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A list of ant species collected in the surrounding area of Rocher Frédéricq (Hockai) with the first record of *Leptothorax gredleri* MAYR, 1855 for Belgium

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Abstract

During a field trip in the surrounding area of Rocher Frédéricq in Hockai, Belgium (23/VI/2007), we found several workers of the so far unrecorded but expected ant *Leptothorax gredleri* MAYR, 1855. On this big rock (known as Rocher Frédéricq) and its surroundings we also recorded workers of *Leptothorax acervorum* (FABRICIUS, 1793), *Leptothorax muscorum* (NYLANDER, 1846) and several *Temnothorax* and *Myrmica* species which were foraging between the cracks and mosses on the rock. We give comments on expected places where other populations of this species may be found and we discuss its status in Belgium.

Keywords: new species, Faunistics, *Leptothorax gredleri*

Résumé

Lors d'une excursion dans les environs du Rocher Frédéricq à Hockai (23/VI/07), nous avons trouvé plusieurs ouvrières de *Leptothorax gredleri*, espèce jusqu'ici non repertoriée mais attendue dans notre

pays. Sur ce site et ses environs, nous avons également trouvé des ouvrières de *Leptothorax acervorum*, *Leptothorax muscorum* ainsi que plusieurs espèces de *Temnothorax* et de *Myrmica* fourrageant dans les fissures et sous les mousses. Nous commentons aussi les autres sites où nous pouvons suspecter la présence de l'espèce et discutons de son statut en Belgique.

Introduction

In the beginning of the last century Bondroit found several very rare ant species, all being habitat specialists, near Rocher Frédéricq at Hockai (BONDROIT, 1910; VAN BOVEN, 1949). One of them *Formica exsecta* NYLANDER, 1846 probably disappeared after 1922. Hence this species as well as two other *Coptoformica* species – *Formica foreli* EMERY, 1909 and *Formica pressilabris* NYLANDER, 1846 both recorded in the Hautes Fagnes before 1918 (BONDROIT, 1912; 1918) – were considered as extinct in Belgium (DEKONINCK *et al.*, 2006). If a *Coptoformica* species will ever be rediscovered in Belgium, there is a great possibility it will be in the region of the last record place of *Formica exsecta*, i.e. along the rivulet Höegne near Hockai.

Hoping to rediscover *Coptoformica* sp. in Belgium, a field trip in the woodlands near and along Rocher Frédéricq was organised and all suitable *Coptoformica* habitats were intensively screened for ants. Moreover, this region is also the locality where *Camponotus herculeanus* LINNAEUS, 1758 was collected by Collart 8/iv/1938 and identified by Raignier (VAN BOVEN, 1949). Thus expectations to rediscover extinct ant species were high.

Eventually, no extinct species were rediscovered during the summer of 2007. However, on 23/vi/2007 *Leptothorax gredleri* was recorded for the first time in Belgium; other rare ant species for Belgium were also collected and are listed here.

Material and Methods

Nowadays, the region near Hockai and along the rivulet Höegne is covered with *Picea*-plantations. However scattered deciduous forest patches (birch and oak) are also present and near the rivulet, local patches of *Erica tetralix* L. and *Sphagnum* vegetation are left, although the vegetation is becoming mainly dominated by *Molinia caerulea* (L.) MOENCH so that the wet and warm *Sphagnetalia* of open peat bogs is disappearing. Near the rocks of Rocher Frédéricq all coniferous trees were recently felled to increase sunshine on the rocks.

Results

In the surveyed area, *Formica sanguinea* LATREILLE, 1798 was very abundant. We found many nests and recently dealated queens on the ground. Nest densities of a potential slave species *Formica fusca* LINNAEUS, 1758 were however very low. We only found two nests of this species at the site and surrounding forests. Several nests of *Lasius platythorax* SEIFERT, 1991 and *Leptothorax acervorum* were discovered and were often localized in the immediate vicinity of *F. sanguinea* nests. Workers of these three species foraged at the same tree-trunks without interactions. Many *Myrmica*-nests (*Myrmica ruginodis* NYLANDER, 1846 and *Myrmica scabrinodis* NYLANDER, 1846) were found, most of them under stones.

In total we found 16 different species that day (see Table 1). We collected 4 workers of *Leptothorax gredleri*. They were foraging between the cracks and mosses of the big rocks of Rocher Frédéricq.

A very rare species we collected during the excursion was *Myrmica lobicornis*. A small nest of this ant was discovered near – actually almost in – a *Formica sanguinea* nest. Records of this species from the same region and similar suitable habitat are mentioned in DEKONINCK *et al.* 2004. The nest was revisited several times by the second author. In July 2008, several workers were observed at the entrance of the nest; in the close proximity, workers of *L. acervorum* and *F. sanguinea* were foraging without disturbing the activities of *M. lobicornis* workers.

Discussion

Although already mentioned in many occasions as a species to be discovered soon (VAN BOVEN & MABELIS, 1986; DE BISEAU & COUVREUR, 1994), this is the first published record of *L. gredleri* in Belgium. In other surrounding countries this species has also rarely been reported. In Germany this species is widely distributed, but never common in submontane vegetation and it has occasionally been observed westward of the River Rhine (SEIFERT, 2007). In the Netherlands *L. gredleri* is a very rare species which has been recorded at Utrechtse heuvelrug, de Veluwe and Northern Limburg (BOER pers. comm.).

Table 1: Ant species collected on 23/VI/2008 during the field trip.

Species	Habitats			
	Along the rivulet Höegne	<i>Picea</i> -forest	rocks of Rocher Frédéricq	the border of <i>Molinea</i> vegetation and forest
<i>Myrmica lobicornis</i> NYLANDER, 1846				X
<i>Myrmica rubra</i> (LINNAEUS, 1758)	X			
<i>Myrmica ruginodis</i> NYLANDER, 1846	X	X		
<i>Myrmica scabrinodis</i> NYLANDER, 1846			X	
<i>Lasius platythorax</i> SEIFERT, 1991	X			X
<i>Formica fusca</i> LINNAEUS, 1758		X	X	
<i>Formica polyctena</i> FÖRSTER, 1850		X		
<i>Formica pratensis</i> RETZIUS, 1783		X		
<i>Formica rufa</i> LINNAEUS, 1761		X		
<i>Formica sanguinea</i> LATREILLE, 1798	X			X
<i>Leptothorax acervorum</i> (FABRICIUS, 1793)				X
<i>Leptothorax gredleri</i> MAYR, 1855			X	
<i>Leptothorax muscorum</i> (NYLANDER, 1846)			X	
<i>Temnothorax nylanderi</i> (FÖRSTER, 1850)			X	
<i>Temnothorax nigriceps</i> MAYER, 1855			X	
<i>Temnothorax unifasciatus</i> (LATREILLE, 1798)			X	

Aside this apparent rarity, another reason may explain why it has taken so long before the presence of this species in Belgium could be confirmed. Probably *L. gredleri* was often misidentified and confounded with *L. muscorum*, a morphologically close species. Maybe re-evaluation of *L. muscorum* specimens collected elsewhere in Belgium could reveal other *L. gredleri* localities. Moreover we expect new records of this species from similar suitable habitat as Rocher Frédéricq to be published soon. Seifert (2007) mentioned that besides pine forest less thermophilic deciduous forest may also be suitable habitat. Nests can be discovered in the soil, near the soil, in bark (never high), deadwood and in hollow acorns.

We assume *L. gredleri* is a very rare species in Belgium. However we suggest new record of this species can be reported in similar suitable habitat in the same region and other regions in Belgium.

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