



## The fungus gnats (Diptera: Bolitophilidae, Keroplatidae, Mycetophilidae) of Sardinia, with description of six new species\*

PETER J. CHANDLER

606B Berryfield Lane, Melksham, Wilts SN12 6EL, United Kingdom. E-mail: chandgnats@aol.com

\*In: Cerretti, P., Mason, F., Minelli, A., Nardi, G. & Whitmore, D. (Eds), *Research on the Terrestrial Arthropods of Sardinia (Italy)*. Zootaxa, 2318, 1–602.

### Table of contents

Abstract	450
Introduction	451
Study area	452
Material and methods	452
Abbreviations	453
Sampling sites	454
Faunistic list	456
Bolitophilidae	456
Keroplatidae, Keroplatinae, Keroplatini	456
Orfeliini	457
Macrocerinae	462
Mycetophilidae, Gnoristinae	465
Leiinae	469
Mycetophilinae, Exechiini	472
Mycetophilini	480
Mycomyinae	492
Sciophilinae	495
Discussion	500
Acknowledgements	501
References	502

### Abstract

The fungus gnat fauna of Sardinia is reviewed and data presented for all species recorded. Altogether one species of Bolitophilidae, 16 species of Keroplatidae and 105 species of Mycetophilidae are recognised as occurring in Sardinia. As the bolitophilid and two of the mycetophilid species are represented only by females and are not determined to species level, the total confirmed Sardinian list stands at 119 species. Four species of Keroplatidae and 19 species of Mycetophilidae are new to the total Italian fauna, whereas three species of Keroplatidae and 32 species of Mycetophilidae are newly recorded for the island of Sardinia. Six species are described as new to science: two Keroplatidae (*Urytalpa juliae* **sp. nov.**, *Macrocera nuragica* **sp. nov.**) and four Mycetophilidae (*Boletina ichtnusa* **sp. nov.**, *Trichonta sandalyon* **sp. nov.**, *Sciophila benjaminbottomi* **sp. nov.**, *Sciophila immodesta* **sp. nov.**). The new synonymy *Zygomia valida* Winnertz, 1863 = *Zygomia simplex* Strobl, 1895 **syn. nov.** is established. *Macrocera penicillata* Costa, 1857 is tentatively considered as a synonym of *M. phalerata* Meigen, 1818. Label data are provided for 5 and 17 species recorded without further detail in the Fauna Europaea online database, respectively from Italian mainland and Sicily; one species, *Mycetophila alea* Laffoon, 1965 is newly recorded for Sicily. Three species based on

unconfirmed 19<sup>th</sup> century records cited by Hellrigl from South Tyrol should be deleted from the Italian list: *Exechiopsis indecisa* (Walker, 1856), *Mycetophila signata* Meigen, 1830 and *Mycomya storai* Väisänen, 1979.

**Key words:** Bolitophilidae, distribution, fungus gnats, Italy (mainland), Keroplatidae, Mycetophilidae, new records, new species, Sardinia, Sicily, taxonomy

## Introduction

The Italian checklist (Dahl *et al.* 1995) included data only for 145 species of the fungus gnat families (Bolitophilidae, Ditomyiidae, Diadocidiidae, Keroplatidae, Mycetophilidae). Chandler (2003a, 2003b, 2003c) added 86 species from the northern Apennines and two others were added by Zaitzev (2001) and Matile (2002). Chandler (2004a) further increased the total to 329 species (mainland 318, Sardinia 31, Sicily 25) in the Fauna Europaea database by including many species for which records were known, but as yet unpublished. One previously known species, *Boletina sciarina* Staeger, 1840 (listed by Dahl *et al.* (1995) and in later works), was accidentally omitted. Chandler (2004b) described two new *Leia* Meigen species from the Po Valley (NE Italy) not listed in the database and recorded *Orfelia persimilis* Caspers, 1991 (described from Sardinia) as new to the Italian mainland; the other species added to the Italian fauna in this paper were included in Fauna Europaea. Chandler (2007) recorded *Mycomya permixta* Väisänen, 1984, previously known from Sicily, as new to the mainland.

Recent additions to the Italian fungus gnat fauna are those by Papp and Ševčík (2007), who recorded *Allodiopsis pseudodomestica* (Lackschewitz, 1937) and *Mycetophila boreocruciator* Ševčík, 2003 from the mainland; Ševčík and Laštovka (2008), who described two new species of *Docosia* Winnertz based partly on specimens from Italy; Kurina (2008) and Chandler (2008), who respectively added 117 and 13 species in two papers on the Stelvio National Park (South Tyrol) and the Belluno province (Venetia). Chandler (2008) also mentioned 32 species from Sardinia based on the material listed in detail below. Kurina (2008) recorded a further three species as new to the Italian mainland: *Mycetophila formosa* Lundström, 1911 and *M. strigatoides* (Landrock, 1927) (previously recorded for Sardinia), and *Phronia cinerascens* Winnertz, 1863 (previously recorded for Sicily). The two latter species and two others – *Brevicornu nigrofuscum* (Lundström, 1909) and *Mycetophila blanda* Winnertz, 1863 – were erroneously indicated as new to Italy by Kurina (2008) in his species list, but they were not included in the total of 117 species stated to be new to Italy.

Kurina (2008) drew attention to a paper by Hellrigl (1996), with data on fungus gnats in South Tyrol, which was overlooked in the compilation of Fauna Europaea (Chandler 2004a). However, as he showed, of the 64 named and 11 unnamed species of Keroplatidae and Mycetophilidae included in this paper only 20 were from Italy, the remainder, including all recent records, being from Austria. The 20 species listed from Italy were mostly based on 19<sup>th</sup> century faunistic works, and Hellrigl's (1996) list is an uncritical compilation including obsolete nomenclature. All of these records should be regarded as requiring confirmation. For example, the records of *Mycetophila punctata* Meigen, 1804 should not be interpreted as relating to *M. fungorum* (De Geer, 1776) when all records of this group in the material studied were of *M. perpallida* Chandler, 1993. Kurina (2008) noted that some of these species were omitted from the Italian list in Fauna Europaea (Chandler 2004a). These were *Boletina sciarina* mentioned above, *Exechia bicincta* (Staeger, 1840), *Exechiopsis indecisa* (Walker, 1856) and *Mycomya storai* Väisänen, 1979. Two other species listed by Hellrigl (1996), *Mycetophila signata* Meigen, 1830 and *Sciophila hirta* Meigen, 1818, were also omitted from Fauna Europaea. Kurina was able to confirm 9 of the 20 species, including *S. hirta*, from South Tyrol and in the present paper *E. bicincta* is recorded from Sardinia. It is, however, considered that the other three species should presently be omitted from the Italian list owing to the uncertainty of accurate determination. *Mycetophila signata* belongs to a group of closely related species of which four are now known from Italy, but all would have been included under *M. signata* at the time the record was made. *Exechiopsis indecisa* was listed by Hellrigl (1996) as its synonym *Exechia tenuicornis* van der Wulp, 1859 but the similar species *E.*