

***Aegeritella tuberculata* Balazy et Wisniewski
(Deuteromycetes) found on *Lasius grandis*
(Hymenoptera, Formicidae) in Tenerife,
Canary Islands**

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RESUMEN: *Aegeritella tuberculata* Bal. et Wis., 1982 (Deuteromycetes) ha sido encontrado sobre *Lasius grandis* (Hym. Formicidae) en el Parque Nacional del Teide (Tenerife, Islas Canarias). La hormiga es un nuevo huésped para el hongo, que se encuentra por primera vez en una isla. Palabras clave: *Aegeritella*, hongos de insectos, islas, *Lasius grandis*, Islas Canarias.

ABSTRACT: *Aegeritella tuberculata* Bal. et Wis., 1982 (Deuteromycetes) is reported from the Teide National Park (Tenerife, Canary Islands). This is the first record of the fungi from an island and the first for its host, the ant *Lasius grandis* Forel, 1909.

Key words: *Aegeritella*, insect fungi, islands, *Lasius grandis*, Canary Islands.

INTRODUCTION

During an inventory program of invertebrates from the Teide National Park in Tenerife (Canary Islands) carried out during 1995, several samples of ants infested with *Aegeritella* fungi were collected. *Aegeritella* is known from various countries in Europe, from Morocco, Brazil and the United States of America. This is the first report of the fungi from an island and the first for its host, *Lasius grandis* Forel, 1909.

MATERIAL AND METHODS

Pitfall traps were set once at each of 17 locations through May, June and July 1995. The traps contained modified Turquin's liquid (see Ashmole et al., 1992) and were working four complete days. Besides the traps, active collecting was used at least for two hours at each location. All the ants obtained were preserved in 70% ethanol.

RESULTS AND DISCUSSION

Lasius grandis Forel was collected in 11 out of 17 stations; samples from five stations were infested with the fungus, that seems to be rather common. Dates from infested samples range from 3 June 1995 to 4 July 1995. The fungus does not seem to impare the external activities of the ants since the infested individuals were collected in pitfall-traps.

Bulbils from *Aegeritella tuberculata* were found especially on the dorsal part of the head, thorax, gaster and external part of the legs (table I, fig. 1). Bulbils are even found on the zone next to the cleaning apparatus (pectinate spur) from the foreleg (fig. 2). This indicates a high resistance of the fungus to autogrooming and to the antibiotic secretions produced by the metapleural glands. Up to 40 bulbils could be found in a single ant, but the degree of infestation is usually much lower (mean \pm s.e.: 10.5 ± 1.30 bulbils per ant). Infestation in this ant roughly follows the tendency of being more abundant at the rear of the body (fig. 3).

This ant species is known also from the islands of Gran Canaria, Gomera and La Palma (Barquín, 1981) and from the Iberian peninsula, the Maghreb and Azores and Madeira (Seifert, 1992). It would be interesting to follow the infestation (level, trends, phenology) by checking directly the nests of *Lasius grandis* and controlling for eventual internest transmission. Virtually nothing is known on the biology of *Lasius grandis* (Seifert, 1992) but its biology seems to be rather similar to the biology of *Lasius niger* (L.). The later species is monogynous (Kutter, 1977; Sommer & Hölldobler, 1992) and, according to present knowledge, territorial and highly aggressive after disturbance of the nest.

Internest transmission of the fungus is not to be expected but for an eventual preying on corpses of dead ants after territorial fighting.

The fungus is known from several other ant species: *Lasius flavus* (Fabricius) and *Formica fusca* (L.) (Balazy & Wisniewski, 1982), *Formica pressilabris* Nylander (Espadaler & Wisniewski, 1987), *Lasius umbratus* (Nylander), *Lasius distinguendus* Emery (Espadaler & Suñer, 1989) and *Lasius sitkaensis* Pergande (Espadaler & Roig, 1993). All of them nest in rather humid conditions and several are entirely hypogaecic. According to Seifert (1992) its habitat is mesophilic or humid. The localities where *Lasius grandis* were collected in Tenerife are neither humid nor even mesophilic: 55.83 and 39.78 the respective average relative humidity in two stations of Teide National Park from November 1994 to October 1995 (source: Administration of the Park). However, the scarce moisture produced by night is captured in the soil and is very well retained thanks to the protection of a pumice layer deposited on the surface of a vast area in the park. Therefore, soil humidity is higher than expected for such an environment and sufficient for *Lasius grandis* to nest there.

