, and *F. forsslundi* LOHMANDER, 1949 – are distributed in both the West and East Palaearctic. *Formica exsecta* et *mesasiatica* has the widest distribution of all *Coptoformica* species. We have chosen this composite name to avoid executing here a formal synonymisation of *F. mesasiatica* under *F. exsecta*. A thorough argumentation in favour of this synonymy, using morphological, chorological and genetic evidence will be presented elsewhere (B. Seifert & A. Goropashnaya, unpubl.).

Six species are restricted to the West Palaearctic: *Formica bruni* KUTTER, 1967, *F. fennica* SEIFERT, 2000, *F. foreli* BONDROIT, 1918, *F. suecica* ADLERZ, 1902, and two undescribed species. *Formica bruni* and *F. foreli* extend east directly to the Johansen Line. *Formica fennica* is known from Finland and the Caucasus. *Formica suecica* has been found in Fennoscandia, the Alps and West Siberia. Not much is known about the distribution of the two undescribed species.

Three species are East Palaearctic: *Formica fukaii* WHEELER, 1914, is endemic to the Japanese islands; *F. manchu* WHEELER, 1929 and *F. pisarskii* DLUSSKY, 1964 are of more or less Central Asian distribution. *Formica manchu* and *F. pisarskii*, probably with the same basic type of distribution, inhabit the forest-steppe zone of Russia between the Altai Mountains and Lena River, Mongolia, Manchuria and, in the case of *F. manchu*, also Tibet.

This contribution provides an overview of the known locations of the *Coptoformica* species and attempts to construct patterns of distribution.

Key words: *Formica*, *Coptoformica*, Formicidae, distribution, Palaearctic.

Myrmecol. News 10: 11-18

Dr. Roland Schultz (contact author), Zoologisches Institut & Museum, Ernst-Moritz-Arndt-Universität Greifswald, Johann-Sebastian-Bach-Str. 11-12, D-17487 Greifswald, Germany. E-Mail: roland@uni-greifswald.de

Dr. Bernhard Seifert, Staatliches Museum für Naturkunde Görlitz, Postfach 300154, D-02806 Görlitz, Germany. E-Mail: bernhard.seifert@smng.smwk.sachsen.de

Introduction

The subgenus *Coptoformica* MÜLLER, 1923 of the genus *Formica* LINNAEUS, 1758 contains ten described species (SEIFERT 2000) plus two undescribed species (B. Seifert, unpubl.), all living in the Palaearctic (see SEIFERT 2000). All these species build nest mounds from blades of grass bitten into pieces. This is achieved using their strongly developed mandible muscles, which extend into the occipital corners. These occipital corners result in the unmistakable, characteristic appearance of the subgenus *Coptoformica*, the only *Formica* species-group with this feature in the Palaearctic. As far as known and also concluded from gyne morphology (STILLE 1996) all species of this group are temporary social parasites, using several *Serviformica* species as hosts during colony foundation. The question of host species selection is poorly known – not only in the Central Asian species. For species in which more information is available (*F. exsecta*, *F. pressilabris*, *F. forsslundi*) use of several (at least two) host species is evident (SEIFERT 2007).

European entomologists have studied the distribution of this group for a long time (FOREL 1874, 1915, RUZSKY 1905, EMERY 1909, WHEELER 1913, LOMNICKI 1925, KA-

RAWAJEW 1927, STITZ 1939, KUTTER 1957, AGOSTI 1989, GLASER 1999, SEIFERT 2000). While the distribution in Europe can be described with a rather good level of certainty (e.g., SEIFERT 2000), the knowledge on distribution in Asia, that was outlined by DLUSSKY (1964, 1965, 1967) and KUP-YANSKAYA (1990) suffers from big regional sampling deficits and confused taxonomy.

This publication describes the distribution of species of the subgenus *Coptoformica* in the Palaearctic. Because of numerous misidentifications in the past but also presently, we have mapped only those locations that have been checked by us (a sufficiently reliable species determination in the subgenus is only possible considering numerically described character combinations and investigation standards defined by SEIFERT 2000; but note in this context the guide lines for correct character recording presented in SEIFERT 2007). Other locations given in the literature are mentioned in the text and discussed. Sampling intensity has varied considerably throughout the Palaearctic: Europe is well studied and the Caucasus, Central Asia, Mongolia and, Tibet have been the target of several expeditions. All remaining areas