**Tetramorium parvioculum** Guillem & Bensusan, 2009  
(Hymenoptera: Formicidae: Myrmicinae): a new species to the ant fauna of Spain and North Africa

Rhian Guillem\(^1,2\), Keith Bensusan\(^1\), Joaquin Reyes-López\(^3\),  
M\(^3\) Dolores Martínez\(^4\), Soledad Carpintero\(^3\) & Irene Sánchez\(^5\)

\(^1\)Gibraltar Botanic Gardens, 'The Alameda', Red Sands Road, PO Box 843, Gibraltar.  \(^2\)ants@gonhs.org  
\(^3\)Area de Ecología, Universidad de Córdoba, Edificio C-4 "Celestino Mutis", Campus de Rabanales, Ctra. Madrid, Km. 396, 14071 Córdoba, España.  
\(^4\)Dpto. de Zoología y Antropología Física, Facultad de Biología, Universidad Complutense de Madrid, 28040 - Madrid, España.  
\(^5\)C/ Polígono Avda. de África, 22, 51002-Ceuta, España.

**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.

**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; 410 m a.s.l.). Four colonies located along an approx. 30 m 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, colony with 4 queens and one female alate, collection no. RG-09-011. Leg. R. Guillem & K. Bensusan, 11.x.2009.


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


**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…
woodland within the humid valley of the Guadalmesí 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, Pla-giolepis 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 exu-

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 Aeromodelismo 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

The specimens from Ceuta were collected as part of a project to catalogue the myrmecofauna of the territory: ‘Estudio de la fauna de hormigas (Hym., Formicidae) de La Ciudad Autónoma de Ceuta. Ecología, diversidad e interés biogeográfico. 2010. Instituto de Estudios Ceutíes, dependiente de la Ciudad Autónoma de Ceuta’. We gratefully acknowledge the field assistance of Pablo Cobo Martínez.

References


