

First observations of *Leptothorax affinis* Mayr 1855 (Formicidae Hymenoptera) in Belgium

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Summary

In the summer of 2002 workers of *Leptothorax affinis*, Mayr 1855 were collected at five localities in the Voerstreek/Fouron-région (Flanders, Belgium) and surroundings. At four localities the workers foraged on tree stems. At the fifth locality the nest was found in a wooden enclosure probably made of beech wood. The closest known localities of the species out of Belgium are in the Netherlands only 20-50 km away from our recording sites. A description of the localities and some notes on ecology of the species are given.

Keywords : Formicidae, faunistic, Belgium, new record, *Leptothorax affinis*.

To gather information on nest-localities and ecological preferences of rare ant species, laborious nest-collections are needed. Due to several recent projects and a project aiming to prepare a preliminary distribution atlas of the Flemish ants (funded by the Institute for Nature Conservation), ant faunistics in Belgium has made important steps forward. As expected, formerly overlooked species were found when reviewing the Belgian ant fauna using SEIFERT (1996) as a determination work (DEKONINCK & VANKERKHOVEN, 2001; DEKONINCK *et al.* 2002). Although rather difficult to identify, also *Leptothorax* species new for the Belgian fauna were expected. It was in the Voeren-region a *Leptothorax*-species (*L. affinis*) new for Belgium was discovered.

According to SEIFERT (1996) *L. affinis* is a thermophilic, arboreal ant species which can be found in dense populations in oak and pine forests, shrub vegetations and orchards in the Middle and South of Germany. In the winter of 1993-1994 LEFEBER (1995) found two workers of this Central European ant species in elder branches collected in Bemelen and St-Pietersberg in the Netherlands. These localities are only 20-50 km away from localities described in the present work.



Fig. 1. Habitus of a *L. affinis* worker. This *Leptothorax* species from the subgenus *Myrafant* can be easily recognised and distinguished from the most common species of this subgenus *Leptothorax nylandreri* (Förster 1850), by its uninterrupted thorax profile and remarkable dark pale femur and a dark colored antenna-club.

At the first locality (Sint-Martens-Voeren) four workers were collected on an oak trunk and no nest entrances were found from the bottom until two meters high along the stem. Therefore we think in agreement with SEIFERT (1996), who found nests as high as 15 m in the tree crowns,

Table 1. First localities of *L. affinis* in Belgium with details of the collection place and other ant species collected at the same sites.

Locality	UTM-code	Habitat	Other ant-species on the same tree or pole	Other ant species near the tree/pole
Sint-Martens-Voeren, Comberg	FS9826	Oak tree stem on a southwest-exposed slope	<i>Lasius brunneus</i>	<i>Myrmica rubra</i> , <i>Lasius niger</i> , <i>Formica cunicularia</i> and <i>Leptothorax acervorum</i>
Moelingen, river bank of the Berwinne	FS9126	Oak tree stem on a south-exposed slope	<i>Lasius niger</i> and <i>Formica cunicularia</i>	<i>Myrmica rubra</i>
Sint-Gravenvoeren, Sint-Denijs-kapel	FS9527	Southerly exposed wooden fence pole at the border of an oligotrophic grassland	none	<i>Myrmica rubra</i> , <i>Lasius flavus</i> , <i>Lasius niger</i> , <i>Formica cunicularia</i> , <i>Formica fusca</i> and <i>Leptothorax acervorum</i>
Kerniel, Borgloon, Leemzaal - Klooster Colen Mariënlof	FS6632	Southwest-exposed <i>Fraxinus excelsior</i> stem at the border of a little stream	none	<i>Myrmica rubra</i> , <i>Lasius flavus</i> and <i>Lasius niger</i>
Bokrijk, openluchtmuseum	FS6948	<i>Salix alba</i> surrounded with oak	none	<i>Myrmica ruginodis</i>

that the nest must have been higher in the tree. The second place where we found foraging workers of *L. affinis* was a similar environment in Moelingen near the banks of the stream La Berwinne. The third and fourth record places (Mielen and Bokrijk) are located in the Province of Limburg where workers were collected foraging on an ash (*Fraxinus excelsior* L.) stem and a willow (*Salix* sp.) stem, respectively. The fifth locality (Sint-Gravenvoeren) was a wooden fence probably made of beech at the border of an oligotrophic grassland. The places where we found the '*L. affinis* trees' are thermophilic South-Southwest-exposed slopes with rather dry vegetation rich in ant species. Perhaps the habit to construct nests high in trees is the reason why until now the species was considered as a very rare ant species in the Benelux. On the same trees also *Lasius brunneus* (Sint-Martens-Voeren) and *Formica cunicularia* and *Lasius niger* (Moelingen) were found. Other ant species collected at the same spots and further details on the microhabitat are mentioned in Table 1.

By the recent discovery of *L. affinis* in the Netherlands and its presence in Germany, we suspected the species to be present in the Voeren region and surroundings. The species was recorded during a quick search at five localities so we think that a more detailed search in

comparable habitats in the Voerstreek and surroundings, should lead to more records.

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