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A new species of *Simulium* (*Gomphostilbia*) (Diptera: Simuliidae) from South India, with keys to Indian members of the subgenus *Gomphostilbia*

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Abstract

A new black fly species, *Simulium* (*Gomphostilbia*) *cauveryense* sp. n., is described based on adult female, adult male, pupal and larval specimens collected from Kushalanagar, Karnataka, South India. This new species is placed in the *decuplum* subgroup of the *batoense* species-group within the subgenus *Gomphostilbia*. Keys to the species of the subgenus *Gomphostilbia* reported from India are provided for females, males, pupae and mature larvae.

Key words: black fly, *Gomphostilbia*, Simuliidae, new species

Introduction

The fauna of black flies (Diptera: Simuliidae) in India is represented by 61 named and 13 unnamed species, which are all classified in the genus *Simulium* Latreille s. l. and are grouped under seven subgenera: 2 species in *Eusimulium* Roubaud, 12 species (10 named and 2 unnamed) in *Gomphostilbia* Enderlein, 4 species in *Montisimulium* Rubstov (2 named and 2 unnamed), 10 species (8 named and 2 unnamed) in *Nevermannia* Enderlein, 44 species (37 named and 7 unnamed) in *Simulium* Latreille and 1 species in *Wilhelmia* Enderlein (Anbalagan *et al.*, 2014; Adler & Crosskey, 2015). In this study, we described a new species of black fly from South India, which is assignable to subgenus *Gomphostilbia* redefined by Takaoka (2003), by having a bare pleural membrane and a haired katapisternum in the female and male adults, grapple-shaped hooklets on each side of the last abdominal segment in the pupa and smooth lateral margins of a hypostoma in the larva.

In the subgenus *Gomphostilbia*, the new species is placed in the *batoense* species group by having a dark hair tuft on the stem vein, dark brown male and female tibiae, slender and parallel-sided male hind basitarsus, and further, within the species group, is placed in the *decuplum* subgroup Takaoka & Davies (1995) by having arms of genetic fork with a short projection directed anteriorly in the female, upper eye large facets with 12 or 13 vertical columns and 15 horizontal rows in the male, gill with 10 respiratory filaments in the pupa and thoracic cuticle moderately covered with minute dark spinules in the larva (Takaoka & Choochote, 2004).

The present study describes a new species of *Simulium* (*Gomphostilbia*) (Diptera: Simuliidae) from South India and keys to members of the subgenus *Gomphostilbia* reported from India are provided for females, males, pupae and mature larvae.

Material and methods

Study area. Cauvery River is a large south Indian river, originated at Thalakaveri in Kodagu district of Western Ghats and flowing through four states: Karnataka, Tamil Nadu, Kerala and Puducherry. The described new species