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	Head	Thorax	Gaster	1st	Leg 2nd	3rd
mean	1.42	1.14	3.04	1.33	1.76	1.78
minimum	0	0	0	0	0	0
maximum	6	5	17	5	6	7

Table I. Infestation of *Aegeritella tuberculata* Bal. et Wis. on *Lasius grandis* Forel, from Las Cañadas, Tenerife, Canary Islands (n=42 workers).

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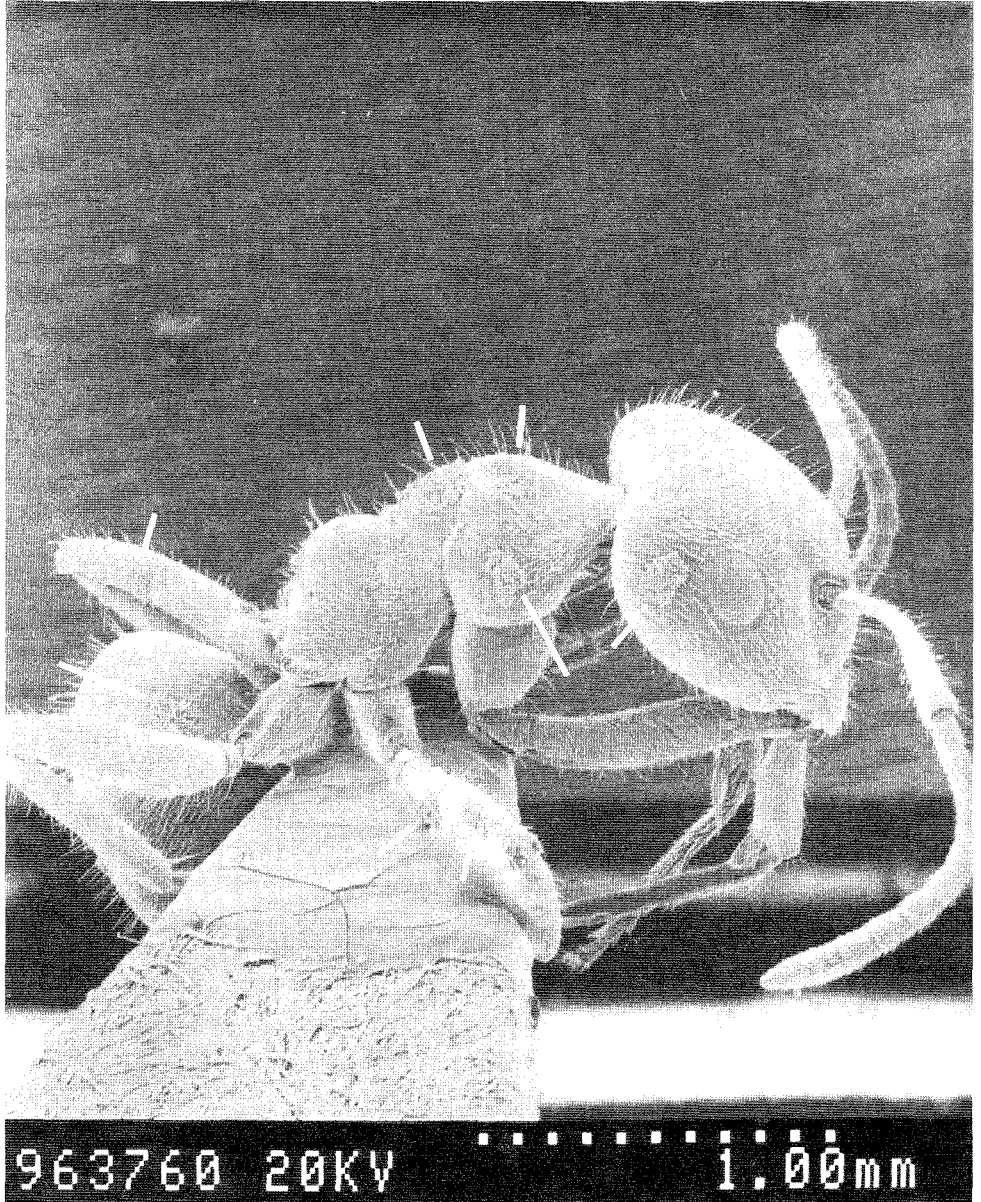


