



## The genus *Keilbachia* Mohrig (Diptera, Sciaridae) in New Caledonia, with the description of five new species

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### Abstract

Five new species of *Keilbachia* Mohrig are described: *Keilbachia adstricta*, *K. constricta*, *K. cracens*, *K. fratercula* and *K. truncata*. The species are the first sciarids recognized from New Caledonia and are similar in structure to the New Guinean *K. indigena* Mohrig and the Indomalayan *K. adunca* Hippa & Vilkamaa. A key to the Australasian species of *Keilbachia* is provided.

**Key words:** Diptera, Sciaridae, *Keilbachia*, new species, New Caledonia, Australasia

### Introduction

Various groups of the Diptera of New Caledonia have been studied rather intensively since the late 1980's, and the results have been published mainly in the seven volumes of *Zoologia Neocaledonia* (Tillier 1988, Chazeau & Tillier 1991, Matile *et al.* 1993, Najt & Matile 1997, Najt & Grandcolas 2002, Grandcolas 2008, 2009). Of the Bibionomorpha, the known New Caledonian fauna include Bibionidae (Fitzgerald 2004) and some groups of Sciaroidea (Matile 1986: Lygistorrhinidae, Matile 1988a: Ditomyiidae, Matile 1988b: Keroplatidae, Matile 1991, 1993: some mycetophilid tribes). These studies show a high degree of endemism of the New Caledonian fauna, at least at the species level. However, the level of endemism in New Caledonia varies widely among insect groups (Cranston 2010). This is the first part of an ongoing study of the New Caledonian sciarid fauna in preparation by the present authors.

Of the genus *Keilbachia* Mohrig, 1987 (type species *K. nepalensis* Mohrig), 54 species are currently known (Vilkamaa *et al.* 2009, Zhang *et al.* 2010). The genus is by far most diverse in the Oriental region, with only a few described species in the Palearctic, Nearctic and Neotropical regions (Vilkamaa *et al.* 2009). In the Australasian region, to date only the New Guinean *K. indigena* (Mohrig 2004) is known. The problems related to the phylogeny and classification of *Keilbachia* were discussed by Vilkamaa *et al.* (2009), and all relevant literature published so far was listed.

Here we describe five new species of *Keilbachia*, all most probably endemic, from New Caledonia.

### Material and methods

The material originates from samples collected by various French scientists in the late 1980's and early 1990's, preserved since in ethanol and now obtained from the Museum National d'Histoire Naturelle (MNHN), Paris, France. We mounted the specimens on microscope slides either in Canada balsam, after treatment with creosote and xylol, or in Euparal, after dehydration in absolute ethanol.

The hypopygium, antennal flagellomere 4 and the apical part of the front tibia of all species are illustrated. The illustrations were made with the help of a drawing tube attached to a Leitz Diaplan or Leitz Laborlux compound