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DROSOPHILA MADIKERII, SP. NOV. FROM COORG DISTRICT (WESTERN GHATS) KARNATAKA, INDIA (DIPTERA : DROSOPHILIDAE)

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ABSTRACT. *Drosophila madikerii*, sp. nov., a member of the *montium* subgroup of the *melanogaster* group, collected from the tropical rain forests of Coorg District (Western Ghats) near Madikeri, is described. The taxonomic position and its affinities are discussed.

INTRODUCTION

The *Drosophila* survey undertaken in Coorg District, Western Ghats, to investigate the occurrence of various species has resulted in the finding of a new species, *Drosophila madikerii*, which is described here.

Drosophila madikerii, sp. nov. (Figs. 1-7)

Body length : Male, 2.5 mm; Female, 2.7 mm.

Head (♂, ♀) *:* Arista with 9 branches (6/3) excluding the terminal fork. Front yellow. Antenna light brown. Greatest width of cheek 0.1 times the greatest diameter of eye. Carina narrow, light yellow. Palpi pale, with two straight bristles. Orbital bristles in the ratio 2 : 1 : 2. Inner verticals longer, outer verticals small, three-fourths the length of inner. Ocellar triangle brown, with a pair of long ocellar bristles. Eyes red.

Thorax (♂, ♀) *:* Brownish-yellow. Acrostichal hairs in 8 rows, regularly placed. Ratio anterior : posterior dorsocentrals 0.6. Scutellum light brown. Anterior scutellars convergent, posterior scutellars crossed. Sterno-index 0.6. Prescutellars absent.

Wings (♂, ♀) *:* Smoky and hyaline. *C*-index, 3.0; *4V*-index, 2.5; *5X*-index, 2.3; *M*-index, 1.00; (Wing indices calculated after Bock, 1976). Third costal section with heavy setation on basal 0.5. Wing lengths : 2.2 mm (male), 2.6 mm (female), Halteres small, yellowish.

Legs : Pre-apical bristles on all tibiae; apicals on first and second tibiae. Sex-comb of male (Fig. 1) longitudinal along the entire lengths of metatarus and second tarsal segment. Metatarsal comb consisting of 11-18 teeth, smaller basally, longer distally, the distal 2 displaced from axis of remaining teeth. Comb on second tarsal segment with 9-13 uniform teeth.

Abdomen (♂, ♀) *:* Tergites of both sexes yellowish with four apical bands. The last tergite of male is light black, in female it is yellowish.

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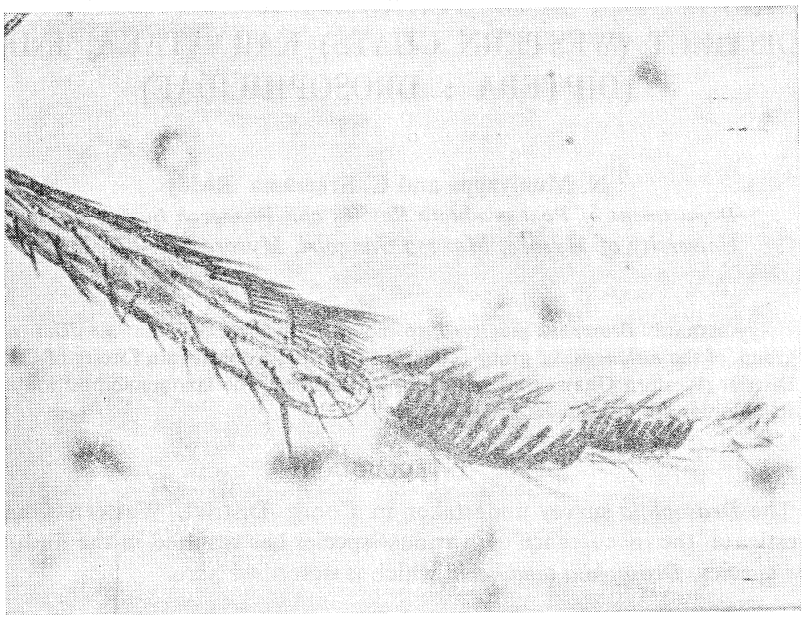


