First record of *Lasius paralienus* SEIFERT, 1992 (Hymenoptera: Formicidae) from France and Andorra

Abel BERNADOU, Christophe GALKOWSKI, Arnaud LE GOFF, Vincent FOURCASSIÉ & Xavier ESPADALER

**Abstract**

*Lasius paralienus* SEIFERT, 1992 was collected for the first time in France and Andorra. The numbers of species of the subgenus *Lasius s.str.* known from France and Andorra are now twelve and four, respectively.

**Key words:** Ants, Hymenoptera, Formicidae, *Lasius paralienus*, France, Andorra.

ISSN 1994-4136 (print), ISSN 1997-3500 (online)

Received 9 November 2009; revision received 10 December 2009; accepted 16 December 2009

**Introduction**

Ants of the genus *Lasius* FABRICIUS, 1804 (Hymenoptera: Formicidae), with approximately a hundred species described so far (BOLTON & al. 2007), are among the most abundant and commonly found species of the Holarctic ant genera (WILSON 1955). They are present in wooded, open or urban environments (SEIFERT 1992) and can locally dominate the myrmecofauna (WILSON 1955). Most species of this genus feed on honeydew produced by aphids and on small animal prey. Despite the importance of this genus in temperate environments in terms of relative abundance and ecological impact (HÖLLDOBLER & WILSON 1990, SEIFERT 2007), it has long been problematic from a taxonomic point of view: A high number of specimens were first described as different species which were thereafter placed in synonymy. In 1955, WILSON proposed a clear definition of the genus *Lasius* and of its four subgenera (*Cautolasius* WILSON, 1955, *Chthonolasius* RUZSKY, 1912, *Dendrolasius* RUZSKY, 1912 and *Lasius* s.str.; note that in its current definition the genus *Lasius* contains seven subgenera: MARUYAMA & al. 2008). In his revision, however, Wilson identified only five species of the subgenus *Lasius* s.str. for the Palearctic region (WILSON 1955). YAMAUCHI & HAYASHIDA (1970), VAN LOON & al. (1990) and, more recently, SEIFERT (1991, 1992) significantly increased this number. Based on morphological measurements, Seifert distinguished in 1992 33 species within the subgenus *Lasius* s.str. for the Palearctic region (SEIFERT 1992). This number has now risen to 52 (SEIFERT 2009).

*Lasius paralienus* SEIFERT, 1992 (Figs. 1 - 2) is a Palearctic species widely distributed from Northern to Southern and from Western to Eastern Europe (Sweden to Asia Minor) (SEIFERT 2007, GÓMEZ & al. 2008). The distinctive features of *Lasius paralienus* workers are their profuse pubescence, in particular on the clypeus, which strongly contrasts the blackish cuticle and produces a silky surface appearance, and the low number of setae on the scape and on the hind tibia (SEIFERT 1992).

This paper reports the first records of *Lasius paralienus* from France and Andorra. With these new records, the numbers of species of the subgenus *Lasius* s.str. now reach 12 for France (including four species of the "L. alienus" group, see: BERNARD 1968, SEIFERT 1992, GALKOWSKI 2008) and four for Andorra (including two species of the "L. alienus" group, see: SEIFERT 1992, BERNADOU & al. 2006, ESPADALER & al. 2008).

