

ONE GENUS AND THREE ANT SPECIES NEW TO PORTUGAL (HYMENOPTERA, FORMICIDAE)

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Abstract: Three ant species – *Strumigenys silvestrii*, *Temnothorax albipennis* and *Lasius fuliginosus* – are reported for the first time from Portugal. The record of *Strumigenys silvestrii* is the first for continental Europe. New findings of three other uncommon species - *Amblyopone gaetulica*, *Leptanilla revelieri* and *Hypoponera abeillei* - are also presented. A brief comparison between the ant faunas of Spain and Portugal is made to highlight the lack of knowledge that still exists about this latter country.

Key words: Hymenoptera, Formicidae, *Strumigenys*, Iberian Peninsula, Portugal.

Un género y tres especies de hormigas nuevos para Portugal (Hymenoptera, Formicidae)

Resumen: Tres especies de hormigas – *Strumigenys silvestrii*, *Temnothorax albipennis* y *Lasius fuliginosus* – se registran por primera vez de Portugal. La cita de *Strumigenys silvestrii* es la primera para Europa continental. Se aportan también nuevas localidades para otras tres especies poco frecuentes - *Amblyopone gaetulica*, *Leptanilla revelieri* y *Hypoponera abeillei*. La comparación de la mirmecofauna de Portugal con la de España muestra la falta de conocimiento que hay todavía sobre aquel país.

Palabras clave: Hymenoptera, Formicidae, *Strumigenys*, Península Ibérica, Portugal.

Introduction

The ants of Portugal have been receiving increased attention, especially since the reference work of Collingwood and Prince (1998). During the last decade, new species were added to the ant fauna of this country and the knowledge on the distribution of poorly known species has also improved (Boieiro *et al.*, 1999, 2002; Henin *et al.*, 2001, 2003; Pereira *et al.*, 2002; Salgueiro, 2002a, 2003; Seifert 2003; Espadaler *et al.*, 2008). The catalogue of Portuguese ants (Salgueiro, 2002b), a landmark in the study of this group of insects, provided a thorough revision of the taxonomy and distribution of all *taxa* known to occur in Portugal. In his revision, Salgueiro (2002b) reported the occurrence of 106 ant species from Continental Portugal, but the subsequent findings raised the number to the presently known 120 species. This number may increase in the near future following the confirmation of a few interesting records (*e.g.*, *Formica pyrenaica* in Collingwood & Yarrow, 1969) and the formal description of new *taxa* that are known to occur in Portugal (*e.g.*, *Proformica* sp. in Tinaut & Ruano, 1994 and *Temnothorax* sp. in Espadaler *et al.*, 2008). In the last few years, both the valuable information on the biology of Iberian ants presented online (see <http://www.mirmiberica.org>, <http://www.formicidae.org>, <http://www.lamarabunta.org>, <http://www.hormigas.org>) and the work developed by the AIM – Asociación Ibérica de Mirmecología – helped to raise the interest on myrmecology and, as a consequence, the distribution and abundance of many species is now better known. However, as this paper shows, there is still much work to do in order to have a better knowledge on the composition and distribution of the Iberian ant fauna.

Results and discussion

Subfamily Myrmicinae

1) *Stenammas* sp.

Ten specimens of this unidentified species were collected from a single nest, which was found under a large stone. The specimens do not fit in any of the species considered by DuBois (1998) in his world revision. They clearly belong in the *westwoodi* species-group albeit the biometry is clearly distinct regarding the scape length. At this stage we are engaged in finding additional samples in order to clarify the taxonomic status of these specimens - as belonging to a good new species or as being an extreme of biometrical variation of *S. debile*, the closest in morphology to our specimens. The ten specimens (workers) were collected near Fundeira (Pampilhosa da Serra) (UTM 29SNE876312) in 03.IV.2008. The habitat was a pine stand with the under-cover dominated by *Erica* sp.

2) *Strumigenys silvestrii* Emery, 1906

This is the first record of this species for Continental Europe. The species is known from Argentina (Emery, 1906), Brazil, Cuba, Louisiana (Brown, 1959, 1962) Bahamas (Deyrup, 1997), Dominican Republic, (Bolton, 2000), Florida (Deyrup, 2003), California (Ward, 2005) and was recently reported from Madeira (Wetterer *et al.*, 2007). In this species, the mandibles show a conspicuous tooth near the apex and a characteristic denticle near the midlength (Figure 1). Two other species of this predominantly tropical genus were also reported for Europe from a few locations: *S. lewisi* from Malta (Schembri & Collingwood, 1995) and *S. rogeri* from England and Scotland (Brown, 1962). The

single specimen of *S. silvestrii* was found under a stone at Perdizes (Pombal) (UTM 29SNE338198) in 15.IV.2008. The finding took place in a small patch of scrubland, dominated by *Ulex*, *Lavandula*, and surrounded by housing.

3) *Temnothorax albipennis* (Curtis, 1854)

This ant species is known from some localities in the northern half of the Iberian Peninsula, from Pontevedra to Lérida (Espadaler & Nieves, 1983; Espadaler, 1997; Espadaler *et al.*, in press; see also <http://www.formicidae.org/distmap/422>). The species was recalled to attention by Orledge (1998) by showing its synonymy with *T. tubero-interruptus* (Forel). The worker caste of *Temnothorax albipennis* can be separated from two other related Iberian species - *T. unifasciatus* and *T. tubero* - based on the colouration of the gaster and petiole profile (Seifert, 2007). Three workers and one queen were collected in Chaves (UTM 29TPG22) in 2002, on a stone wall covered with moss.

