



## Species of *Bicellaria* Macquart (Diptera: Hybotidae) of Europe, with descriptions of four new species

MIROSLAV BARTÁK & ŠTĚPÁN KUBÍK

Department of Zoology and Fisheries, Faculty of Agrobiolgy, Food and Natural Resources, Czech University of Life Sciences Prague, CZ-16521 Praha 6-Suchbát, Czech Republic. E-mail: bartak@af.czu.cz, kubik@af.czu.cz

### Abstract

Species of the genus *Bicellaria* (Diptera: Hybotidae) of Europe are reviewed. Altogether four new species are described, viz *B. andorra* sp. nov. (Andorra, France), *B. italica* sp. nov. (Europe), *B. kocourek* sp. nov. (Bulgaria), and *B. setipalpus* sp. nov. (Italy). *Bicellaria dispar* Oldenberg, 1920 is redescribed and lectotype is designated. *Bicellaria bisetosa* Tuomikoski, 1936 is newly synonymized with *B. uvens* Melander, 1928. Illustrations of male terminalia and a key to all known European species are provided.

**Key words:** Hybotidae; *Bicellaria*; taxonomy; key; Hybotidae; Empidoidea; new species

### Introduction

*Bicellaria* Macquart, 1823 is a middle-sized mostly Holarctic genus of Hybotidae with 34 previously described species or subspecies; 22 of them are Palaearctic and 11 Nearctic, a single one [*B. spuria* (Fallén)] was considered Holarctic in distribution (Melander 1965). Four new European species are described herein.

The first attempt to treat European species of *Bicellaria* was by Lundbeck (1910) in his “Diptera Danica” series. He distinguished and keyed five species, of which two were described as new. Later Tuomikoski (1936, 1955) described additional species and compiled a key (Tuomikoski 1955), which was taken over by Frey (1956) in Lindner’s “Die Fliegen der palaearktischen Region”. Collin (1961) added additional species; however, his key was restricted to British species only. Chvála (1983) gathered all information about European species of the genus including the key; however, *B. stackelbergi* Tuomikoski was omitted. Later Chvála (1991) described two additional species from European mountains and updated the key; however, most species were gathered under “complexes”. Moreover, all published keys have omitted *B. dispar* Oldenberg. These facts, beside descriptions of four new European species, necessitated the compilation of a new comprehensive key to European *Bicellaria*. Details of the phallus for species identifications are used here for the first time.

Life history of species of *Bicellaria* is very poorly known. Both sexes are predators hunting in short flights catching flying insects, most often small Diptera (Chvála 1980). Chvála (ibid.) reported aerial aggregations of males of *B. nigrita* Collin, without apparent connection with mating or hunting. Developmental stages are still unknown.

### Material and methods

The material studied is deposited in the following collections: BMNH (The Natural History Museum, London), CNC (Canadian National Collection of Insects and Arachnids, Ottawa), CULSP (Czech University of Life Sciences, Prague), MHK (Museum of Hradec Králové, Czech Republic), MHNG (Muséum d’Histoire Naturelle, Geneva), MSNV (Museo di Storia Naturale Venezia, Italy), NHMH (Natural History Museum, Helsinki), OUMNH (Oxford University Museum of Natural History, Oxford), SDEI (Senckenberg Deutsches Entomologisches Institut,