New Species

Scaptodrosophila Mukherjee,* sp. nov., is a new member of the genus *Scaptodrosophila.

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Introduction

The genus *Scaptodrosophila* belongs to the family Drosophilidae. The genus includes over 200 species which are mostly endemic (Markow and O' Grady, 2006). This paper diagnosed and describes *Scaptodrosophila (Drosophila) mukherjee,* sp. nov.**,** as a new member of the *Scaptodrosophila* genus of the family Drosophilidae.

Materials and Methods

The flies were collected from wild by using both trap-baits and net-sweeping methods. Collections were undertaken in July 2007 in the Ballygunge lake area, Kolkata.

In the laboratory, the flies were anaesthetized, diagnosed, and categorized as per Gupta (2005) and Markow and O' Grady (2006). The collected species from the wild were allowed to breed in vials containing standard *Drosophila* food medium. Cultures are maintained on *Drosophila* medium at 24º ± 1ºC in our laboratory.

Results

Taxonomy

Scaptodrosophila mukherjee sp. nov.

Diagnosis

The external morphology of *Scaptodrosophila mukherjee* sp. nov. is more or less similar to *Scaptodrosophila paratriangulata* (Gupta, 1971) but the periphallic organs of the species is quite different, as shown in Figure 1, I and J.

Description

The morphological characters are described below. All type specimens have been deposited at the Genetics Research Unit, Department of Zoology, University of Calcutta, Kolkata, India.

Holotype

♂, Ballygunge, Kolkata, West Bengal, India.

Paratype

12♂, 15♀ (1♀ designated as "allotype") from Ballygunge, Kolkata, West Bengal, India, deposited at GRU, Department of Zoology, University of Calcutta, Kolkata, India.

Distribution and Ecology

This species is so far distributed in different parts of West Bengal, India.

Etymology

This species is named as *Scaptodrosophila mukherjee* in honor of Late Prof. A.S. Mukherjee, Department of Zoology, University of Calcutta, Kolkata, West Bengal, India.

Morphological Characteristics

Average body length: 3.5 mm (male) and 4.0 mm (female) (see Figure 1, A and B).

Head

Arista with 3 dorsal and 2 ventral branches in addition to the small terminal fork. Antennae with second segment dark brown; third segment little lighter. Frons including ocellar triangle brownish black. Orbital bristles ratio is 4:3:5. Vibrissae is single and strong. Palpus brownish black with 2 apical setae. Carina black and flat. Clypeus brownish black. Face and cheek is dark brown. Eyes are dark red.

Thorax

Acrostichal hairs in 6 regular rows between dorsocentrals, anterior and posterior scutellars convergent. Distance between anterior and posterior dorsocentrals 1/2 the distance between two anterior dorsocentrals. Postcellar setae are well-developed; proclinate orbital setae arises posterior to anterior reclinate; 1 pair of prescutellar acrostichal setulae present. Mesonotum and scutellum unicolorous, glossy black. Three katepisternal setae present. Sterno index = 0.57.

Wings

Clear, apically rounded (Figure 1, E and F). Wing-vein index: Costal index (C) = 3.33; Fourth vein index (4V) = 2.63; 4C- index = 0.94; 5X- index = 2.33. Halteres white. Wing length 2.5 mm. The indices are more or less similar to *Scaptodrosophila paratriangulata* (Gupta, 1971).

Legs

Coxa, femora and tibia of all legs are black and all tarsal segments of all legs are transparent in colour. No ornamentation like sex comb in males (Figure 1, G).

Abdomen

Tergites glossy black dorsally. 1T -6T with a medially interrupted black longitudinal band ventrally.

Periphallic Organs

Posterior parameres forming a triangular structure; epandrium dark brown, narrow, truncate below, with 15 bristles. Lower portion of genital arch with densely setose; anal plate with dense setae; especially at the apex; prensistae on surstylus arranged in a concave row. Surstylus long with

broader tip, having 13 closely placed black teeth and with 2 dorso-median setae. Cerci dark brown, triangular with 13 setae.

Phallic Organs

Aedeagus yellowish brown, bifid, long and narrowly curved apically (Figure 1, H). Basal apodeme of aedeagus usually long and broad basally. Anterior gonapophyses small with many sensilla. Posterior gonapophyses fused, broadened below.

Oviscrapt

Pale brown in colour, medially swollen, apically narrow and terminating into a large peg, with about 19 marginal ovisensillum (Figure 1, D). Anteroventral bridge short and narrow.

Egg

Eggs are small, ellipsoid, with 6 filaments (Figure 1, C). Its length varies from 0.39-0.42 mm in length and 0.15-0.17 mm in width. Filamentous length varies in each egg with maximum length of 0.35 mm.

