

***Camponotus vagus* (Scopoli, 1763) (Hymenoptera, Formicidae) in Norway**

Torstein Kvamme & Ole J. Lønnve

Kvamme, T. & Lønnve, O. J. 2008. *Camponotus vagus* (Scopoli, 1763) (Hymenoptera, Formicidae) in Norway. *Norw. J. Entomol.* 55, 105–108.

The Norwegian records of the ant *Camponotus vagus* (Scopoli, 1763) are presented and the distribution is discussed. Information on its biology and habitat choice is given. *C. vagus* is an overlooked species that must be considered rare in Norway.

Key Words: *Camponotus vagus*, faunistics, biology, distribution, Norway, Østfold.

*Torstein Kvamme, Norwegian Forest and Landscape Institute, P.O. Box. 115, NO-1431 Ås, Norway.
E-mail: Torstein.Kvamme@skogoglandskap.no*

*Ole J. Lønnve, BioFokus, Forskningsparken i Oslo, Gaustadalléen 21, NO-0349 Oslo
E-mail: ole@biofokus.no*

INTRODUCTION

The genus *Camponotus* Mayr, 1861 is represented by four species in Scandinavia (Collingwood 1979): *C. herculeanus* (Linnaeus, 1758), *C. ligniperda* (Latreille, 1802), *C. fallax* (Nylander, 1865) and *C. vagus* (Scopoli, 1763).

C. herculeanus and *C. ligniperda* are known from all the Scandinavian countries. Both species are common in Norway (Kvamme 1982). *C. fallax* is known from Strömsholm, Västmanland county, Sweden, as the only locality in Scandinavia (Douwes 1995). *Camponotus* species are known as important destroyers of wood in houses, which is reflected in the English name Carpenter ants.

The fourth species, *C. vagus* (Figure 1) is a West Palaearctic species known from southern Scandinavia to north-western Africa and from Portugal to Altai (Czechowski et al. 2002). The records are scattered and isolated in Northern Europe. Southwards the species are more common (Seifert 2007). The species has previously been

recorded from Sweden and Finland. According to Collingwood (1979) an old record from Karelia Australis is represented by one single specimen in the Helsinki Museum. Two colonies have been observed at Rymättylä, Aasla in 1968 and 1969, and Rymättylä, Kuusinen in 1969. Both colonies were found in crevices of sunny rocks (Merisou & Käpylä 1975). In Sweden *C. vagus* has been recorded from Öland and Gotland. These records are more than hundred years old (Douwes 1995). *C. vagus* is easily identified by its relatively large size (worker, 6–12 mm), uniform black colour and the long and dense body hairs. *C. vagus* is known to be both carnivorous and aphidicolous (Collingwood 1979, Seifert 2007).

C. vagus colonies are commonly found in wood in dry habitats in central Europe (Pisarski 1961, Seifert 2007). However, the species is also known from nests under stones. Open sunexposed habitats are preferred (Pisarski 1961). Colonies commonly have from 1.000 to 4.000 workers, but can contain up to 10.000 individuals (Seifert 2007). *C. vagus* is considered to be strong and



Figure 1. *Camponotus vagus* (Scopoli, 1763), worker (Photo: Lars Sandved Dalen).

aggressive, usually competing well with other ant species (Czechowski 2005, Seifert 1996, 2007).

MATERIAL

The material is deposited in the collection of the Natural History Museum, University of Oslo, and in the private collection to K. M. Olsen. The nomenclature is according to Bolton (1995).

THE RECORDS

All records are from Østfold County (Ø) in south-east Norway (Figure 2): Hvaler: Spjørøy, Holmetangen (EIS 20, UTM_{WGS84}32VPL106503), 12 June 1998, 4 colonies (leg. T. Kvamme) (Figure 3). Two additional colonies were observed in the area in 1999. Fredrikstad: Onsøy, Ødegård (EIS 20, UTM_{WGS84}32VPL034641), August 2005, 2 colonies (leg. O. J. Lønnve) (Figure 4). Hvaler: Vesterøy, Utgårdskilen (EIS 20, UTM_{WGS84}32VPL07545024), 16 August 2006, 1 single worker (leg. K. M. Olsen). No colonies were observed. Hvaler: Vesterøy, Sekkevika (EIS 20, UTM_{WGS84}32VPL087507), 16 August 2006, 1 single worker (leg. K. M. Olsen). No colonies were observed.

