

## TWO NEW HOST ANTS OF THE MYRMECOPHILOUS BEETLE SPECIES *THORICTUS BUIGASI* ESCALERA, 1923 (COLEOPTERA: DERMESTIDAE: THORICTINAE) FROM MOROCCO

Ahmed Taheri<sup>1,\*</sup>, Joaquín Reyes-López<sup>2</sup> & Nard Bennas<sup>3</sup>

<sup>1</sup> Laboratory of Plant Biotechnology, Ecology and Ecosystem Valorization / URL-CNRST n° 10. Faculty of Sciences of El Jadida, University Chouaib Doukkali, P.O. Box 20, El Jadida 24000, Morocco. Email: [taheri.ahmed@ucd.ac.ma](mailto:taheri.ahmed@ucd.ac.ma) – ORCID iD: <https://orcid.org/0000-0001-7402-525X>

<sup>2</sup> Area of Ecology, University of Cordoba, Building C-4 "Celestino Mutis," Rabanales Campus, Cordoba, Spain. Email: [cc0reloj@uco.es](mailto:cc0reloj@uco.es) – ORCID iD: <https://orcid.org/0000-0002-0702-4588>

<sup>1,3</sup> LESCB URL-CNRST n° 18, FS, Abdelmalek Essaadi University, Tetouan, Morocco. Email: [nbennas@uae.ac.ma](mailto:nbennas@uae.ac.ma) – ORCID iD: <https://orcid.org/0000-0003-3819-2717>

\* Corresponding author: [taheri.ahmed@ucd.ac.ma](mailto:taheri.ahmed@ucd.ac.ma)

### ABSTRACT

*Cataglyphis otini* Santschi, 1929 and *C. cubica* (Forel, 1903) are firstly reported as host ants for the myrmecophilous beetle species *Thorictus buigasi* Escalera, 1923 from Morocco, which expands its host list previously limited to *Cataglyphis viatica* (Fabricius, 1787). Its association with *C. viatica* widens its geographical distribution and it is recorded for the first time in central Morocco.

**Keywords:** *Cataglyphis cubica*, *Cataglyphis otini*, *Cataglyphis viatica*, myrmecophilous beetle, Formicidae, new records, Morocco, phoresy, Dermestidae, *Thorictus*.

### RESUMEN

**Dos nuevas hormigas huésped de la especie de escarabajo mirmecófilo *Thorictus buigasi* Escalera, 1923 (Coleoptera: Dermestidae: Thorictinae) en Marruecos**

Se citan por primera vez las especies *Cataglyphis otini* Santschi, 1929 y *C. cubica* (Forel, 1903) como hormigas huésped de la especie de escarabajo mirmecófilo *Thorictus buigasi* Escalera, 1923 en Marruecos, lo que amplía su listado de huéspedes, que antes se limitaba a *Cataglyphis viatica* (Fabricius, 1787). Su asociación con *C. viatica* amplía su distribución geográfica y se cita por primera vez en el centro en Marruecos.

**Palabras clave:** *Cataglyphis cubica*, *Cataglyphis otini*, *Cataglyphis viatica*, escarabajo mirmecófilo, Formicidae, nuevos registros, Marruecos, forosis, Dermestidae, *Thorictus*.

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### Introduction

*Thorictus buigasi* Escalera, 1923 is a myrmecophilous phoretic species (Kistner, 1979). Till now, its only known host ant species was *Cataglyphis viatica*, to which antennae it attaches with its mandibles (Háva *et al.*, 2012). This species was already known

in Morocco in two localities, Essaouira in the Atlantic coast (John 1965; Kocher 1969), and Marrakech in the High Atlas (Háva *et al.*, 2012; Lenoir, 2013).

The study of some twenty colonies of different species of *Cataglyphis* collected during myrmecological prospections by the first author in Morocco has allowed the discovery for the first time

from Morocco of *Cataglyphis otini* Santschi, 1929 and *C. cubica* (Forel, 1903) as new host ants for the myrmecophilous beetle species *Thorictus buigasi*.

## Material and methods

During myrmecological prospections in Morocco, between April and June, we were able to excavate a number of colonies of *Cataglyphis* of different species. The presence of *T. buigasi* was verified at body level on collected workers (especially at the antennae) as well as in the compartments and the dumps of the nests.

Ants and beetle specimens were studied under a Nikon SMZ745 stereomicroscope and identified using a key for *Cataglyphis* (Cagniant, 2009) and the [dermestidae.wz.cz](http://dermestidae.wz.cz) website (Háva, 2012). All specimens are deposited in the faunistic collection of the Faculty of Sciences of El Jadida.

## Results

*Cataglyphis otini* and *C. cubica* are reported for the first time in Morocco as two new host ants of

*Thorictus buigasi*. Regarding *C. cubica*, the specimen of *T. buigasi* was collected from the head of a worker (Tangier province), like in the example of *C. viatica* (Háva et al., 2012). However, in the case of *C. otini*, five specimens of *T. buigasi* were found freely walking in the nest dump in Benslimane province. In the same locality, seven specimens of the beetle were captured by sifting organic remains from *C. viatica* nest dumps (Figs 1-2).

