



<http://dx.doi.org/10.11646/zootaxa.3826.3.6>

<http://zoobank.org/urn:lsid:zoobank.org:pub:25A81A4A-7532-41E7-AE98-AA15D0C55F35>

## New palpigrales (Arachnida, Eukoeneriidae) from the Iberian Peninsula

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### Abstract

Eighteen specimens of palpigrales captured in seven caves in the provinces of Castellon and Valencia in eastern Spain are studied. We describe and illustrate three new species and a new subspecies: *Eukoeneria valencianus* sp. nov., *Eukoeneria montagudi* sp. nov., *Eukoeneria sendrai* sp. nov. and *Eukoeneria patrizii iberica* ssp. nov. The Iberian fauna now comprises nine species that we place into two different morphological groups. The relationships between species from eastern Spain and other Mediterranean species are discussed.

**Key words:** Palpigradi, *Eukoeneria*, new species, taxonomy, biogeography

### Introduction

Palpigradi (Arachnida) is one of the least studied orders of arthropods in the Iberian Peninsula and currently there are only five species reported, four of which are endemic. Most of them are only known from a single specimen, which served as type for their descriptions. *Eukoeneria draco* (Peyerimhoff, 1906) was described from a single female from Majorca, *Eukoeneria hispanica* (Peyerimhoff, 1908) was described from a single male from Huesca and *Eukoeneria zariquieyi* (Condé, 1951) was described from a single female from Barcelona. Several years later, Condé (1977) studied an immature specimen from Castellon and identified it as *Eukoeneria* cf. *draco*. Four females of *Eukoeneria mirabilis* (Grassi & Calandruccio, 1885) were reported from Oporto (Portugal) (Remy 1951) and *Eukoeneria gadorensis* Mayoral & Barranco, 2002 was described from the south of Spain, Almería (Andalusia), based on two males, three females and two juveniles (Mayoral & Barranco 2002a, 2002b). Recently, more specimens of *Eukoeneria draco* have been captured from Majorca, allowing a redescription of the species and the first description of the male (Mayoral & Barranco 2013).

In this study eighteen new specimens of palpigrales captured in seven caves in the provinces of Castellon and Valencia in eastern Spain are reported. Three new species and a new subspecies are described and illustrated. The relationships of the new taxa with other Mediterranean species are discussed.

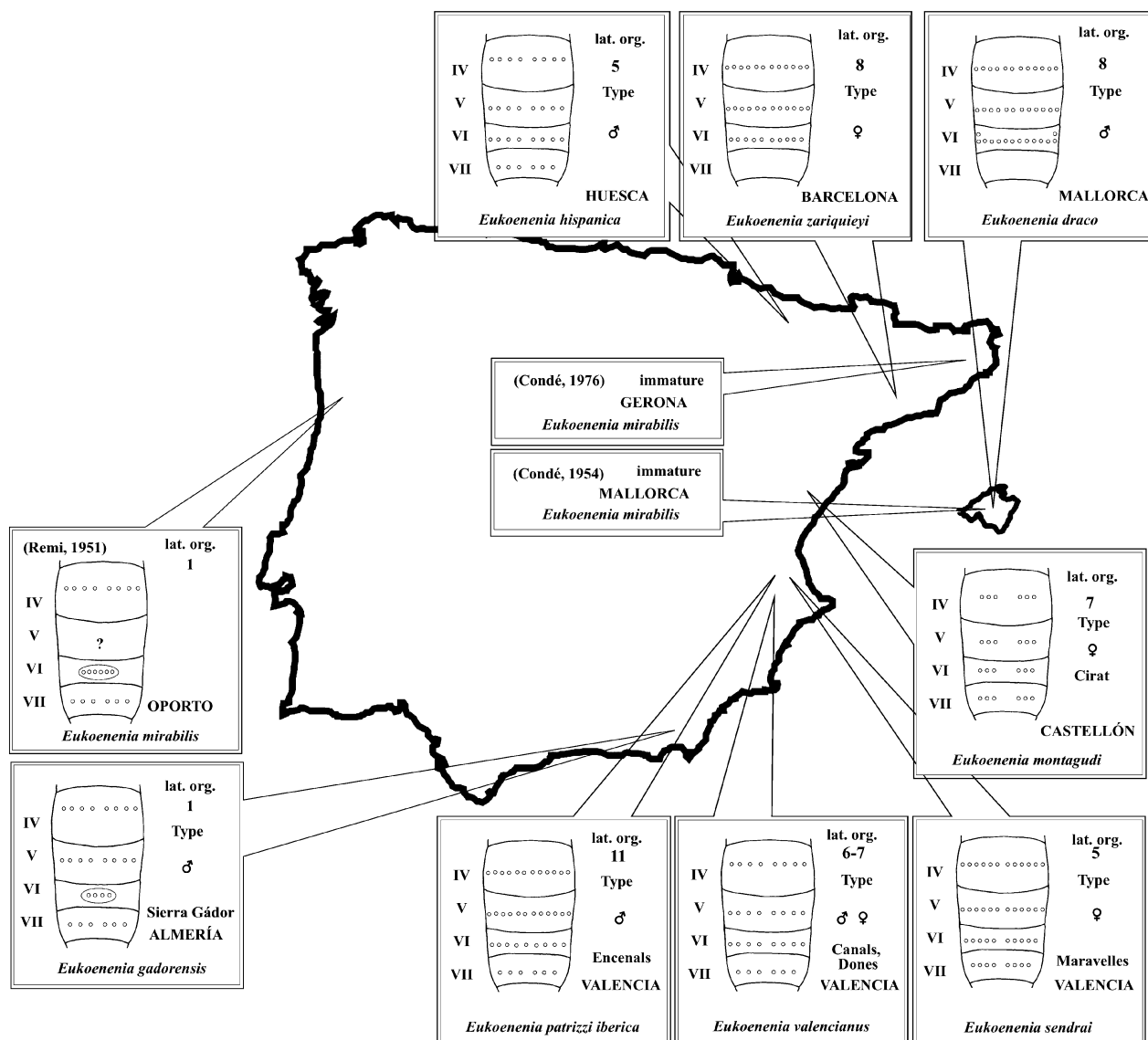
### Material and methods

Measurements and illustrations were made using a Nikon Optiphot-2 microscope with a drawing attachment after clearing the specimens in 50% lactic acid and mounting them on permanent slides in PVA or Hoyer's medium. Abbreviations are as in Mayoral & Barranco (2013). Other setal nomenclature follows Condé (1994). Designations of immature stages follow Condé (1984).

### Taxonomy

#### Family Eukoeneriidae Petrunkevitch, 1955

(Ketmaier *et al.* 2006), in which these groups may have originated on the Sardinia-Corsica microplate, prior to its detachment from the Iberian plate in the Oligocene, and its subsequent rotation towards the Italian peninsula.



**FIGURE 48.** Species of Palpigradi in the Iberian Peninsula, with representations of setae on sternites IV–VII. Data from present study and previous literature. The number of blades in the lateral organ (*lat. org.*), sex of the type and locality are indicated.

### Acknowledgements

We thank our colleagues and the collectors of the palpigrades studied in this work, Sergio Montagud, Alberto Sendra and Vicente Ortuño. We also thank Paolo Marcia for providing us with a specimen of *Eukoenia patrizii* from Sardinia.

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