All the localities get dry and hot during sunny summer days. The vegetation is relatively sparse and exposed rocks are parts of all the localities. The localities at Holmetangen and Ødegård are both surrounded by summer-cottages.

At Holmetangen the habitat is almost naked rocks, with little soil and sand present. The vegetation consists mostly of scattered *Pinus sylvestris* L. and spots of mainly grass, mosses and *Calluna vulgaris* (L.). The colonies were discovered under stones, cracked loose by water and ice, but with only narrow crevices between the solid rock and the stones (Figure 5). No visible signs indicated the presence of a colony, except for entrance holes and workers running to and from. One colony was opened and thousands of eggs, larvae and pupas were observed. Only a single specimen of *Formica* sp. was observed in the colony area.

At Ødegård two colonies were discovered within

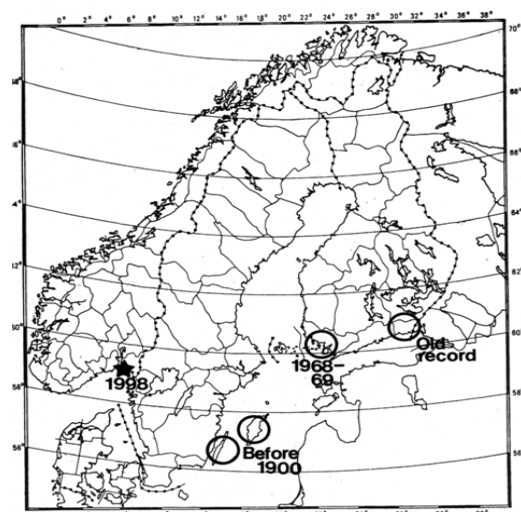


Figure 2. Østfold is situated on southeast Norway. The map also shows the known distribution of *C. vagus* in Fennoscandia.

an area of approximately 3000 m², on the top of a rocky ridge, some few hundred meters from the seaside. The distance between the colonies was approximately 50 m. One was situated in cracks in the rocks, and the other in a rotten pine root. Compared to Holmetangen, the vegetation is more diverse. Many different trees occur in the area. The field layer is dominated by *C. vulgaris* and grass. In the area *C. ligniperda* was quite abundant. Workers of *Lasius* Fabricius, 1804 and *Formica* were also observed in great numbers.

At Utgårdskilen the habitat consists of meadows and grazing land among patches of exposed rocks. The ant was collected at one of these rock patches. The locality is very close to the sea with an elevation of only 0–5 m. At Sekkevika one single worker was collected on a small beach. The beach area is adjacent to a small beach meadow surrounded by rocks.

DISCUSSION

The climatic conditions in Østfold are mild (Tveito et al. 2000). The winter mean temperature is usually above -4 °C. Occasionally the temperature can drop below -15 °C (information from The Norwegian Meteorological Institute). When combined with little or no snow cover, the ant colonies may be exposed to low temperatures. *C. vagus* also occurs in areas which can have very cold winter climate like Finland, Poland and Altai. This indicates that the winter temperature is not a main limiting factor. The summer climate in the area is in general good, although the summer season is shorter than. *C. vagus* is a thermophile species (Pisarski 1961). The choice of sunexposed rocky habitats in Fennoscandia may compensate for short periods with cooler summer temperatures. Limitations in distribution of *C. vagus* in Norway might be dependent on the summer climate and not the winter temperature.

The species is supposed to be extinct in Sweden (Gärdenfors 2005). In Norway *C. vagus* is considered to be near threatened due to the limited known distribution (NT) (Hansen et al. 2006). This is based on the preliminary reports of all



Figure 3. *C. vagus* locality at Holmetangen in Hvaler municipality. Photo: Tone Vik.



