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# FIRST RECORD OF *ERIGONE AUTUMNALIS* EMERTON, 1882 (ARANEAE: LINYPHIIDAE: ERIGONINAE) FOR THE IBERIAN PENINSULA

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**Abstract:** Here we report the first record of *Erigone autumnalis* Emerton, 1882 from the Iberian Peninsula based on a male collected as part of a forensic entomology experiment in Ondara (Spain).
**Key words:** Araneae, Linyphiidae, spiders, first record, Ondara, Spain.

**Primer registro de *Erigone autumnalis* Emerton, 1882 (Araneae: Linyphiidae: Erigoninae) de la Península Ibérica**
**Resumen:** Aquí presentamos el primer registro de *Erigone autumnalis* Emerton, 1882 de la Península Ibérica a partir de un espécimen macho colectado durante un experimento de entomología forense en Ondara (España).
**Palabras clave:** Araneae, Linyphiidae, arañas, primer registro, Ondara, España.

## Introduction

The genus *Erigone* Audouin, 1826 contains 110 species worldwide, with more than half of them occurring in America and 30 species in Europe, including *Erigone autumnalis* Emerton, 1882. *E. autumnalis* appears to be native to North and Central America, although its origin remains unclear (Patrick, 2015). The range of this species has expanded largely and it is known to be introduced in the Azores, Europe, United Arab Emirates and New Caledonia (World Spider Catalog, 2018).

Five species of the genus *Erigone* have been reported for the Iberian Peninsula, namely *Erigone atra* Blackwall, 1833, *E. dentipalpis* Menge, 1868, *E. jugorum* Simon, 1884, *E. promiscua* (O. Pickard-Cambridge, 1873) and *E. remota* L. Koch, 1869, the latest known only from Andorra.

## Material and methods

We collected the *E. autumnalis* specimen through a pitfall trap while sampling in a forensic entomology experiment at the locality of Ondara (38° 49' 15.67" N 0° 1' 40.42" E), in Alacant province (Southeast of the Iberian Peninsula). The experiment was conducted in an area of fertile land used for the cultivation of vineyards, vegetables and fruit trees of little water requirements. Two pitfall traps were placed under a carob tree (*Ceratonia siliqua*) to protect them from the intense solar radiation. We carried out the study from August 2017 to May 2018. The period between collections extended progressively throughout the study: three times during the first week, then once a week for the next three months, and finally once a month during the last three months.

We used pork as bait in the pitfall traps because of its similarities with human flesh and its lack of hair, which facilitates the process of observation. The collection involved hanging two halves of the head of a pig with three iron rods, 45 cm above each pitfall trap. The pitfall traps consisted of a pail filled with antifreeze, covered by a funnel, and the samples fell into the liquid. We placed the samples in 30% ethanol immediately after collecting them in the field and kept them so for several days to avoid deterioration, before placing them in 70% ethanol for permanent storage.

We illustrated the specimen described here using a LEICA MZ16A stereoscopic microscope with a camera lucida photographing it with a high-resolution digital camera LEICA DFC 450 attached to the microscope. After hand-drawing the male genitalia with ink, we scanned and rendered it with Adobe Photoshop.

The identification of the species was based on the original description of Emerton (1882) and the available illustrations of this species (Hänggi, 1993; Pesarini, 1996; Paquin & Dupérré, 2003 and Patrick, 2015).

The abbreviations used here are the same as in the work of Patrick (2015): ARP, anterior radical process of the radix; C, cymbium; DSA, distal suprategular apophysis; PC, paracymbium; PPA, palpal patellar apophysis; ST, subtegulum; T, tegulum; TP, tailpiece of the radix.

## Results

As part of the experiment, we collected a total of 62 spiders belonging to 12 families, namely Agelenidae (3), Araneidae (1), Dysderidae (2), Gnaphosidae (6), Linyphiidae (25), Lycosidae (1), Philodromidae (1), Salticidae (11), Theridiidae (3), Theraphosidae (2), Zodariidae (2), Zoropsidae (1), and 3 unidentified juveniles. The collected specimens included a male of *Erigone autumnalis* (Linyphiidae) a species easily identifiable due to its thin and sharp pointed PPA (Fig. 1A), the small basal femur apophysis (Fig. 1B) and the unic embolus division with the TP with a distinct tooth at the tip (Patrick, 2015).

