



Fig. 2: Map of Europe and northern Asia including all findings of *Formica bruni* KUTTER, 1967 evaluated by us. Original map with permission of Microsoft®Encarta®2006©1993-2005 Microsoft Corporation. All rights reserved.

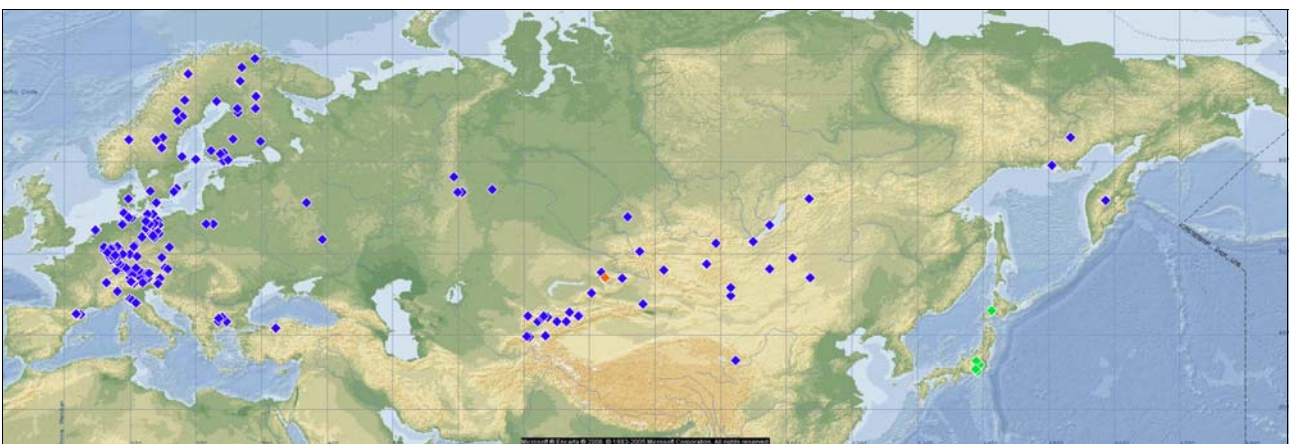


Fig. 3: Map of Europe and northern Asia including all findings of *Formica exsecta* NYLANDER, 1846 et *mesasiatica* DLUSSKY, 1964 (blue), *Formica fukaii* WHEELER (green), 1914 and *Formica* sp.12 (orange) evaluated by us. Original map with permission of Microsoft®Encarta®2006©1993-2005 Microsoft Corporation. All rights reserved.

Spain in the West to the Saur Mountains (East Kazakhstan) in the East, from South Sweden in the North to Montenegro in the South (Fig. 2). We report one new finding from the Ukraine: Orel'sky Forest near Dnepropetrovsk, 48° 27' N, 34° 59' E, 10.IX.2006, leg. Vyprík.

***Formica exsecta* NYLANDER, 1846 et *mesasiatica* DLUSSKY, 1964**

Panpalaeartic. – Europe: Temperate to boreal, planar to subalpine and submeridional-subalpine. Asia: Oreo-Turanian and Tibetan to boreal, montane to subalpine.

We investigated samples of *Formica exsecta* from 356 different localities. The examined specimens are from the French Pyrenees in the west to Kamchatka (East Russia) in the east, and from northern Finland to Tibet (China) in the south (Fig. 3). In southern Europe the geographical range apparently extends to central Spain (COLLINGWOOD 1979), to the North Apennines, and to the Balkans at 40° N. In Asia the known southern border extends from high Anatolia and Caucasus (SEIFERT 2000) to the Alai Valley (39° N, Kyrgyzstan), and Tibet (37° N, Beishan National Park, China). The species most probably occurs in southwestern England and the Scottish Highlands (summarized by SEIFERT 2000), but voucher material could not be examined in

the frame of this study. The northern range in Europe extends up to 71° N at North Cape (SEIFERT 2000) and is limited in the continental parts of Eurasia by the -8 °C isotherm of soil-temperature at a depth of one meter (achieved at 67° N in West Siberia at the Ob River and at 62° N in East Siberia at the Lena River). The southern distribution limit coincides with the southern border of the forest-steppe (DLUSSKY 1967). *Formica exsecta* et *mesasiatica* is apparently absent from the driest Pontic and Turanian steppes, semi-deserts, and deserts. The vertical distribution in Europe extends up to 2400 m a.s.l. (South Tyrol) and 2200 m a.s.l. (Bulgaria). In Asia, at more southern latitudes, the species can reach an altitude of 2700 m a.s.l. (Alai Mountains, Kyrgyzstan).

For reasons explained above, we include the range of *Formica mesasiatica* into the range of *F. exsecta*. In the Tarbagatay Mountains (East Kazakhstan) we found both the *F. exsecta* and the *F. mesasiatica* morph, a fact confirmed by REZNIKOVA (2003) with her findings in the Tarbagatay Mountains and near the Saysan Lake. South of the Dshungar Gate in the Tianshan and Alai Mountains, we found only the *F. mesasiatica* morph. This morph is present in all parts of the Tianshan Range, from Dshungar Alatao in the North to the Fergana Mountains in the South and from