Fig. 1. Worker of *Lasius grandis* Forel from Las Cañadas (Tenerife) heavily infested on the head, thorax, gaster and legs with bulbils of *Aegeritella tuberculata* Bal. & Wis. Bulbils indicated by white lines.

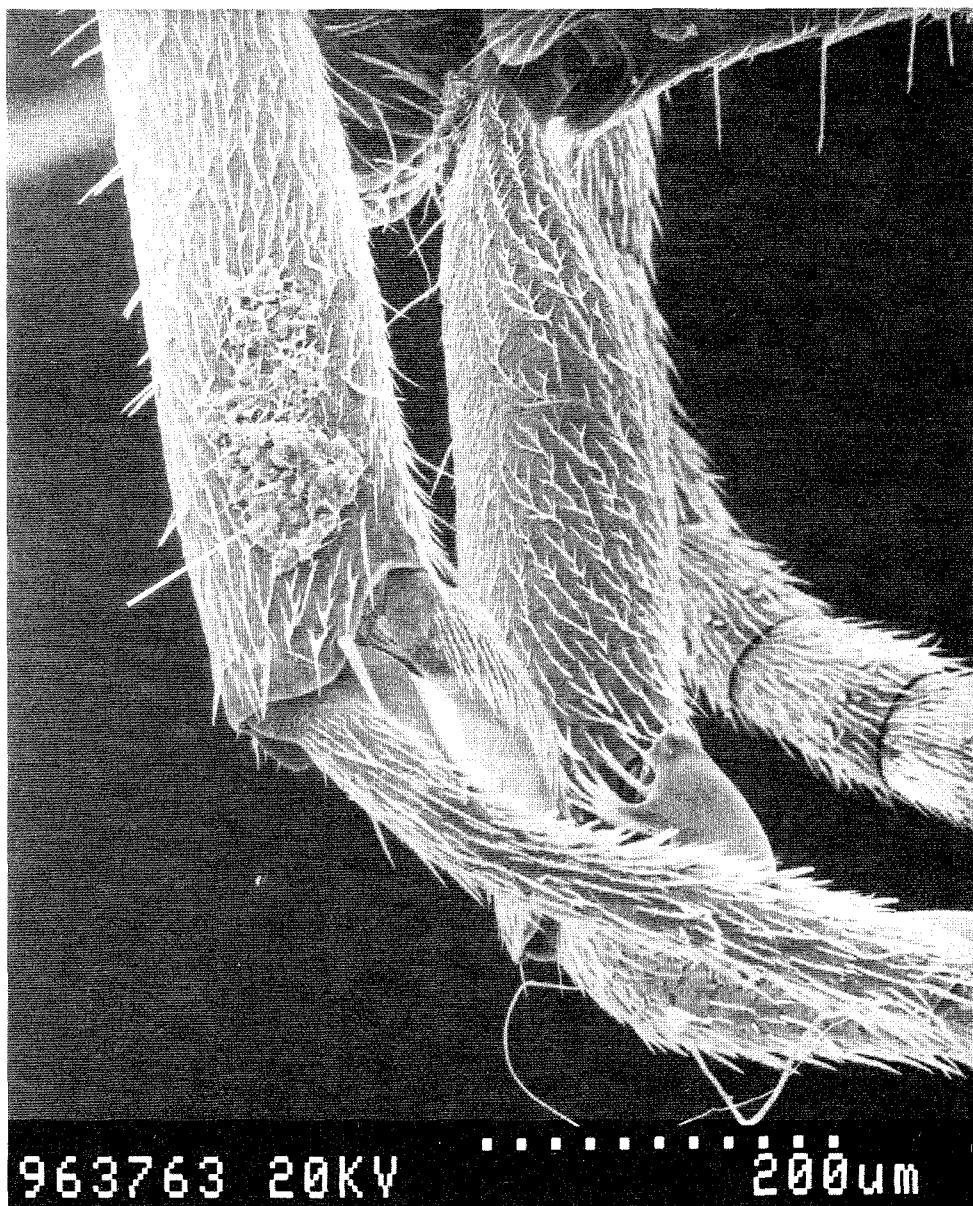


Fig. 2. Foreleg of a worker *Lasius grandis* Forel with a bulbil of *Aegeritella tuberculata* Bal. & Wis. on its external border.