Figure 4. *C. vagus* locality at Ødegård in Fredrikstad municipality. Photo: Ole J. Lønnve.



Figure 5. Entrance hole to a *C. vagus* colony at Holmetangen. Photo: Tone Vik.

the records presented (cf. Kvamme 1999 and the records from Ødegård). When the ant colonies are too close to houses and summer cottages people want to get rid of them in order to avoid problems. During the summer of 2007 the colony closest to the summer cottage at Ødegård was destroyed by its owner.

Like elsewhere in Northern Europe, *C. vagus* must be considered a rare species, although locally common in Norway. The species has probably been overlooked. Search for the species in the same type of habitats may reveal new populations in the coastal areas of e.g. Vestfold, Telemark and Aust-Agder counties in Norway and the western coast of Sweden.

Acknowledgements. We would like to thank Kjell Magne Olsen for information on his records Leif Aarvik and Stefan Olberg who gave constructive comments to the manuscript. Lars Sandved Dalen and Tone Vik provided some of the excellent photos. Thanks also to Hans Olav Hygen for information on the climatic conditions.

REFERENCES

- Bolton, B. 1995. A New General Catalogue of the Ants of the World. 504 pp. Harvard University Press.
- Collingwood, C.A. 1979. The Formicidae (Hymenoptera) of Fennoscandia and Denmark. Fauna Ent. Scand. 8, 1–174.
- Czechowski, W. 2005. Nest competition between *Camponotus vagus* (Scopoli, 1763) and *Camponotus herculeanus* (Linnaeus, 1758) (Hymenoptera: Formicidae) in the Bialowieza Forest (Poland). Myrmecologische Nachrichten. 7, 43–45.
- Czechowski, W., Radchenko, A. & Czechowska, W. 2002. The ants (Hymenoptera, Formicidae) of Poland. Warszawa. 200 pp.+ table IV.
- Douwes, P. 1995. Sveriges myror. Ent. Tidskr. 116, 83–98.
- Gärdenfors, U. (ed). 2005. Rödlistade arter i Sverige 2005 – The 2005 Red List of Swedish Species. ArtDatabanken, SLU, Uppsala.
- Hansen, L. O., Kvamme, T. & Lønnve, O. 2006. Veps Hymenoptera. p. 297–306. – I: Kålås, J. A., Viken Å. & Bakken, T. (Red.). Norsk Rødliste 2006 – 2006 Norwegian Red List. Artsdatabanken, Norway.
- Kvamme, T. 1982. Atlas of the Formicidae of Norway (Hymenoptera: Aculeata). Insecta Norvegiae 2, 1–56.
- Kvamme, T. 1999. Notes on Norwegian ants (Hymenoptera, Formicidae). Norw. J. Entomol. 46, 19–23.
- Merisuo, A.K. & Käpylä, M. 1975. Records of a rare ant species, *Camponotus vagus* Rog. (Hym., Formicidae). Ann. Ent. Fenn. 41, 140.
- Pisarski, B. 1961. Studien über die polnischen Arten der Gattung *Camponotus* Mayr (Hymenoptera, Formicidae). Annales Zoologici 19, 147–207.
- Seifert, B. 1996. Ameisen. Beobachten - bestimmen. Naturbuch-Verlag, Augsburg. 352 pp.
- Seifert, B. 2007. Die Ameisen Mittel- und Nordeuropas. 368 pp. Tauer: Lutra – Verlags- und Vertriebsgesellschaft.
- Tveito, O. E., Førland, E., Heino, R., Hanssen-Bauer, I., Alexandersson, H., Dahlström, B., Drebs, A., Kern-Hansen, C., Jónsson, T., Vaarby Laursen, E. & Westman, Y. 2000. Nordic temperature maps. DNMI-Report no. 09/00 Klima. 54 pp.

Received: 10 March 2008

Accepted: 8 April 2008