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Teleutomyrnex schneideri Kutter 1950 and other parasitic ants found in the Pyrenees

(Hymenoptera, Formicidae)

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Abstract

The extremely rare parasitic ant *Teleutomyrnex schneideri* Kutter is recorded for the first time in the Pyrenees. Other social parasitic ants, *Strongylognathus testaceus* (Schenck), *Harpagoxenus sublaevis* (Nylander), *Chalepoxenus muellerianus* (Finzi) and *Polyergus rufescens* (Latreille), also have been found in the western Pyrenees: Dept. Pyrénées-Atlantiques. The localities are indicated and some informations on biology and host species of the parasites are provided.

Introduction

Social parasitic ants, living in dependence upon their host species, are usually rare. For many species little is known on their life history and distribution. On the other hand, they often occur in vulnerable habitats which are widely threatened in Europe due to changes in agricultural and forestry methods, pesticide treatment, extension of vacation colonies, skiing areas and so on. Recent efforts of the IUCN Species Survival Commission aim towards protection also of rare ant species, which ultimately must mean the protection of their particular habitats. Recording of localities where such endangered species are still existing is indispensable therefore, and the present paper may be seen as a contribution to these efforts.

Observation and collecting of the ants was done during a vacation stay at Laruns, Vallée d'Ossau, Dept. Pyrénées-Atlantiques, in July 1986. The following remarkable species have been found.

1. *Teleutomyrnex schneideri* Kutter 1950 (Myrmicinae)

One colony, 28 July 1986, near Cabane du Lurien, 1700 m, above the Lac de Fabrèges, Vallée d'Ossau. The nest was situated beneath a rock in a pasture, about 100 m outside the forest, next to a hiking path to Lac d'Artouste. A sample containing 31 alate ♀♀ and 4 ♂♂ of *T. schneideri* and some ♀♀, ♂♂ and alate ♀♀ of the host species was collected. Some *Teleutomyrnex* pupae were still present in the nest. No *Teleutomyrnex* or *Tetramorium* queen could be found, presumably because I did not dig very deeply into the nest in order not to destroy it too much. On 31 July I returned to the locality together with my son Christian. In a thorough study of about 120 *Tetramorium* nests we did not detect another one infested by the parasite; this may illustrate the rareness of the species.

The host species is *Tetramorium impurum* (Foerster), which could be identified with the ♂♂ found in the colony. This corresponds with a record of *Teleutomyrnex* near Briançon (French Alps, BUSCHINGER 1985), whereas formerly (KUTTER 1950, COLLINGWOOD 1956) the host species had been

identified as *T. caespitum* (Linnaeus). It still remains an open question whether *T. schneideri* may parasitize both host species, or whether the former identifications were erroneous because no ♂♂ were checked.

The new record of *T. schneideri* is bridging a gap in the known range of the species which has been found in only three other localities, the type locality (Saas Fee, Swiss Valley, KUTTER 1950), near Briançon (French Alps, COLLINGWOOD 1956, BUSCHINGER 1985), and in the Spanish Sierra Nevada (Tinaut, cit. in BUSCHINGER 1985).

2. *Strongylognathus testaceus* (Schenck 1852) (Myrmicinae)

One colony, 31 July 1986, Lac de Fabrèges, Vallée d'Ossau, 1270 m, about 150 m above the road on the eastern bank of the lake, at the edge of the forest, next to the hiking path to Lac d'Artouste. The colony contained numerous ♀♀ and alate ♀♀ and ♂♂ of *Strongylognathus*. The host species is either *Tetramorium caespitum* (Linnaeus) or *T. impurum* (Foerster), an exact identification was not possible due to lack of *Tetramorium* ♂♂.

S. testaceus is one of the more common *Tetramorium* parasites, with a wide range from England to Siberia, but usually not frequent (KUTTER 1977, BERNARD 1968). In the Pyrenees it has been recorded from Orédon and Fabian, Vallée d'Aure, Hautes Pyrénées (BERNARD 1968). Bernard has found it in only 3 out of 900 *Tetramorium* colonies studied.

3. *Chalepoxenus muellerianus* (Finzi 1922) (Myrmicinae)

One colony, 21 July 1986, Cabane des Québottes, 1300 m, about 1.5 km south of Lac de Fabrèges, at the eastern slope of the Gave de Brousset vally, in a rock crevice at the edge of the forest. The colony contained alate sexuals, the host species was *Leptothorax tuberum* (Fabricius 1775). *Chalepoxenus* is a genus of slavemaking ants (EHRHARDT 1982). It is widely distributed in the Mediterranean area, and *C. muellerianus* has been recorded already from the Vallée d'Ossau „au dessus du Lac de Fabrèges, 1400 m“ (L. Peru, in litt.). Other localities in the vicinity are: Bielle (Vallée d'Ossau, 300 m), Biescas (Valle de Tena, Prov. Huesca, Spain) (BUSCHINGER et al., in prep.), San Juan de la Peña, 1200 m (Prov. Huesca, leg. Buschinger 14 July 1986). For further localities in Spain see ESPADALER & RESTREPO 1983. Peru (in litt.) also has found, close to his *Chalepoxenus* site, a colony of the slavemaking ant, *Epimyrmica ravouxi* (André 1986), with *Leptothorax unifasciatus* (Latreille 1798) and *L. nigriceps* Mayr 1855 as slaves.

