THREE FAMILIES OF DIPTERA NEW TO PORTUGAL: MYCETOBIIDAE, PTYCHOPTERIDAE AND ATELESTIDAE

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Introduction

Following several works published in the last few years that added several new families to the Portuguese list of Diptera (Carles-Tolrá & Rosado, 2009; Evenhuis et al., 2009; Carles-Tolrá, 2009; Andrade & Almeida, 2010; Carles-Tolrá & Andrade, 2011; Andrade, 2011; Andrade & Gonçalves, 2014; Andrade et al., 2015), we report here the presence of three more families that were until now not known from the country: Atelestidae, Mycetobiidae and Ptychopteridae. This increases the total number of families known to be present in Portugal (including the archipelagos of Azores and Madeira) to 101.

Atelestidae is a group of empidoid dipters that were once placed in the Platypezidae, and later moved to the Empididae. It is now considered by most experts to be a distinct family within the Empidoidea (Chvála, 1983). This small group of nondescript minute to small dark flies (1.5–3.5 mm) is represented in Europe by just five species in three genera (Carles-Tolrá, 2008; Chvála, 2013). The wings are hyaline or is represented in Europe by just five species in three genera (Carles-Tolrá, 2008; Chvála, 2013). The wings are hyaline or is represented in Europe by just five species in three genera (Carles-Tolrá, 2008; Chvála, 2013). The wings are hyaline or

The family Ptychopteridae, with around 15 species in one genus in Europe, is characterised by a relatively long, lustrous black body, often with a yellow pattern on thorax and/or abdomen. The antennae are filiform, and the wings, legs and abdomen are also elongated. Wing with dark markings and with longitudinal folds (venae spuriae) distinct between Rs and M, and between CuA2 and A1. Haltere with basal appendage (prehaltere). The larvae are aquatic to semi-aquatic, living in the upper layers of mud, and can be found in marshy habitats where they feed on small organic particles. The adults are usually found near the larval habitats (marshes, ponds, lakes, among others) (Rozkošný, 1997; Oosterbroek, 2006).

Material and methods

The study material was collected by R. Andrade through sweep netting on vegetation in a non-systematic manner and identified by P. Chandler. The abdomen of the female of Mycetobia pallipes Meigen, 1818 was mounted in DMHF and the internal parts of the ovipositor were dissected. One of the males of Atelestus dissonans Collin, 1961 was also prepared in DMHF. The remaining specimens are preserved in 70% ethanol and deposited in the first author collection.

Results

- Atelestus dissonans Collin, 1961 (Fig. 1a)
  Portugal: Braga, Celenrico de Basto, Veade, Gagos e Molares, 41°25'07.5"N, 7°58'54.0"W, elev. 175 m. This site is a forest-agriculture mosaic, composed of many agricultural fields and meadows surrounded by small patches of forest. In the forested area several deciduous species grow: Platanus sp., Quercus robur, Castanea sativa, Salix spp. and Populus sp.

- Mycetobia pallipes Meigen, 1818 (Fig. 1b)
  Portugal: Porto, Vila do Conde, Mindelo (Paisagem Protegida Regional do Litoral de Vila do Conde e Reserva Ornitológica de Mindelo), 41°19'24.9"N, 8°43'56.3"W, elev. 5-20 m. The
Fig. 1. a) One of the males of *Atelestus dissonans* collected in Veade, Gagos e Molares; b) the female of *Mycetobia pallipes* collected in Mindelo; c) one of the males of *Ptychoptera albimana* swept from the foliage in Espinhosela.

locality is a mosaic of habitats from dunes to forest, riparian corridor and agricultural fields. The specimen was collected in a forested area where the following plant species can be found: *Quercus robur*, *Eucalyptus* sp., *Laurus nobilis*, *Rubus* sp., *Hedera* sp. and several umbelliferous plants.

25.v.2013, 1♀, leg. R. Andrade.