## Discussion

*Thorictus buigasi* shows a wide geographical distribution in Morocco (Rif: Tangier, Central Plateau: Benslimane, Coastal Atlantic: Essaouira and High Atlas: Marrakech) and also displays variability regarding their ant host species. In fact, it does not attach in a specific way to *C. viatica*, but it can be hosted by other species at least belonging to the same genus (*C. cubica* and *C. otini*). This variation has also been reported in several taxa in the *castaneus* species group, such as: *Thorictus castaneus castaneus* Germar, 1834, *T. foreli* Wasmann, 1894, *T. foveicollis* Reitter, 1880, and *T. gibbosus* Zhantiev, 2010 (Háva et al., 2012).

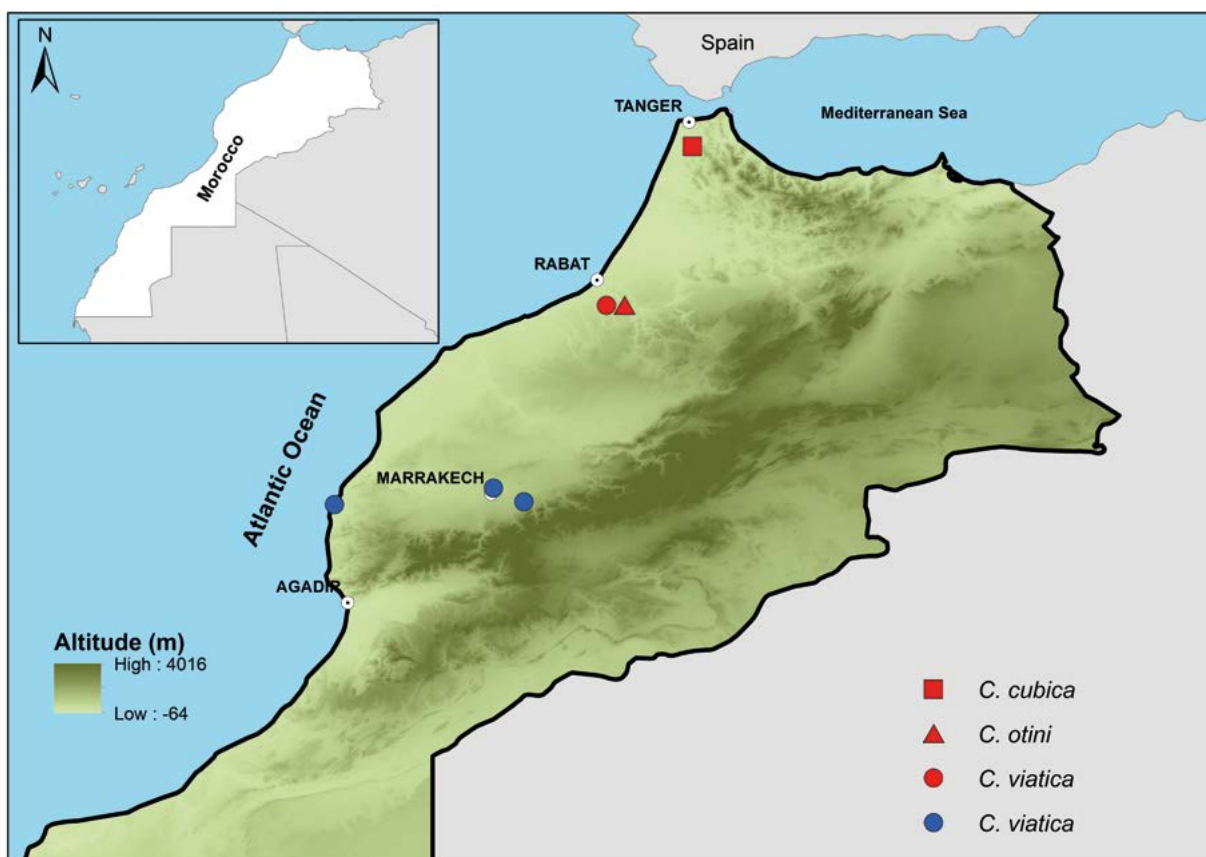


Fig. 1.— New distribution of *T. buigasi* in Morocco: old citations associated with *C. viatica* are in blue circles, new ones are in red (square with *C. cubica*, triangle with *C. otini* and circle with *C. viatica*).

Fig. 1.— Nueva distribución de *T. buigasi* en Marruecos: las citas antiguas asociadas a *C. viatica* figuran en círculos azules, las nuevas en rojo (cuadrado con *C. cubica*, triángulo con *C. otini* y círculo con *C. viatica*).



Fig. 2.– (a) *Thorictus buigasi* on the head of *Cataglyphis cubica* (new record), (b) *Thorictus buigasi* on the head of *Cataglyphis viatica* (photo: Fernando Amor in Háva *et al.*, 2012).

Fig. 2.– (a) *Thorictus buigasi* sobre la cabeza de *Cataglyphis cubica* (nuevo registro), (b) *Thorictus buigasi* sobre la cabeza de *Cataglyphis viatica* (foto: Fernando Amor en Háva *et al.*, 2012).

Moroccan *T. buigasi* records (John, 1965; Kocher, 1969; Háva *et al.*, 2012) were described as clinging to the antennae of *C. viatica* with their mandibles. During our surveys, specimens located in Benslimane province were detected free in the nest dump. However, the specimen detected in Tangier was found hooked to the head of a *C. cubica* worker.

The discovery of *T. buigasi* both free in the nest dump and attached to ant antennae suggests that this species leads a free life inside the nest, and uses its host to move when necessary, since they are detritivorous (Sánchez-Piñero & Gómez, 1995). It is not surprising that its preferred habitat is the dump because of the presence of an abundant amount of organic matter accumulated by its host.

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