***Erigone autumnalis* Emerton, 1882**
MATERIAL: 1 ♂, Ondara, Alicante, pitfall trap, September 30 2017 to January 14 2018 (P. Cabrera-Cánoves leg.)
DISTRIBUTION: North and Central America. Introduced to Azores, Europe, United Arab Emirates and New Caledonia.
REMARKS: First record for the Iberian Peninsula.

The specimen is deposited in the Centre of Animal Biodiversity Resources (CRBA, formerly Museum of Zoology) in the Faculty of Biology, University of Barcelona under the code CRBA-77844.

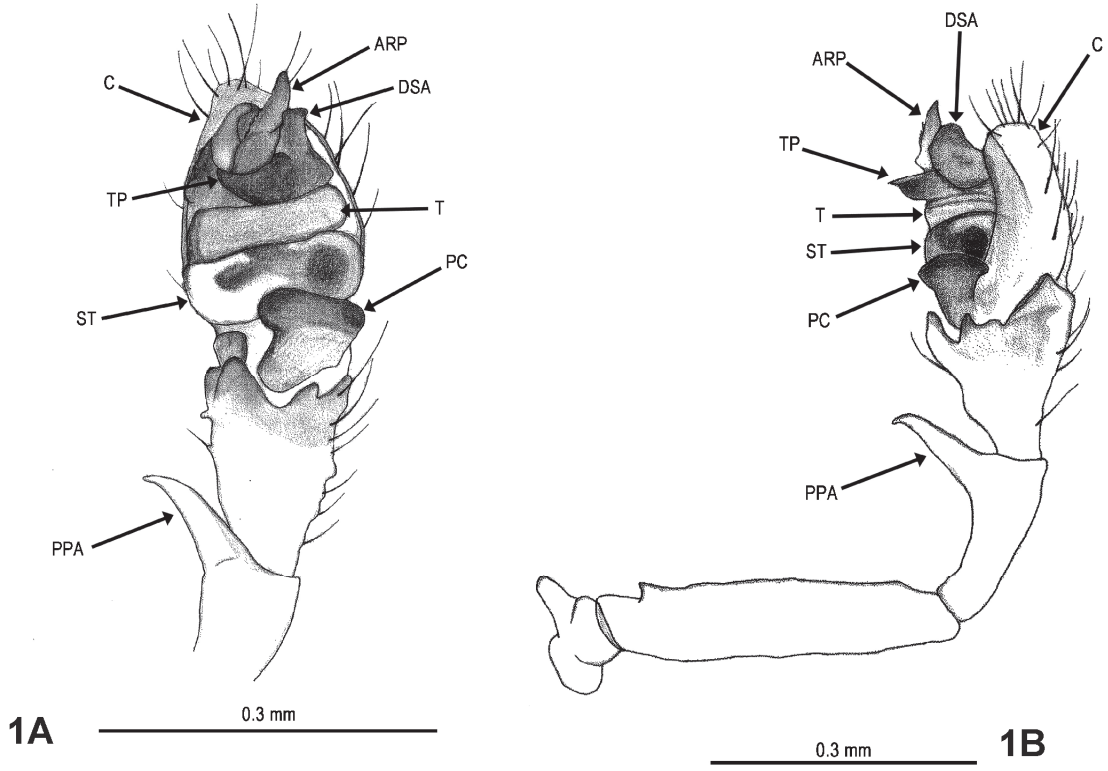



**Fig.1.** *Erigone autumnalis*, male. Left palpus. **1A.** ventral view. **1B.** retrolateral view.

## Discussion

Although this is the first record of *E. autumnalis* for the Iberian Peninsula, the finding is not surprising as the species has already been found in France (Déjean & Danflous, 2017), Italy (Pesarini, 1996), Switzerland (Hänggi, 1993) and Georgia (Nentwig *et al*., 2018). Moreover, the species belonging to the Linyphiidae family are known to be excellent dispersers by ballooning (Dean & Sterling, 1990; Miller, 2007), being able to cover long distances (Forster, 1971). There is even a record of a dead individual of this species in Antarctica (Forster, 1971), so it is probably only a matter of time before other records for other countries appear.

The habitat where this specimen was found is a dry, open area, similar to the habitat where it was recorded in France (Déjean & Danflous, 2017), although it must be noted that *E. autumnalis* is known to inhabit a diversity of habitats and elevations (Patrick, 2015).

This record increases even further the known distribution of *E. autumnalis*, a cosmopolitan species that may still be expanding its range.

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