

Fig. 6: Map of Europe and northern Asia including all findings of *Formica forsslundi* LOHMANDER, 1949 (blue) and *Formica* sp. 11 (orange) evaluated by us. Original map with permission of Microsoft®Encarta®2006©1993-2005 Microsoft Corporation. All rights reserved.

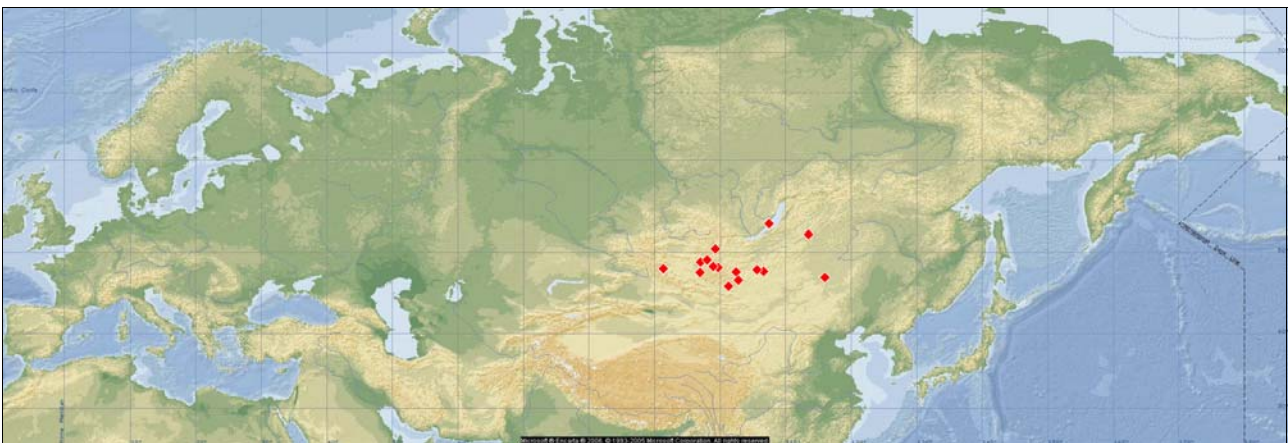


Fig. 7: Map of Europe and northern Asia including all findings of *Formica pisarskii* DLUSSKY, 1964 evaluated by us. Original map with permission of Microsoft®Encarta®2006©1993-2005 Microsoft Corporation. All rights reserved.

KY, 1895 and *F. picea* NYLANDER, 1846 et *candida* SMITH, 1878, but there are no findings of *F. forsslundi* in the Tianshan and Pamir regions. Beyond the known locations, we found *F. forsslundi* in the Tarbagatay Mountains north of the Dshungar Gate (see also findings of REZNIKOVA 2003).

***Formica fukaii* WHEELER, 1914**

Formica exsecta var. *fukaii* WHEELER, 1914. Type locality: Saitama, Japan.
East Palaearctic. – Endemic to Japan.

Formica fukaii seems to be closely related to *F. exsecta* et *mesasiatica* and is probably endemic to the islands of Japan and maybe Sakhalin (Russia) (Fig. 3). BS investigated five samples from different locations in Japan. The Japanese Ant Image Database described this species as occurring on the islands of Hokkaido, Honshu, and Sakhalin (JAPANESE ANT DATABASE GROUP 2003).

***Formica manchu* WHEELER, 1929**

East Palaearctic. – Tibetan to Central-Siberian-Daurian, in Central Asia up to 3400 m a.s.l.

We have examined samples from 44 different locations, ranging from South Siberia (Transbaikal Region), through Mongolia, Manchuria to Tibet (Fig. 4). All samples are in

the range described by DLUSSKY (1967) for his "*F. longiceps*" from Kansk (96° E) to Yakutsk (130° E) and North Tibet (36° S) to Yakutsk (62° N). The species seems to have a Central Asian distribution, occurring east of the Johansen Line (JOHANSEN 1955) in the forest-steppe zone and mountain-steppe zone. It is unknown whether this species has contact somewhere with its western sister species, *F. fennica*.

RS found *F. manchu* in Mongolia in forest-steppe habitats between 1500 and 2300 m a.s.l. Here, the nests were always not far from trees or shrubs, sometimes even on north-exposed slopes with Taiga. *Formica manchu* were also found in sandy dune areas about 1200 m a.s.l., here especially in wet dune-valleys with shrub vegetation. The nests were generally rather large (compared to nests of *F. pisarskii* or *F. forsslundi*), with diameters between 20 and 100 cm and heights between 5 and 70 cm. Sometimes the nests merge, suggesting polycalic colonies.

***Formica pisarskii* DLUSSKY, 1964**

East Palaearctic. – Mongolian to Central-Siberian-Daurian.

Like *Formica manchu*, this seems to be an East Palaearctic species with Central Asian distribution. All 47 different findings evaluated by us are east of the Johansen