**Material and methods**

The material presented in this study originates from different field sampling campaigns conducted from 1995 to 2008. Different types of environments were sampled during these campaigns: urban areas, grassland and forest environments. Several sampling methods were used: baits, hand sampling and pitfall traps. During hand collecting, ants were searched on the ground or on vegetation (on branches, bark); potential nesting sites were also inspected (dead wood, under stones / bark). Following the sampling protocol recommended by AGOSTI & ALONSO (2000), pitfall traps were used in the Madriu-Perafita-Claror valley (Andorra) and in the Pique valley (France) and were left in place for 6 - 7 days.
Our conception of *Lasius paralienus* relies specifically on (1) the original description, (2) one sample already identified by B. Seifert (Senckenberg Museum für Naturkunde Görlitz), and (3) samples of *Lasius paralienus* from Hungary, Greece, Kosovo Macedonia, and Turkey. Using the keys produced by Seifert (1992, 2007) we based our identification on: (a) very dense pubescence over the body, especially on the clypeus; (b) SL / HL (Seifert 1992); (c) comparison with the sample identified by B. Seifert; (d) comparison with samples of *L. piliferus* and *L. psammophilus* from France and Spain (leg. and det. C. Galkowski and X. Espadaler). An additional support is the robustness of workers in *Lasius paralienus* as compared with *L. piliferus* and *L. psammophilus*. Both the magnification (up to 112.5×) from a Nikon SMZ-U and from a Perfax Sciences Zoom Pro (up to 200×) and the type of illumination (dual arm fiber optic illuminator) we used, give a satisfactory and reliable vision of pubescence length and distance.

The specimens collected from the Pique valley are deposited in the Museum of Natural History in Paris and in the Museum of Natural History in Toulouse.

**Results and discussion**

The material examined in this study stems from a single locality in Andorra and from twelve localities in France.

1. Andorra: Madriu-Perafita-Claror valley (42° 30' N, 1° 33' E), 11.VIII.2006, leg. A. Bernadou, det. X. Espadaler, several workers collected, 1370 m a.s.l., meadow valley floor.
2. France: Dordogne, Périgueux (45° 11' N, 0° 43' E), IX.1995, leg. and det. C. Galkowski, several workers collected, 106 m a.s.l., tended lawn downtown.
3. France: Pyrénées-Atlantiques, Orthez (43° 29' N, 0° 46' W), IX.1998, leg. and det. C. Galkowski, several workers collected, 120 m a.s.l., tended lawn downtown.
4. France: Gironde, Pauillac (45° 11' N, 0° 44' W), 22. IX.1999, leg. and det. C. Galkowski, several queens collected, 15 m a.s.l., banks of the Gironde.
5. France: Corrèze, Nespouls (45° 02' N, 1° 30' E), 01.X.2006, leg. and det. C. Galkowski, several workers collected, 320 m a.s.l., grassland.
7. France: Haute Garonne, Vallée de la Pique (42° 44' N, 0° 37' E), 09.VIII.2007, leg. A. Bernadou, det. X. Espadaler, several workers collected, 1007 m a.s.l., meadow valley bottom.
8. France: Gironde, Saint Aubin de Médoc (44° 54' N, 0° 43' W), 29.IX.2007, leg. C. Galkowski, det. B. Seifert, several queens, males and workers collected, 37 m a.s.l., tended lawn.
10. France: Cher, La Chapelle Saint Ursin (47° 03' N, 2° 19' E), 01.VII.2008, leg. A. Chorein, det. C. Galkowski, several workers collected, 265 m a.s.l., meadow hills.
12. France: Gard, Pompignan (43° 53' N, 3° 51' E), 27. VII.2008, leg. R. Blatrix, det. C. Galkowski, several workers collected, 190 m a.s.l., grove of young ashes.

![Fig. 1: Lasius paralienus: body of worker in left lateral view.](image1)

![Fig. 2: Lasius paralienus: head of worker in frontal view.](image2)
cies is slowly shifting, from Northern to Southern coun-
tries, or from natural to urban habitats. This species could
have long passed unnoticed due to the discrete activity of
its workers and the inconspicuousness of its nests. More-
over, the lack of a consistent taxonomic revision of the sub-
genus Lasius s.str. during several years has contributed to
confusions of this species with other Lasius s.str. species
It is likely therefore that the collections found in museums,
including that of Bernard (1968), contain a number of L.
paralienus specimens identified under the name "alienus".
It would be interesting to examine these collections to ob-
tain additional locations for L. paralienus and to draw a
more accurate map of the distribution of this species.

