

Bolitophilidae

Peter J. Chandler (1998 Checklist: Peter J. Chandler)

Last update: Jul 2024

Diagnosis: Small to medium sized (4-7 mm), slender bodied, grey or brown gnats with long, slender legs. Head small; three ocelli present; antenna long and slender with 2+14 segments, sometimes with long hairs on flagellomeres. Thorax humpbacked. Wing narrow, with a pterostigma over the tip of R_1 , otherwise either unmarked or with ill-defined spots on the crossveins; membrane lacking macrotrichia; vein Sc long, ending in the costa; R_{2+3} present and short, ending either in C or R_1 (used as a subgeneric character within the single genus *Bolitophila*, probably without any phylogenetic validity); crossvein r-m at an angle to R_s and meeting M_{1+2} shortly before branching of median fork; M_4 (anterior branch of posterior fork) either with a separate short base or a basal fusion at junction with m-Cu, so that posterior fork appears fused with M basally; anal lobe weak or absent. Coxae elongate; tibiae with apical spurs.

Biology: The larvae all develop in soft fungi, tending to be oligophagous and their hosts include both terrestrial and saproxylic fungi. Larvae are white, with the head capsule sclerotised, with a three-segmented antenna, and are hemipneustic, i.e. the prothorax and seven abdominal segments bear spiracles. The pupa is free, without a cocoon. The adults are mainly found in moist habitats, by streams in wooded areas and congregating around their fungus hosts. Some species aestivate or hibernate in caves.

Nomenclature and classification: According to Fauna Europaea (Chandler 2005).

Number of species: CH: 18 (1998 Checklist: 18),

AT: 15, BE: 10, CZ: 17, DE: 22, FR: 15, GB: 16, HU: 8, IT: 13, NL: 8, SK: 19, Europe: 36, World: 64.

Level of faunistic knowledge in Switzerland: Good. There are no changes to the list in Chandler (1998). There are five other European species that are widespread and recorded from adjacent countries, so could be expected to occur. Several other species described only from females, and with few national records, require further evaluation to determine their validity.

General references: Bechev & Chandler (2011) [world catalogue], Hutson et al. (1980) [keys, British species], Sjøli et al. (2000) [keys, families and genera of Sciaroidea], Zaitzev (1994) [keys, Russian species].

References to the Swiss fauna: Chandler (1998).

Checklist

Bolitophila Meigen, 1818

(*Bolitophila* s.str.)

- *austriaca* (Mayer, 1950) !
- *basicornis* (Mayer, 1951) !
- *cinerea* Meigen, 1818 !
- *saundersii* (Curtis, 1836) !
- *spinigera* Edwards, 1925 !
- *tenella* Winnertz, 1863 !

(*Cliopisa* Enderlein, 1936)

- *bimaculata* Zetterstedt, 1838 !
- *bispinosa* Mayer, 1951 !
- *dubia* Siebke, 1861 !
- *glabrata* Loew, 1869 !
- *hybrida* (Meigen, 1804) !
- *ingrica* Stackelberg, 1969 !
- *maculipennis* Walker, 1836 !
 - = *coronata* Mayer, 1951
- *modesta* Lackschewitz, 1937 !
- *nigrolineata* Landrock, 1912 !
- *occlusa* Edwards, 1913 !
- *pseudohybrida* Landrock, 1912 !
- *rectangulata* Lundström, 1913 !

References

- Bechev D. & Chandler P. 2011. Catalogue of the Bolitophilidae and Diadocidiidae of the World (Insecta: Diptera). *Zootaxa* 2741: 38-58.
- Chandler P. 1998. 16. Bolitophilidae. In: Merz B., Bächli G., Haenni J.-P. & Gonseth Y. (eds). *Diptera - Checklist. Fauna Helvetica* 1: 108. CSCF / SEG, Neuchâtel, 369 pp.
- Chandler P. 2005. *Fauna Europaea: Bolitophilidae*. In: de Jong H. (ed). *Fauna Europaea: Diptera, Nematocera. Fauna Europaea, version 1.2*. <http://www.faunaeur.org>.
- Hutson A.M., Ackland D.M. & Kidd L.N. 1980. Mycetophilidae (Bolitophilinae, Ditomiyiinae, Diadocidiinae, Keroplatinae, Sciophilinae and Manotinae) Diptera, Nematocera. *Handbooks for the Identification of British Insects*. Vol. 9(3). Royal Entomological Society, London, 111 pp.
- Søli G.E.E., Vockeroth R.J. & Matile L. 2000. 4. Families of Sciaroidea. In: Papp L. & Darvas B. (eds). *Contributions to a Manual of Palaearctic Diptera (with special reference to flies of economic importance)*. Appendix: 49-92. Science Herald, Budapest, 604 pp.
- Zaitzev A.I. 1994. *Fungus gnats of the fauna of Russia and adjacent regions. Part 1*. Nauka, Moscow, 288 pp. [In Russian].