Subfamily Formicinae

4) *Lasius (Dendrolasius) fuliginosus* (Latreille, 1798)

This is a big, beautiful, black, shining *Lasius*, inhabiting dead wood, with a characteristic citronella smell. It has a hyperparasitic funding stage on several species of the parasitic *Lasius (Chthonolasius)* (Donisthorpe, 1922). This discovery calls for finding its host species in the region and, *a fortiori*, its host's host species, a *Lasius (s.str.)*. *Lasius fuliginosus* is relatively widespread in the north of the Iberian Peninsula (<http://formicidae.org/distmap/274>). Two specimens (workers) were collected in 30.x.2006. The finding took place at Portela do Homem (Gerês) (29TNG620881), on a moss covered *Quercus pyrenaica* tree. The ants were using under-bark galleries.

Three other interesting and poorly known ant species - *Amblyopone gaetulica* Emery (3 exs), *Leptanilla revelierii* Emery (64 exs) and *Hypoponera abeillei* Emery (10 exs) - were collected during a routine search for endogean beetles at Adeguinha, near Santa Margarida da Serra (UTM 29SNC355158) in 25.III.2008. The habitat patch where the finding took place was a scrubland dominated by *Cistus ladanifer* plants with some cork oak trees (*Quercus suber*) interspersed. All these species have recently been recorded for the first time in Portugal (Boieiro *et al.*, 2002; Espadaler *et al.*, 2008) and their distribution in Spain is also exceedingly scarce (known from less than 5 localities). The scarcity of records for these species results, in part, from the mismatch between the standard techniques used for ant sampling and the specific techniques needed to study hypogaean ants. This suggests the need to use a combination of complementary sampling procedures when the aim of the work is to provide a complete list of a myrmecocenosis.

With the additions reported in this study, the checklist of ant species known from Continental Portugal now numbers 123 species. However, this check-list is still far from being finished. A comparison of the species number from each ant subfamily between Portugal and Spain (Table I) allow us to perceive the efforts that need to be addressed to improve the knowledge on the ant fauna of this country. As expected, the major differences in species number between Portugal and Spain were recorded in the most speciose ant subfamilies (Formicinae and Myrmicinae), but the proportion of species known from each subfamily was quite

Table I. Number of ant species by subfamily known to occur in Portugal and Spain (only formally described species were considered).

Ant subfamilies	Portugal	Spain
Amblyoponinae	1	3
Dolichoderinae	8	13
Formicinae	44	91
Leptanillinae	1	4
Myrmicinae	65	151
Ponerinae	4	8
Proceratiinae	0	1
Total	123	271

similar in the two geographic areas. Many common arboreal, epigeal and hypogean species have not yet been recorded in Portugal (e.g., *Temnothorax* spp., *Pyramica* spp., *Lasius (Chthonolasius)* spp., etc.). Therefore, intensive sampling using complementary sampling techniques should be applied to achieve this goal. Furthermore, a variety of native habitats should be sampled since both drier (scrublands, matorrals) and cooler (deciduous forests) habitats have been poorly sampled in the past. In future, efforts should also be addressed to increase our knowledge on the distribution and abundance of ants, regardless their conservation status, benefiting from the support of the new technologies and from the growing number of committed enthusiasts of the ant world.

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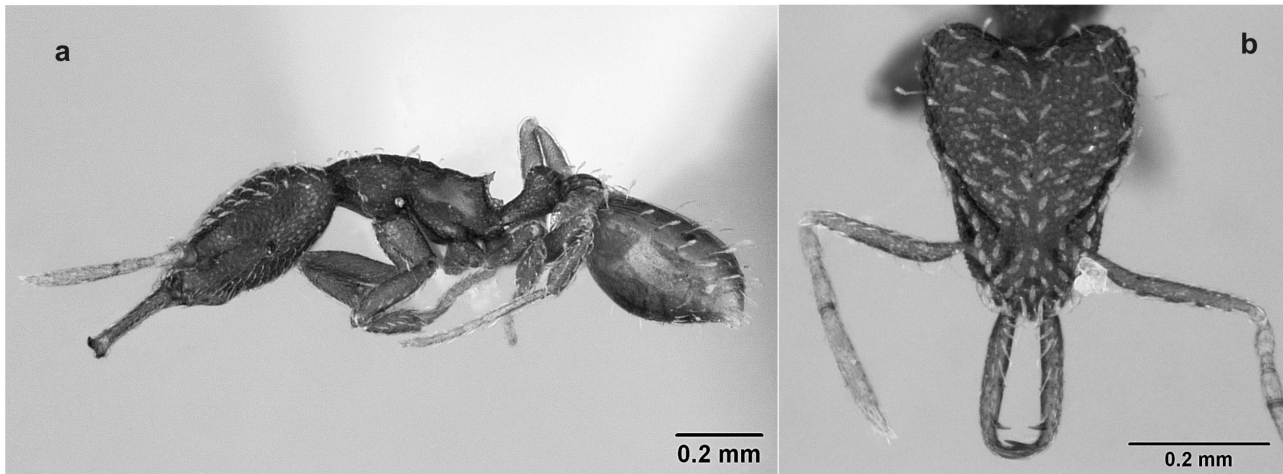


Fig. 1. Images of *Strumigenys silvestrii* in lateral view (a) and showing in more detail the dorsal view of the head (b). Photos by April Nobile presented online at www.antweb.org.

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