Acknowledgements

The authors would like to thank Jean-Luc Marrou, Anta-
rea Project Manager (www.antarea.fr), for allowing them to
use the website data, Claude Lebas, author of the images
of Lasius paralienus, and the Andorra Agriculture Depart-
ment for financial support. A. Bernadou was financed by
a doctoral grant from the Fundació Crèdit Andorra and by
a grant "Germaine Cousin" from the French Entomological
Society. X. Espadaler is supported by the MEC-FEDER
(CGL2007-64080-C02/01).

Zusammenfassung

Lasius paralienus SEIFERT, 1992 wurde erstmals in Frank-
reich und Andorra gesammelt. Aus Frankreich sind somit
zwölf Arten der Untergattung Lasius s.str. gemeldet, aus
Andorra vier.

References

AGOSTI, D. & ALONSO, L.E. 2000: The ALL protocol. In: AGOSTI,
D., MAJER, J.D., ALONSO, L.E. & SCHULTZ, T.R. (Eds.): Ants
– standard methods for measuring and monitoring biodiversity.
204-214.
BERNADOU, A., LATIL, G., FOURCASSIÉ, V. & ESPADALER, X.
2006: Les formigues de la Vall del Madriu-Perafita-Claror: di-
versitat i distribució. – Habitats 13: 10-21.
BERNARD, F. 1968: Les formigues (Hymenoptera Formicidae) d'Eu-
rope occidentale et septentrionale. Faune de l'Europe et du bas-
BOLTON, B., ALPERT, G., WARDS, P.S. & NASKRECKI, P. 2007:
Bolton's catalogue of ants of the world: 1758-2005. – Harvard
University Press, Cambridge, MA, CD-ROM.
ESPADALER, X., PUJADE-VILLAR, J. & BERNADOU, A. 2008: Feneto-
logia i eixams de les formigues collectades en una trampa
Malaise a Andorra (Hymenoptera: Formicidae). – Bulletí de la
Institució Catalana d'Història Natural 74: 81-90.
GALKOWSKI, C. 2008: Quelques fourmis nouvelles ou intéres-
santes pour la faune de France (Hymenoptera, Formicidae).
GÓMEZ, K., GARCIA, F. & ESPADALER, X. 2008: Dos especies del
género Lasius (Hymenoptera, Formicidae) nuevas para la Pen-
insula Ibérica. – Orsis 23: 163-166.
HOLDDOBLER, B. & WILSON, E.O. 1990: The ants. – Springer-
MARUYAMA, M., STEINER, F.M., STAUFFER, C., AKINO, T., CRO-
ZIER, R.H. & SCHLICK-STEINER, B.C. 2008: A DNA and mor-
phology based phylogenetic framework of the ant genus Las-
ius with hypotheses for the evolution of social parasitism and
fungiculture. – BioMed Central Evolutionary Biology 8: 237.
SEIFERT, B. 1991: Lasius platythorax n. sp., a widespread sibling
species of Lasius niger (Hymenoptera, Formicidae). – Ento-
mologia Generalis 16: 69-81.
SEIFERT, B. 1992: A taxonomic revision of the Palaearctic mem-
bers of the ant subgenus Lasius s. str. (Hymenoptera: For-
icidae). – Abhandlungen und Berichte des Naturkundemu-
SEIFERT, B. 1992: Cryptic species in ants (Hymenoptera: For-
icidae) revisited: we need a change in the alpha-taxonomic
approach. – Myrmecological News 12: 149-166.
VAN LOON, A.J., BOOMSMA, J.J. & ANDRÁSFALVY, A. 1990: A
new polygynous Lasius species (Hymenoptera: Formicidae) from
Central Europe. – Insectes Sociaux 37: 348-362.
– Bulletin of the Museum of Comparative Zoology, Harvard
1: 3-205.
YAMAUCHI, K. & HAYASHIDA, K. 1970: Taxonomic studies on the
genus Lasius in Hokkaido with ethological and ecological
notes. – Journal of the Faculty of Science, Hokkaido Univer-
sity (Series VI, Zoology) 17: 501-519.