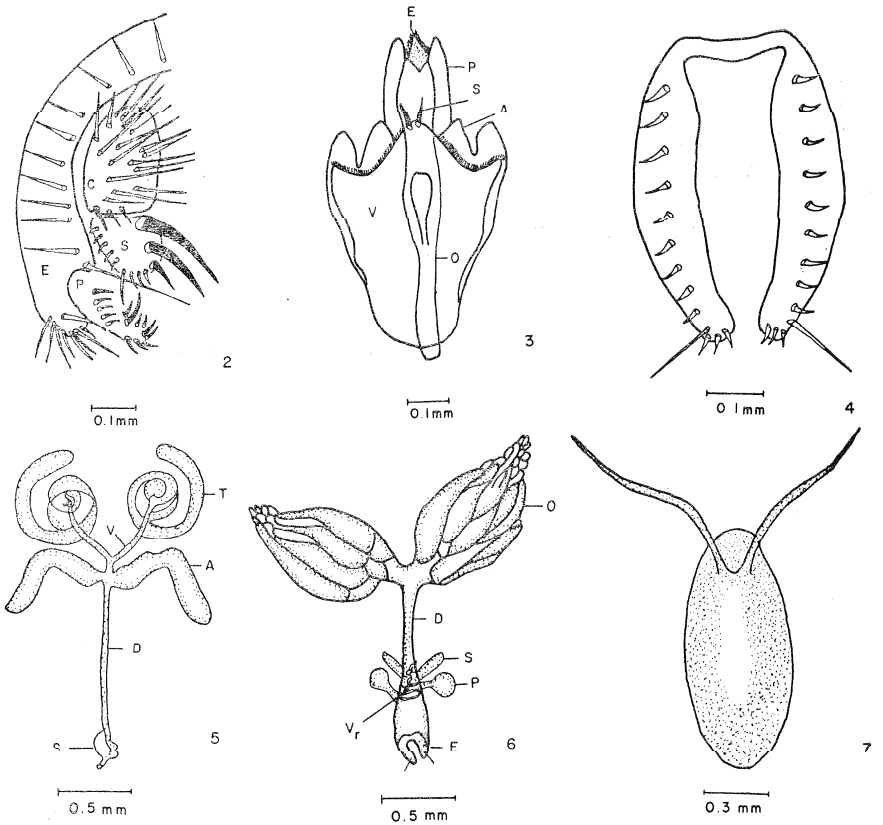
Fig. 1. Fore leg of *Drosophila* (*Sophophora*) *madikerii*, sp. nov. male showing sex-combs.

Periphallic organs (Fig. 2) : Epandrium (genital arch) light black, broad dorsally and laterally, toe long, round with 9 bristles. Primary and secondary surstyli (claspers) present. Primary surstylus with a lateral row of 5 teeth and a cluster of 9 strong ventromedial teeth, one long and slightly curved. Secondary surstylus independent of cerci (anal plate) and with two large curved black medial teeth above and one smaller tooth below, in addition to a row of smaller bristles along the ventral and lateral borders and three larger bristles dorsally. Cerci with 16-18 bristles.

Phallic organs (Fig. 3) : Yellowish-brown, aedeagus large, non-bifid and curved dorsally with hairy sensilla. Basal apodeme projecting beyond fragma. Anterior gonopophyses (anterior parameres) short and triangular. Posterior gonopophyses (posterior parameres) long, slender, non-serrate, reaching the tip of aedeagus. Caudal margin of novasternum with median convexity, laterally with fine hairs and apically with a pair of submedian spines.

Egg guide (Fig. 4) : Brown, with 12 teeth and a subterminal hair.

Internal structures : Testes (Fig. 5) yellowish with 2 coils. Accessary glands transparent and large. Spermathecae (Fig. 6) vestigial, para-ovaria ovoid and large. Ventral receptacle long, tightly coiled. Malpighian tubules two pairs, free.



Figs. **2-7**. *Drosophila* (*Sophophora*) *madikerii*, sp. nov. : **2**, Periphallic organs: C=Cerci, E=Epandrium, P=Primary surstylus, S=Secondary surstylus; **3**, Phallic organs : A=Anterior gonopophyses, E=Aedeagus, O=Basal apodeme of Aedeagus, P=Posterior gonopophyses, S=Submedian spine of novasternum, V=Ventral fragma; **4**, Egg guide; **5**, Male Reproductive Organs : A=Accessary gland, D=Anterior ejaculatory duct, S=Ejaculatory bulb, T=Testes, V=Vas deferens; **6**, Female Reproductive Organs : D=Oviduct, E=Egg guide, O=Ovary, P=Paraovaria; S=Spermatheca, Vr=Ventral receptacle;
7, Egg.

Egg filaments (Fig. 7) : 2 long slender filaments, not flattened apically.

Pupae : Anterior spiracle with 9 branches.

Holotype ♂, INDIA : KARNATAKA : Madikeri forests, Coorg District (Western Ghats), 12.i.1980, Coll. N. Muniyappa, G. Sreerama Reddy, H. S. Prakash, B. M. Shekarappa and D. Theerthaprasad. *Paratypes :* 10 ♂♂, 10 ♀♀, same data as holotype. The holotype and some paratypes are deposited in the Department of Zoology, University of Mysore, Manasa Gangotri, Mysore. Other paratypes are deposited in the Department of Biology, Tokyo Metropolitan University, Setagaya-Ku, Tokyo, Japan and in the Zoological Survey of India, Calcutta, and some will be deposited in the Indian Agricultural Research Institute, New Delhi.

Distribution : India : Karnataka : Coorg (Western Ghats).

Taxonomic status : Belongs to *montium* subgroup of *melanogaster* group of the subgenus *sophophora.*

Relationships and Remarks : Okada (personal communication, Feb. 1980) points out that the new species resembles *Drosophila punjabiensis* Parshad and Paika 1964, but differs in some details. On comparison, it was found that the new species resembled *Drosphila punjabiensis* in the general coloration of the body, but differed in other morphological characters, such as the number of teeth in the sex-combs, number of aristal branches (6/3), wing indices, 3rd costal section with heavy setation on basal half, greatest width of cheek/greatest diameter of eye and periphallic and phallic organs. The new species differs from the other known species of *montium* subgroup in possessing the unique combination of characters, such as the nature of sex-comb pattern in male, abdominal banding pattern and structure of periphallic and phallic organs. Hence it deserves the status of a new species in the *montium* subgroup.

The species can be cultured in the Laboratory with standard wheat-cream agar medium. The specific name *Drosophila madikerii* is coined after Madikeri, the collection locality.

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