

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

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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.

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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, Apallund; 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 *Myrmica scabrinodis* Nylander and *Lasius flavus* (Fabricius). Ant species (number of workers or queens) captured in the transect during the three sampling periods were *Formica pratensis* Retzius (81workers), *Lasius flavus* (Fabricius) (13 workers), *Lasius niger* (L.) (1 worker), *Lasius platythorax* Seifert (14 workers), *Leptothorax acervorum* (Fabricius) (3 workers), *Leptothorax*

gedleri Mayr (1 worker), *Myrmica lobicornis* Nylander (1 queen) and *Myrmica ruginodis* Nylander (96 workers, 5 queens) and *Myrmica scabrinodis* Nylander (48 workers).

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).

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Sammanfattning

En ny myra för Sverige, *Myrmica vandeli*, hittades i Uppland på en lokal mellan Enköping och Uppsala. Totalt fångades fyra individer i fallfällor. Platsen är en näringsrik före detta betesmark som hävdades fram till för ca 10 år sedan. Artens biologi är inte vidare väl känd, men vissa karaktärer i utseendet gör att man misstänker att den lever som parasit på *Myrmica scabrinodis*. Eftersom dessa myror inte födosöker längre bort än några meter från boet kan man säkert säga att boet måste ligga i samma habitat som fällorna satt i.



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.

Myrmica vandeli Bondroit. Arbetare – a) från sidan, – b) pronotum ovanifrån, – c) petiole och postpetiole, ovanifrån.