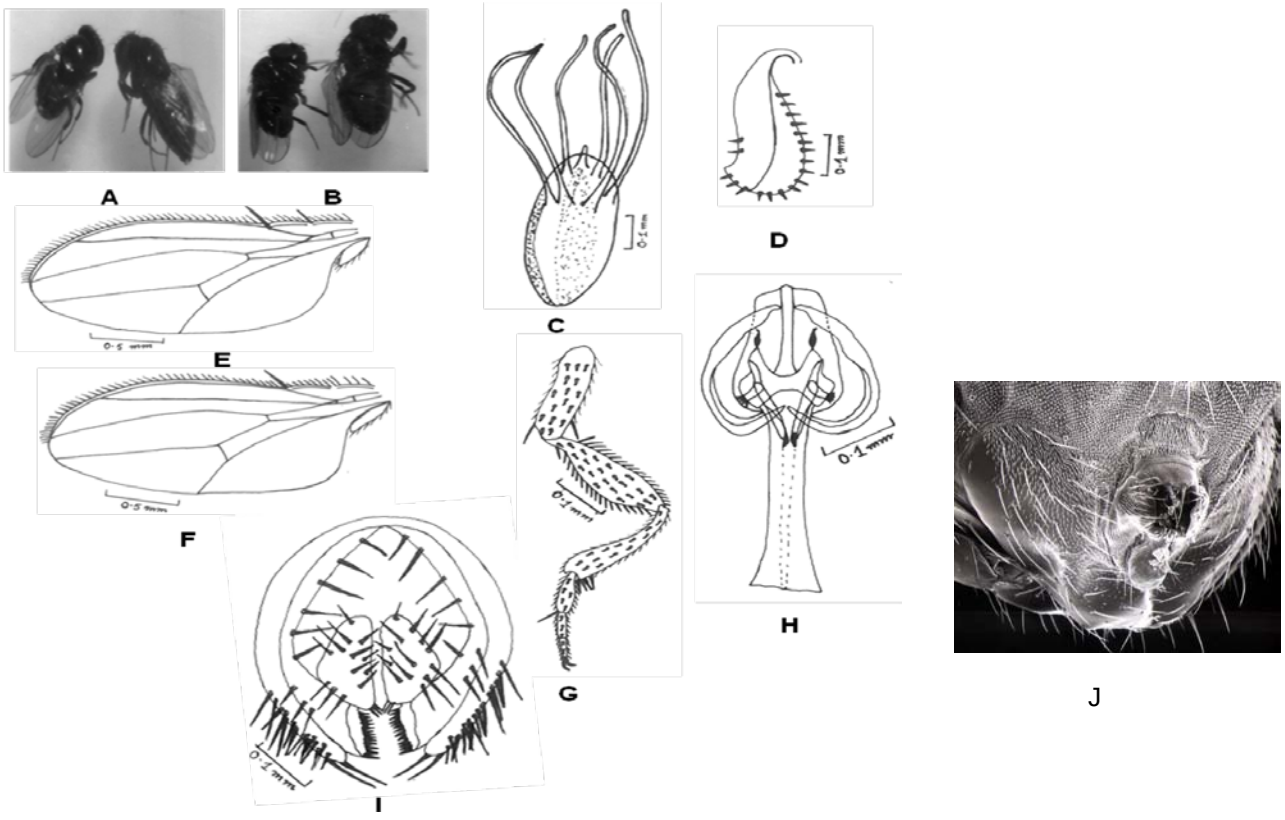

Figure 1. *Scaptodrosophila mukherjee* nov. sp.: Whole fly - dorsal view (A); ventral view (B); egg (C); oviscrapt (D); female wing (E); male wing (F); male fore leg (G); phallic organ (H); periphallic organ (I); SEM view of male terminalia (J).

Discussion

This species superficially resembles ***Scaptodrosophila paratriangulata*** (Gupta, 1971) in having cross striped abdominal tergites, apically rounded wing, ocellar triangle brownish black, heel of the genital arch not pointed and the row of teeth of surstylus not convexed. However, this species distinctly differs from *S. paratriangulata* in having dark coloration, basal apodeme of aedeagus (usually long and broad basally), anterior gonapophyses (small with many sensilla) and white haltere. Since this species shows similarities in the main characteristic features of *Scaptodrosophila* and since it differs in many characters from the other species of the genus, it is diagnosed as new species of the genus *Scaptodrosophila.*

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References: Gupta, J.P., 1971, Proc. of Zool. Soc. 22: 53-61; Gupta, J.P., 2005, J. Scientific Research 5: 1-252; Markow, T.A., and P.M. O' Grady 2006, Drosophila: *A Guide to Species Identification and Use*, Elsevier Academic Press, London.

Scaptomyza jadavpuri sp. Nov. is a new member of picture wing Drosophilidae of the *Scaptomyza* complex.

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Introduction

Scaptomyza is a very complex and poorly studied taxon. Over 150 described species of this taxon are endemic to the Hawaiian archipelago. The remaining 100 described species of *Scaptomyza* are placed in nine groups and are found elsewhere. Parascaptomyza is a relatively large, widespread group with species found on most of the world's major land masses. We describe here *Scaptomyza* (*Parascaptomyza*) *jadavpuri*, sp. nov.**,** as a new member of the subgenus *Parascaptomyza* of *Scaptomyza* genus of the family Drosophilidae.

Materials and Methods

The species were collected from the wild by using both trap-baits and net-sweeping methods in August, 2008. Fermenting fruits, banana and guava, were used as baits in the wet sand.

In the laboratory, the flies were anaesthetized, diagnosed, and categorized as per Markow and O' Grady (2006) protocol. 56 individuals were collected from the wild and were allowed to breed in open food vials containing standard laboratory food medium within a plastic jar containing wet sand. Cultures were maintained at 24º±1ºC. However, the flies grow very poorly in the laboratory condition.