Myrmica vandeli Bondroit 1920, an ant species new to Sweden (Hymenoptera, Formicidae)

XAVIER ESPADALER


The red ant Myrmica vandeli Bondroit (Formicidae, Myrmicinae) is recorded from samples in a pitfall-trap set in a southern Swedish locality in the province of Uppland. This is the first record of the species in Sweden. Thirteen Myrmica species are, thus, present in Sweden.

Xavier Espadaler, Animal Biodiversity research group, Ecology Unit and CREAf, Autonomous University of Barcelona, 08193 Bellaterra, Spain. Email: xavier.espadaler@uab.es

As part of a Europe-wide project to develop a large scale risk assessment for biodiversity (ALARM Project), in the context of current and future European land-use patterns, several groups of insects were studied, among them ants. One pitfall sample from a natural site, (that is, dominated by natural or semi-natural communities but including some agricultural land), contained specimens of an ant previously unknown in Sweden. Hence, this note.

Eight pitfall traps (5 cm diameter) were set in a natural grassland (Fig. 1 (on p. 42)), in a line at 3m intervals and with the opening flush with the soil surface. Preserving liquid was diluted formol. Traps were active for two-week periods, beginning on 05.06.2006, 03.07.2006 and 31.07.2006. The site is Sweden, Uppland, Hagby, Uppland; 26m altitude a.s.l.; latitude 59° 46’ 48”; longitude 17° 22’ 48”, RT90: 663084-1588721. It is a natural grassland in a south-facing border-zone between an arable field and a mainly coniferous forest. The grassland was grazed until about 10 years ago and since then shrubs has expanded, mainly Prunus spinosa and Rosa dumalis. There were also other bushes and trees such as Prunus padus and Juniperus communis. The field layer consisted of nutrient rich growth vegetation with thistles, Rubus idaeus, Anthriscus sylvestris, Hypericum sp. and tall grasses like Dactylis glomerata, Elymus repens and Alopecurus pratensis.

Four workers of Myrmica vandeli Bondroit were captured in one trap during the first two-week sampling period (from 5.6.2006 to 19.6.2006). Two workers are deposited in the Museum of Zoology (Lund); two workers in the author’s collection. The species is well distinguished from Myrmica scabrinodis Nylander by the characteristic delicate longitudinal head and mesosoma sculpture (Fig. 2 a,b (on p. 42)), longer pilosity, by the petiole dorsum with somewhat circular sculpture and postpetiole with a smooth and shiny central dorsal surface (Fig. 2c). With this addition, thirteen Myrmica species are known in Sweden. Other ant species captured in the same trap during the same period were Formica pratensis Retzius (81 workers), Lasiurus flavus (Fabricius) (13 workers), Lasiurus niger (L.) (1 worker), Lasius platythorax Seifert (14 workers), Leptothorax acervorum (Fabricius) (3 workers), Leptothorax...
Ent. Tidskr. 129 (2008)

myrmica vandeli, a new ant for sweden


Acknowledgements

To Wolfgang Nentwig (Bern) for giving me the opportunity to study an interesting ant collection and to Eric Sjödin for his help with detailed comments on the field site. To Per Douwes for a critical reading. This study was enabled by support from the ALARM project (EU FP6 GOCE-CT-2003-506675).

References


Myrmica vandeli, a new ant for Sweden

M. vandeli is known in France, Germany, Great Britain, Switzerland, Austria, Poland, Czech Republic, Slovakia, former Yugoslavia (Radchenko & Elmes 2003), Spain (Espadaler 1986) and southern Finland (Seifert 2007). The biology of this ant species is still very poorly known; specifically, whether it is a free-living species or if it has a facultative, temporary parasitic life-style upon Myrmica scabrinodis. Some of its morphological features (reduced tibial spurs, relatively high development of body pilosity) are characteristic of parasitic Myrmica. Useful literature references for determining the species are Kutter (1977), Radchenko & Elmes (2003) and Seifert (2007). Foraging distances of Myrmica species are in the order of two metres (Schlick-Steiner et al. 2006), therefore we can safely assume that the four workers came from a nest located in the habitat described above. This Myrmica species is usually characterized ecologically as nesting in warm and wet places such as sunny bogs or marshes (Elmes et al. 1998; Radchenko & Elmes 2003; Seifert 2007). Of added interest in some populations of this species is its being a possible host to Lycaenidae in the genus Maculinea (Thomas et al. 1989; Wardlaw et al. 1998).
Figure 1. The site where *Myrmica vandeli* was found new for Sweden. It was caught in pitfall traps positioned in this nutrient rich vegetation. Photo: Erik Sjödin.

*Lokalen där Myrmica vandeli* hittades som ny för Sverige är en näringsrik före detta betesmark. Fyra exemplar fångades i fallfällor.

Figure 2. *Myrmica vandeli* Bondroit. Worker – a) lateral view, – b) pronotum dorsal view, – c) petiole and postpetiole, dorsal view.