

TETRAMORIUM PARVIOCULUM GUILLEM & BENSUSAN, 2009 (HYMENOPTERA: FORMICIDAE: MYRMICINAE): A NEW SPECIES TO THE ANT FAUNA OF SPAIN AND NORTH AFRICA

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Abstract: The recently described *Tetramorium parvioculum* was known only from Gibraltar, its type locality. Here, we record it from two new sites around the Strait of Gibraltar, in Ceuta (North Africa) and mainland Spain. In both cases, the species was found in natural habitats, as is the case in Gibraltar.

Key words: Hymenoptera, Formicidae, *Tetramorium parvioculum*, Spain, Ceuta, Strait of Gibraltar.

***Tetramorium parvioculum* Guillem & Bensusan, 2009 (Hymenoptera: Formicidae: Myrmicinae): una nueva especie para la fauna de hormigas de España y norte de África**

Resumen: *Tetramorium parvioculum* fue descrita recientemente y solo se conocía de su localidad típica, Gibraltar. Con este artículo, la citamos de dos puntos nuevos alrededor del Estrecho de Gibraltar: Ceuta y España peninsular. En ambos casos, se localizó la especie en hábitats naturales, como ha sido el caso en Gibraltar.

Palabras clave: Hymenoptera, Formicidae, *Tetramorium parvioculum*, España, Ceuta, Estrecho de Gibraltar.

Introduction

Tetramorium parvioculum Guillem & Bensusan, 2009 (fig. 1-2) was recently described from Gibraltar. All native European *Tetramorium* species belong to the *caespitum*-group (Bolton, 1977; Güsten *et al.*, 2006), but *T. parvioculum* belongs to the *simillimum*-group, which is of Afrotropical origin (Bolton, 1980; Guillem & Bensusan, 2009). Due to this, Guillem & Bensusan (2009) state that *T. parvioculum* is most likely an exotic species. However, the authors note that its distribution and ecology in Gibraltar differ from all exotic species present on the Rock and that it is only found in natural habitats, in contrast to exotic *Tetramorium* species in Iberia (Reyes & Espadaler, 2005). They also highlight that other species belonging to largely tropical genera are native to the area around the Strait of Gibraltar, such as *Anochetus ghilianii* (Spinola, 1851) and *Technomyrmex vexatus* (Santschi, 1919) (Guillem & Bensusan 2008).

At the time of its description, *T. parvioculum* had only been recorded in Gibraltar. Here, we record the species from natural habitats at two new sites located around the Strait of Gibraltar: southernmost Spain and the Spanish autonomous city of Ceuta in North Africa.

Material collected

Guadalmesí valley, Parque Natural Los Alcornocales, Cádiz, Spain (36°05'05" N, 005°32'00" W; 410m a.s.l.). Four colonies located along an approx. 30m stretch close to the stream. Data for individual colonies are: colony with 5 queens, collection no. RG-09-008; colony with 1 queen, collection no. RG-09-009, colony with 1 queen, collection no. RG-09-010, colo-

ny with 4 queens and one female alate, collection no. RG-09-011. Leg. R. Guillem & K. Bensusan, 11.x.2009.

Carril de Lastra, Ceuta, Spain (North Africa) (35°54'23" N, 005°21'45" W; 150m a.s.l.). 16 ex. workers from a single colony & 23 ex. workers extracted from leaf litter with a Winkler-type Bag Sieve. Leg. R. Guillem & K. Bensusan 07.v.2010. 4 ex. workers in pitfall traps Leg. I. Sánchez 04-06.vi.2010.

Pista Aeromodelismo overlooking Reservoir ('Pantano'), Ceuta, Spain (North Africa) (35°53'32" N, 005°21'12" W; 140m a.s.l.). Leg. R. Guillem & K. Bensusan 07.v.2010. 3 ex. workers extracted from leaf litter with a Winkler-type Bag Sieve.

