

Tapinoma melanocephalum (Fabricius, 1793), a new exotic ant in Spain (Hymenoptera, Formicidae)

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Manuscript received in April 2002

Several tramp ant species are found in the city of Barcelona (Espadaler & Collingwood 2001 and references): *Lasius neglectus*, *Pheidole teneriffana*, *Paratrechina flavipes*, *Hypoponera punctatissima* and *Linepithema humile*. Only the last species, the argentine ant, attains pest status in the city at present. To that small group we can now add a sixth species, the ghost ant, the first time it has been recorded in the Iberian Peninsula. Within the Iberian *Tapinoma* species, this ant is easily distinguished by its highly distinct bicoloured habitus (Fig. 1), with the yellowish gaster, legs and antennae, contrasting with the dark head and thorax. See Shattuck (1994): 147-148 for a complete historical taxonomic history and supplementary references.

The ghost ant (*Tapinoma melanocephalum*) is a well known tramp species widely dispersed by human trade mainly throughout humid tropical regions (Williams 1994), although it has also been detected in the climatically much drier Arabic Peninsula (Collingwood & Agosti 1996; Collingwood et al. 1997). Its origin is unknown (Wilson & Taylor 1967). Isolates have been found outside the tropics, probably carried with plant material or products from the tropics. Outside this region, it seems to thrive only in heated buildings (DuBois & Danoff-Burg 1994) or inside structures (Klotz et al. 1995). Nests are usually difficult to locate and it is generally perceived as a nuisance (Harada 1990). This ant seems to be currently extending its range. In Europe it has been found in places with a high degree of humidity and temperature, as in kitchens and bathrooms of hospitals or restaurants and in suitable zones in zoological gardens and greenhouses. Previously known European localities were Germany (Scheurer 1984; Steinbrink 1987; Scheurer & Liebig 1998), Great Britain (Williams 1956; Shah & Pinniger 1996), Russia (Kunashev & Niyazova 1998) and Switzerland (Dorn et al. 1997).



Fig. 1: *Tapinoma megalcephalum* worker (Barcelona, Spain). Head length of the specimen is 0.46 mm. (Photograph by F. Espejo).

This first case for Barcelona was collected in January 2002 in different flats of a building of three floors, near a food processing industry in the “Zona Franca” neighbourhood. Their presence was first detected in 1999 according to the owners of this flats. The origin of the infestation is not clear but there are some interesting data. The people who are living in one of these flats travel a lot around the world, usually to tropical countries of Africa. Ants were found in the kitchen cupboards at the back of the washing machine and in the bathrooms. Some insect detectors traps were placed in every kitchen and bathroom in all the flats to evaluate the presence of this ant. To control this infestation it was suggested the use of hydramethylnon based bait or otherwise boric acid powder with a continuous monitoring system protocol of inspection. The use of baits seems to be quite effective in reducing the presence of this ant as was confirmed by the pest control operator. It is suggested that more research in this area is needed to obtain more specific results.

Although its biology is poorly known, it seems to have some of the main biological properties of tramp ants: polygyny, unicoloniality, intranidal mating and colony founding by budding (Bustos & Cherix, 1998). This species was shown to be a major mechanical vector of intra-hospital bacterial infections in Brazil (Bueno & Fowler 1994). Methoprene and hydramethylnon baits were not successful and boric acid based baits had a mixed result (Shah & Pinniger 1996). Control is known to be very difficult because of changing feeding preferences, although promising results have been achieved by using fluoro-octane-sulfonamide baits in Berlin (Scheurer et al. 1999). The biological profile of the ghost ant calls for a careful monitoring of its eventual expansion in Barcelona, specially

if a full control of the present infestation is not attained.

Acknowledgements

To Alexander Radchenko (Ukraine) for the translation of a paper in Russian, to Dr. Karolin Bauer-Dubau (Germany) for her help with key references, to Francisco Nache Pompido for the collection of the specimens and to James Edward Byrne for the English corrections.

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