

Short communication

## *Lasius platythorax* as a host of *Lasius distinguendus* (Hymenoptera, Formicidae)

B. C. Schlick-Steiner<sup>1</sup>, F. M. Steiner<sup>1</sup>, B. Seifert<sup>2</sup> and U. Straka<sup>1</sup>

<sup>1</sup> Institut für Zoologie, Universität für Bodenkultur, Gregor-Mendel-Straße 33, A-1180 Wien, Austria, e-mail: h9304696@edv1.boku.ac.at

<sup>2</sup> Staatliches Museum für Naturkunde Görlitz, PSF 300154, D-02826 Görlitz, Germany, e-mail: bernhard.seifert@smng.smwk.sachsen.de

Received 11 February 2002; revised 23 April 2002; accepted 2 May 2002.

**Summary.** The highly aggressive *Lasius platythorax* Seifert, 1991 can act as host species of the temporary social parasite *Lasius distinguendus* (Emery, 1916). A low host specificity of the latter species is postulated.

**Key words:** Social parasitism, aggressiveness, host specificity.

*Lasius distinguendus* is one of 11 European species of the subgenus *Chthonolasius*. Gyne morphology of this subgenus indicates obligate temporary social parasitism (Seifert and Buschinger, 2001), i.e. the young gyne depends on an allospecific host colony, of which she kills the queen, for her own colony foundation. From near Meissen, Germany, there is one observation of a dealate *L. distinguendus* gyne chopping up a worker of the potential host *Lasius niger* prior to colony foundation. The gyne had caught the host worker immediately before the entrance of its home colony one or few days after her nuptial flight in 9 August 1995 (Seifert, unpublished data). This behaviour is considered as typical for other *Chthonolasius* species (Seifert and Buschinger, 2001). Direct evidence about which host species are successfully used for colony foundation by *Lasius distinguendus* is so far lacking. Frequent syntopic occurrences at sites in Germany, Austria, and Bulgaria (Seifert, unpublished data) suggest that *L. paralienus* and *L. alienus* could represent major hosts of *L. distinguendus*.

On 20 September 2001, a nest containing workers of *L. platythorax* and *L. distinguendus* was found beneath a log at an S-exposed meadow fringe of a degenerate former-inundation forest near Tulln, Austria (16°02'E/48°19'N, 180 m a.s.l.). Workers of *L. platythorax* and *L. distinguendus*, occurring in a ratio of approximately 2:1, carried larvae into the nest with equal facility. On 16 October 2001, when the nest

was reopened, both species were still present. Considering the known nuptial flight period of *L. distinguendus* between July and September (Seifert, 1996), the comparably high number of *L. distinguendus* workers in September 2001 at one hand and the fact, that *L. platythorax* workers were still persisting at the other hand, we conclude that the intrusion of the *L. distinguendus* gyne had most probably taken place in 2000. The finding represents the first direct evidence for a parasite-host relationship of both species. *L. platythorax*, as one of the most aggressive species of the subgenus *Lasius* sensu stricto (Seifert, 1992, 1996), had not been known previously to be a host of any species of the subgenus *Chthonolasius*. Due to the preferential occurrence of *L. distinguendus* in open xerothermous habitats, the usual absence of *L. platythorax*, and the frequent dominance of *L. paralienus* and *L. alienus* at such sites, we believe that the latter two probably are the principle hosts of *L. distinguendus*. However, the new observation suggests low host specificity by *L. distinguendus*. This would match the situation in *Lasius* (*Chthonolasius*) *meridionalis*, which definitely has more than one host species (Seifert and Buschinger, 2001), and could be true for many species of the subgenus.

### References

- Seifert, B., 1992. A taxonomic revision of the Palaearctic members of the ant subgenus *Lasius* s. str. (Hymenoptera: Formicidae). *Abh. Ber. Naturkundemus. Görlitz* 66: 1–67.
- Seifert, B., 1996. *Ameisen: beobachten, bestimmen*. Naturbuch Verlag, Augsburg. 352 pp.
- Seifert, B. and A. Buschinger, 2001. Pleometrotische Koloniegründung von *Lasius meridionalis* (Bondroit, 1920) bei *Lasius paralienus* Seifert, 1992, mit Bemerkungen über morphologische und ethologische Anpassungen an die sozialparasitische Koloniegründung (Hymenoptera: Formicidae). *Myrmecologische Nachrichten* 4: 17–24.