Mirador Isabel II, Ceuta, Spain (North Africa) (35°53'33" N, 005°21'46" W; 270m a.s.l.). 12 ex. workers in pitfall traps. Leg. I. Sánchez 09-11.vii.2010.

Discussion

Guillem & Bensusan (2009) cite a colony size of 100-200 workers and 1-2 queens. Two of the colonies along the Guadalmesí valley had more queens than previously recorded (4 and 5), but the number of workers remained similar. The presence of an alate female indicates that sexuals may emerge during the early autumn, unlike those of *Tetramorium semilaeve* (André, 1883) and *Tetramorium cf. caespitum* (Linnaeus, 1758) at Gibraltar, which emerge during early- to mid-summer (Guillem *in prep.*).

T. parvioculum was found in natural habitats in all cases. The habitat in mainland Spain consists of natural

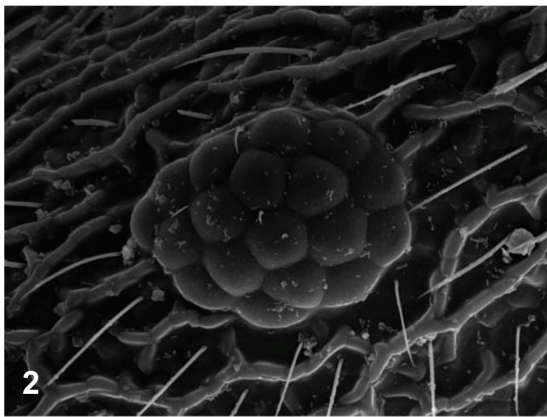


Fig. 1-2. SEM of *Tetramorium parvioculum* from Ceuta. (1) Head. (2) Detail of eye showing width of 5 ommatidia in the longest row, one of the characteristics of the species.

woodland within the humid valley of the Guadalmeší River, with a canopy dominated by *Quercus suber* L. and *Alnus glutinosa* L. and abundant leaf litter. Nests were located under stones close to the river. As in Gibraltar, *T. parvioculum* was found in an area that retains some humidity throughout the summer, with a well-developed leaf litter and a deep layer of soil. Other species recorded at the locality were native: *Aphaenogaster senilis* Mayr, 1853, *Lasius grandis* Forel, 1909, *Plagiolepis pygmaea* (Latreille, 1798), *Ponera testacea* Emery, 1895, *Tetramorium semilaeve* André, 1883 and a *Temnothorax* belonging to the *tuberum*-group.

The habitat along the Carril Lastra in Ceuta consisted of a large pocket of native woodland composed of *Quercus suber*, *Pinus pinea* L., *Olea europaea* L., and *Calicotome villosa* (Poir.) Link. with abundant leaf litter, amongst exo-

tic woodland of *Eucalyptus* and *Acacia* spp. Leaf litter was gathered from under *Q. suber* and *O. europaea*. The soil was deep and moist. The habitat at the Pista de Aerodelismo in Ceuta consisted of low maquis composed entirely of native vegetation, with *Calicotome villosa*, *Cistus salvifolius* L., *Cistus crispus* L., *Genista tridentata* L., *Ulex* sp. and *Olea europaea*. Leaf litter was gathered from under *Cistus* spp. Vegetation at the Mirador Isabel II consisted of a lower and more open, garigue type scrub with *Cistus* spp., *Ulex* sp., *Genista* spp. and *Asphodelus* sp., as well as some open areas. The substrate at both the latter sites was drier and stonier than at previous sites.

As in Gibraltar, we found *T. parvioculum* in natural habitats, forming part of native species assemblages (although in Ceuta, *Linepithema humile* Mayr, 1868 invades almost all habitats). Furthermore, sampling for ants in anthropogenic environments in Ceuta and Gibraltar has failed to produce *T. parvioculum*. This suggests that the possibility that *T. parvioculum* is a native species cannot be dismissed, unlikely though it may seem given its affinity to tropical species.

Acknowledgements

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