- *Ptychoptera albimana* (Fabricius, 1787) (Fig. 1c)
  Portugal: Bragança, Bragança, Espinhosela (Parque Natural de Montesinho), 41°53'08.2"N, 6°49'37.4"W, elev. 800 m. The area is a permanent pasture (Lameiro) crossed by a small stream on whose margins it is possible to find *Populus* sp., *Salix* sp. and *Rubus* sp. among other plants. Further up the hill the dominant tree species is *Quercus pyrenaica*.

Portugal: Bragança, Vimioso, Algos, Campo de Víboras e Uva (Vale de Algos), 41°29'50.7"N, 6°32'23.9"W, elev. 590 m. Vale de Algos is a small village situated in the Northeast corner of Portugal which is sparsely inhabited. The area features small plots of agricultural land where a combination of exotic and native plants can be found. Among those we can find the following species: *Ficus carica*, *Castanea sativa*, *Malus* sp., *Rubus* sp., *Hedera* sp., *Parietaria judaica* and *Mentha suaveolens*. The specimen was collected while feeding on flowers of *Hedera* sp.

7.x.2015, 1♀, leg. R. Andrade.

Discussion

*Atelestus dissonans* is a rarely collected but widespread species that is recorded in several European countries: Belgium, Britain I., Czech Republic, Germany, Hungary and Switzerland (Papp, 2009; Chvála, 2013). The discovery of this species in Portugal significantly increases the known area of its distribution. The two males were collected while sweeping through the herbaceous vegetation in the margin of a patch of a deciduous forest, and this is the way *Atelestus* species are most often found (Chvála, 1983). As mentioned above for the family Atelestidae, the biology of *A. dissonans* is very poorly known but, as suggested by the very big eyes of the males, the species engage in swarming behaviour (Chvála, 1983).

*Mycetobia pallipes* has a large distribution in Europe and is known from the following countries: Austria, Belgium, Britain I., Czech Republic, Denmark, Finland, Germany, Hungary, Ireland, Italy, Poland, Russia, Slovakia, Spain, Sweden, Switzerland and The Netherlands (Ševčík, 1999; Chandler, 2013). Given it is a widespread species and it was already known from Spain, its presence in Portugal was to be expected.

*Mycetobia* adults are not commonly found, but the larvae of *M. pallipes* are common under the bark of rotten stumps and can also be found on fallen deciduous and coniferous trees and in fermenting sap (Krivosheina, 1997). The female specimen was swept from low vegetation in a shady spot under *Quercus robur* and *Laurus nobilis* trees, corresponding to a typical habitat for the species, but just a few dozen metres from coastal dunes and surrounded by farm fields.

*Ptychoptera albimana* is a common and widespread species that was already known from several European countries: Austria, Belgium, Bosnia and Herzegovina, British islands, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Kaliningrad Region (Russia), Lithuania, Norway, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, The Netherlands, Ukraine and Yugoslavia. It is also present in the Nearctic (Zwick, 2013). Given the known distribution of this species, its presence in Portugal is not a surprise.

The female *Ptychoptera albimana* was collected while feeding on flowers of *Hedera* sp. Another European species in the genus, *Ptychoptera contaminata* (Linnaeus 1758), has also been recorded visiting flowers in search of nectar, such as *Anthriscus sylvestris* (Knuth, 1909; Cuthbertson, 1929). One photograph showing a female of *Ptychoptera contamina-
ta feeding on flowers of *Heracleum* was also brought to our attention (Steven Falk, personal communication). Recently, individuals of *P. contaminata* feeding on honeydew deposited in the surface of leaves was also reported. Most records were of males and only one female was observed doing the same. Given that this female was parasitized by several Acari and seemed debilitated the record was not considered by the authors to be a proof that adult females normally feed (Schcherbakov & Lukashevich, 2005).

**Acknowledgements**

The authors wish to thank Jan Ševčík, Paul Beuk and Tony Irwin for helping to get references and Steven Falk for sharing a photograph showing *Psychodra contaminata* feeding on *Heracleum*. Finally we would like to thank Pedro Andrade for valuable comments on the manuscript.

**References**


(*) Available/disponible: www.sea-entomologia.org