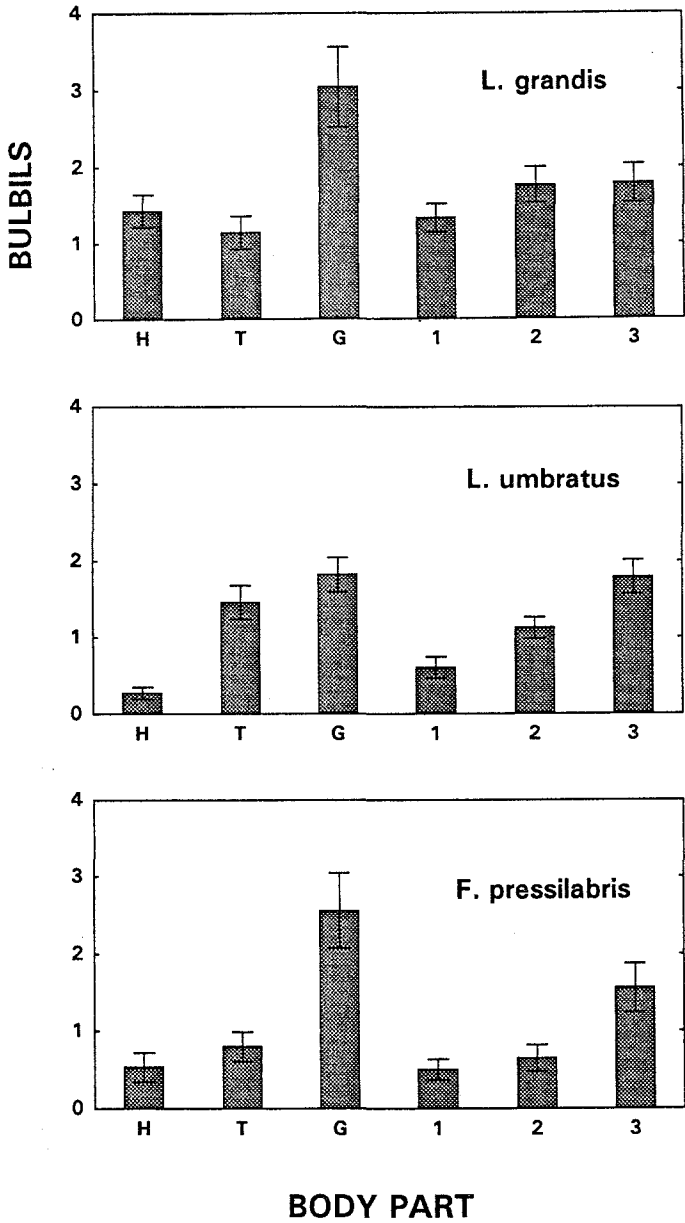


Fig. 3. Mean (\pm s.e.) number of bulbils from *Aegeritella tuberculata* Bal. et Wis. found on different body parts of several species. H: head; T: thorax; G: gaster; 1: first pair of legs; 2: second pair; 3: third pair. Data for *Lasius umbratus* come from Espadaler & Suñer (1989). Data for *Formica pressilabris* are from Espadaler & Wisniewski (1987).