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New species of black flies (Diptera: Simuliidae) from Nepal

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Table of contents

Introduction	3
Accounts for new species of black flies from Nepal	4
(I) Subgenus <i>Asiosimulium</i> Takaoka & Choochote.....	4
<i>Simulium (Asiosimulium) suchitrae</i> Takaoka sp. nov.	4
(II) Subgenus <i>Eusimulium</i> Roubaud	8
<i>Simulium (Eusimulium) jomsomense</i> Takaoka & Shrestha sp. nov.	8
(III) Subgenus <i>Gomphostilbia</i> Enderlein	15
<i>Simulium (Gomphostilbia) baglungense</i> Takaoka & Shrestha sp. nov.	15
<i>Simulium (Gomphostilbia) butwalense</i> Takaoka & Shrestha sp. nov.	18
<i>Simulium (Gomphostilbia) nuwakotense</i> Takaoka & Shrestha sp. nov.	23
<i>Simulium (Gomphostilbia) sachini</i> Takaoka & Henry, 2010	27
(IV) Subgenus <i>Nevermannia</i> Enderlein	29
(i) <i>Vernum</i> species-group	29
<i>Simulium (Nevermannia) lekhaniense</i> Takaoka & Shrestha sp. nov.	29
<i>Simulium (Nevermannia) letense</i> Takaoka & Shrestha sp. nov.	32
(V) Subgenus <i>Simulium</i> Latreille s. str.	37
(i) <i>Griseifrons</i> species-group	37
<i>Simulium (Simulium) titarensense</i> Takaoka & Shrestha sp. nov.	37
(ii) <i>Multistriatum</i> species-group	41
<i>Simulium (Simulium) tamorensense</i> Takaoka & Shrestha sp. nov.	41
(iii) <i>Variiegatum</i> species-group	49
<i>Simulium (Simulium) tulshii</i> Takaoka & Shrestha sp. nov.	49
Keys to species of black flies in Nepal	56
Acknowledgements	59
References	60
Appendix. List of species of black flies recorded from Nepal.....	62

Abstract

Ten new species of black flies are described based on larval, pupal and reared adult specimens collected at various localities in Nepal. All new species are assigned to the genus *Simulium* Latreille and further classified into five subgenera: one (*S. suchitrae* **sp. nov.**) in *Asiosimulium* Takaoka & Choochote, one (*S. jomsomense* **sp. nov.**) in *Eusimulium* Roubaud, three (*S. baglungense* **sp. nov.**, *S. butwalense* **sp. nov.**, *S. nuwakotense* **sp. nov.**) in *Gomphostilbia* Enderlein, two (*S. lekhaniense* **sp. nov.**, *S. letense* **sp. nov.**) in *Nevermannia* Enderlein, and three (*S. titarensense* **sp. nov.**, *S. tamorensense* **sp. nov.**, *S. tulshii* **sp. nov.**) in *Simulium* Latreille s. str. Among these, the first two new species also represent new records from Nepal of two subgenera, *Asiosimulium* and *Eusimulium*, respectively, both of which occur very rarely in the Oriental Region. The previous record from Nepal of *S. (G.) gombakense* Takaoka & Davies is corrected to that of *S. (G.) sachini* Takaoka & Henry, recently described from India. The male and mature larva of *S. (G.) sachini* are also described for the first time. The taxonomic affinities with related known species, if any, are noted for each new species. The keys to all 32 Nepalese species of black flies are provided.

Key words: *Simulium*, new species, description

Introduction

The fauna of black flies (Diptera: Simuliidae) in Nepal has been relatively poorly studied. So far recorded from Nepal are 22 named and 3 unnamed species, all of which are assigned to the genus *Simulium* Latreille, and further classified into four subgenera: *Gomphostilbia* Enderlein (seven spp.), *Montisimulium* Rubtsov (two spp.), *Nevermannia* Enderlein (four spp.), and *Simulium* s. str. (12 spp.) (Adler & Crosskey 2010; Lewis 1964; Maskey 1985, 1989, 1998; Shrestha & Takaoka 2009).

In 2009 and 2010, one of us (S.S.) collected pupae and larvae of black flies in mid-western Nepal (e.g., Mustang, Beni, Baglung, Tansen and Butwal) and eastern Nepal (e.g., Taplejung and Ilam). Pupae were individually reared in plastic tubes for a few days until adults emerged. Emerged adults were each preserved in 80% ethanol, together with their associated pupal exuviae and cocoons, and examined under binocular and compound microscopes for species identification.