4. *Harpagoxenus sublaevis* (Nylander 1848) (Myrmicinae)

One colony, 31 July 1986, in a clearing of the forest above the Lac de Fabrèges, about 1600 m, next to the hiking path from the lake to Lac d'Artouste, not far from the *Teleutomymex* site. The nest was found in a piece of rotten pinewood, the host species was *Leptothorax acervorum* (Fabricius 1793). *H. sublaevis* is a slavemaker ant, with a wide range from northern and central Europe to Russia and perhaps Mongolia. It is frequent in northern Europe and in some areas in W-Germany (e. g. Nuremberg Reichswald). In the Pyrenees it has been rarely found, in the Hautes Pyrénées (Barèges, Orédon, BERNARD 1968, and Col de Soulor, BUSCHINGER 1966). The species is remarkable because of its genetically determined queen polymorphism (WINTER & BUSCHINGER 1986), and once in the Vallée d'Ossau (Peru, in litt.) The colony mentioned above had a wingless, ergatoid queen, and also the young females were workerlike.

5. *Polyergus rufescens* (Latreille 1798) (Formicinae)

On 27 July 1986 I observed a raiding party of the amazone ant at the Col d'Arras, 1 300 m (between Etsaut and Urdos), Vallée d'Aspe, Pyrénées-Atlantiques. The nest and also the target colony of the slave raid could not be found. *P. rufescens* usually has slaves belonging to the subgenus *Serviformica*. The species has a wide distribution in central and southern Europe. It is said to be rare in the Pyrenees, and BERNARD (1968) mentions but one locality there, near Banyuls (Pyrénées-Orientales).

Conclusion

The most remarkable record for the Pyrenees is *Teleutomyrmex schneideri*. However, since I found several other rare and interesting parasitic ant species not far from that site, without much collection efforts, we may suppose that the western Pyrenees perhaps are similarly rich in such species as the Swiss and French Alps (BUSCHINGER 1985). With respect to the intended protection of endangered ant species mentioned in the introduction, the area of the Vallées d'Ossau and Aspe could be of some importance. All the localities mentioned above are situated outside the borders of the Parc National des Pyrénées, however, we may assume that the same species do occur also within the Park. Thus, the prospects for the survival of this rich ant fauna are not bad, particularly when major changes in the utilization of the surrounding areas can be prevented.

Bibliography

- BERNARD, F. 1968: Les Fourmis (Hymenoptera Formicidae) d'Europe occidentale et septentrionale. — Masson et Cie, Paris, 411 p.
- BUSCHINGER, A. 1966: Untersuchungen an *Harpagoxenus sublaevis* Nyl. (Hym. Formicidae). I. Freilandbeobachtungen zu Verbreitung und Lebensweise. — *Ins. soc.* 13: 5-16
- 1985: New records of rare parasitic ants (Hym., Form.) in the French Alps. — *Ins. soc.* 32: 321-324
- COLLINGWOOD, C. A. 1956: Rare parasitic ant (Hym., Formicidae) in France. — *Entomol. monthly Mag.* 92: 197
- EHRHARDT, W. 1982: Untersuchungen zum Raubzugverhalten der sozialparasitischen Ameise *Chalepoxenus muel-lerianus* (Finzi) (Hym., Formicidae). — *Zool. Anz.* 208: 145-160
- ESPADALER, X. & C. RESTREPO 1983: Els gèneres *Epimyrma* Emery i *Chalepoxenus* Menozzi, formigues paràsites socials (Hymenoptera: Formicidae), a la península Ibèrica. Estat actual des coneixement. — *Bull. Inst. Cat. Hist. Nat.* 49: 123-126
- KUTTER, H. 1950: Über eine neue, extrem parasitische Ameise, 1. Mitteilung. — *Mitt. Schweiz. Ent. Ges.* 23: 81-94
- 1977: *Insecta Helvetica Fauna*, 6, Hymenoptera, Formicidae. — *Schweiz. Ent. Ges. Hrsg.*, 298 p.
- WINTER, U. & A. BUSCHINGER 1986: Genetically mediated queen polymorphism and caste determination in the slave-making ant, *Harpagoxenus sublaevis* (Hymenoptera: Formicidae). — *Entomol. Gener.* 11: 125-137

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