

## Two New Species of *Stenophragma* Skuse from Western Australia (Diptera, Mycetophilidae, Sciophilinae)

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**ABSTRACT.** *Stenophragma* Skuse was originally described for *S. meridianum* (Skuse), from Australia. Since then seventeen species have been added to the genus—from Brazil, Ecuador, Peru, Bolivia, Paraguay, Chile, Argentina, and Canada. We add two new species to the genus *Stenophragma*—*S. bickeli* n.sp. and *S. collessi* n.sp.—from Western Australia. An identification key for the Australian species of *Stenophragma* is provided. Comments are made about possible relationships among these new species and the remaining Australasian species of the genus.

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**KEYWORDS:** *Stenophragma*; Sciophilinae; Mycetophilidae; Australia; Taxonomy.

The current diversity of Mycetophilidae, a family known to be present already in the Jurassic, exceeds 4,100 described species distributed in approximately 180 extant genera (Evenhuis, 1994; Amorim & Silva, 2002; Pape *et al.*, 2011). The known diversity of the Australian Mycetophilidae is poor, with only 75 species, described mainly by F. A. A. Skuse, for the Australian continent, A. L. Tonnoir for Tasmania, and L. Matile for New Caledonia (Evenhuis, 2012); but the actual fauna is no doubt much richer (Yeates *et al.*, 2009).

The family is certainly monophyletic (e.g., Rindal *et al.*, 2009), but phylogenetic studies using morphological (Søli, 1997; Tozoni, 1998) and molecular data (Rindal *et al.*, 2009) have demonstrated that Sciophilinae *s.l.* is paraphyletic in relation to the Mycetophilinae. This justifies the subfamilial rank given to taxa previously presented as tribes (Väisänen, 1984; Matile, 1989; Rindal *et al.*, 2009). The Sciophilinae *s.s.* includes genera with medial and cubital forks complete,

as well as genera with M<sub>2</sub> and/or M<sub>4</sub> weakly developed or missing, or with an unattached vein between the medial and cubital veins (Oliveira & Amorim, 2010).

As found in other ancient insect families with broad distribution, the Australian Mycetophilidae fauna does not compose a single clade, instead it exhibits a mixture of elements of different origins and a complex biogeographic history. *Stenophragma* Skuse is one of the genera that have species in both the Australian and Neotropical regions. *Stenophragma* is poorly known in terms of its biology. In the Neotropics, adults can be collected with Malaise traps in humid forests throughout the year, but most species show a peak of activity in the spring and autumn (Duret, 1976).

Skuse (1890) erected the genus *Stenophragma* from a species from Australia—*S. meridianum*, previously allocated in the genus *Homapsis* (Skuse, 1888; Blugledich, 1999). He also described the two other known Australian species: *S. hirtipennis* and *S. picticornis* (Skuse, 1890; see also

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