



A new species of black fly (Diptera: Simuliidae) with an entirely yellow thorax from Darjeeling, India

HIROYUKI TAKAOKA¹, SACHIN THAPA² & WILLIE HENRY²

¹Institute of Biological Sciences, Faculty of Science, University of Malaya, Kuala Lumpur, 50603, Malaysia, & Department of Infectious Disease Control, Faculty of Medicine, Oita University, Hasama, Yufu City, Oita 879-5593, Japan

²Postgraduate Department of Zoology, Darjeeling Government College, Darjeeling, West Bengal, India

Abstract

A new black fly species, *Simulium (Nevermannia) subratat* **sp. nov.**, is described on the basis of female, pupal and larval specimens collected from Darjeeling, India. This new species is assigned to the *feuerborni* species-group of the subgenus *Simulium (Nevermannia)*, and is characterized by the entirely yellow female thorax and the larval abdomen without any colored markings. This is the first record of a black fly species with the adult having an entirely yellow thorax in the Oriental Region.

Key words: *Simulium*, Simuliidae, India, new species

Introduction

The *Simulium feuerborni* species-group within the subgenus *Nevermannia* Enderlein, redefined by Takaoka (2003), is composed of 24 described species, the majority of which are distributed in the Oriental Region and a few in the Palearctic Region (Adler & Crosskey 2010). This group is represented in India by three named and two unnamed species: *S. (N.) rufithorax* Brunetti, *S. (N.) senile* Brunetti (Brunetti 1911), *S. (N.) praelargum* Datta, *S. (N.)* sp. A (Datta 1973) and *S. (N.)* sp. D (Datta *et al.* 1975). We collected one more species of the *feuerborni* species-group, which is distinctive in having the female thorax entirely yellow, a characteristics infrequently occurring in the Simuliidae.

It is here described as a new species based on female, pupal and mature larval specimens.

The terms for morphological features used here follow those of Takaoka (2003). The holotype female and paratype larva are deposited at Postgraduate Department of Zoology, Darjeeling Governmental College, Darjeeling, West Bengal, India.

Simulium (Nevermannia) subratat **sp. nov.**

Description. Female (Photo. 1). Body length 2.4 mm. **Head.** Slightly narrower than thorax. Frons dark brown, densely covered with whitish-yellow recumbent hairs interspersed with several dark brown longer and stouter hairs along each lateral margin. Frontal ratio 1.81:1.00:2.57. Frons-head ratio 1.00:4.96. Fronto-ocular area (Fig. 1A) well developed, directed laterally and slightly upward, and with rounded apex. Clypeus dark brown, densely covered with whitish-yellow recumbent hairs (except portion near upper margin bare) intermixed with several dark longer and stouter hairs on each side. Labrum 1.11 times as long as clypeus. Antenna composed of scape, pedicel and 9 flagellomeres, dark brown except scape, pedicel and basal 1/3 of 1st flagellomere yellow. Maxillary palp consisting of 5 segments, proportional lengths of 3rd, 4th, and 5th segments 1.00:0.83:1.41; 3rd segment (Fig. 1B) much enlarged; sensory vesicle (Fig. 1B) elongate, 0.59 times as long as 3rd segment, with medium-sized opening. Maxillary lacinia with 9 inner and 12 or 13 outer teeth. Mandible with 20 inner teeth (of which few basal teeth are