



Revision of the Holarctic genus *Novakia* Strobl (Diptera: Mycetophilidae)

PETER H. KERR

California Department of Food and Agriculture, Plant Pest Diagnostics Branch, 3294 Meadowview Rd., Sacramento, CA, 95832-1448 USA. Email: pkerr@cdfa.ca.gov

Abstract

Two new species of fungus gnats (Diptera: Mycetophilidae), *Novakia miloi* and *Novakia lisae* spp. nov., are described and figured from California. *Novakia distincta* Fisher is transferred to *Tetragoneura* Winnertz and a replacement name, *Tetragoneura fisherae* Kerr, nom. nov., is given for this species. A diagnosis and description of the genus *Novakia* Strobl is presented and includes a key to species of the genus. The relationship of species within the genus *Novakia* is briefly discussed.

Key words: Systematics, *Tetragoneura*, fungus gnats, new species, California

Introduction

Fungus gnats of the family Mycetophilidae are among the most abundant and diverse groups of flies encountered in moist, forested habitats around the world (Brown 2005). As larvae, Mycetophilidae typically develop in fruiting bodies of the larger fungi or in rotting wood, but some are known to develop in bryophytes and bird nests (Hutson *et al.* 1980).

The Holarctic genus *Novakia* Strobl is a small but distinctive group of mycetophilid flies that are placed in the subfamily Sciophilinae (Vockeroth 1981, Vockeroth *in press*) or Leiinae (Chandler 1994, Chandler and Blasco-Zumeta 2001, Chandler *et al.*, 2006). Its biology is not yet known. Recent work on *Novakia* (Chandler and Blasco-Zumeta 2001, Chandler *et al.* 2006) has clarified the identification of the type species, *N. scatopsiformis* Strobl, and the only other Palearctic member of the genus, *N. simillima* Strobl. It has been known for some time that *Novakia* also occurs in North America (Vockeroth 1981) and in fact, a species of *Novakia* is commonly recovered in Malaise trap samples from the montane regions of California. However no *Novakia* species have yet been described from North America. The present paper describes and figures this species, compares it with the other known *Novakia* species, including another new, less frequently collected *Novakia* species in California, and briefly discusses phylogenetic affinities in the genus.

Materials and Methods

Terminology for wing venation follows McAlpine (1981) and that for thoracic and genitalic morphology follows Sjøli (1997). Whole specimens and terminalia were macerated in 10% KOH at approximately 95° C for 15–20 minutes to remove soft tissue, then rinsed in distilled water and dilute glacial acetic acid, and dissected in water. Female reproductive organs were stained with a saturated solution of Chlorazol Black in water. Preparations of the terminalia were placed in glycerine in a genitalia vial mounted on the pin beneath the specimen. Line drawings and plates were made using Adobe Illustrator Creative Suite software, aided by digital