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SOME BEE-FLIES (BOMBYLIIDAE : DIPTERA) FROM THAR DESERT

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INTRODUCTION

The members of the family Bombyliidae known as, bee-flies are usually dominant in the tropics and subtropics. They are one of those economically important group of the suborder Brachycera, and act as pollinators in forests, and of agricultural crops.

The Great Indian desert popularly known as Thar desert covers part of the four Indian states viz. Punjab, Haryana, Rajasthan and Gujarat. The present account on Bombyliidae fauna pertains to the state of Rajasthan and Gujarat as this is the area which has been best explored and studied faunistically.

Our knowledge of the bee-fly fauna of the Thar desert is limited. Kumar & Kumar (1996) have reported only 2 species under 2 genera from this area, and recently Parui and Mitra (2000) also reported another 3 species under 2 genera.

The present study revealed 10 species of bee-flies under 8 genera of 4 subfamilies. Of them 5 species (* marked) under 4 genera of 4 subfamilies are reported for the first time from the Indian part of Thar desert area. Comprehensive keys to the subfamilies, genera and species of Bombyliidae treated here are given.

LIST OF SPECIES

A. Subfamily TOXOPHORINAE

*1. *Toxophora javana* Wiedemann

B. Subfamily BOMBYLIINAE

*2. *Bombylius maculatus* Fabricius

C. Subfamily ANTHRACINAE

3. *Petrorossia albofulva* (Walker)
4. *Petrorossia nigrofemorata* (Brunetti)
5. *Anthrax bipunctatus* Fabricius
- *6. *Argyromoeba duvaucelii* (Macquart)

D. Subfamily EXOPROSOPINAE

7. *Thyridanthrax (Exhylanthrax) absalon* (Wiedemann)
8. *Exoprosopa (Exoprosopa) collaris* (Wiedemann)
- *9. *Ligyra aurantiaca* (Guérin-Méneville)
- *10. *Ligyra oenomaus* (Rondani)

SYSTEMATIC ACCOUNT

Key to the subfamilies

1. Praefurca comparatively long; 2nd longitudinal vein originating (in knee-shaped form) from it approximately opposite anterior cross vein (at almost half way between origin of praefurca and the cross vein, and this only in some species of *Argyromoeba*); antenna widely separated at base; frons in ♂ nearly as wide as in ♀ 2
 - Praefurca comparatively short, 2nd longitudinal vein originating acutely (not in knee-shaped form) always much nearer to origin of praefurca than of anterior cross vein; antennae nearly always approximate at base; eyes in ♂ normally contiguous or nearly so, sometimes distinctively separated; frons in ♂ always much narrower than ♀ 3
2. Antennal style with a pencil of hairs at end; metapleura bare; squamae with a hairy fringe. *Anthracinae*
 - Antennal style devoid of hairs at end; metapleura hairy; squamae with scaly fringe *Exoprosopinae*
3. Head as wide as or a little wider than thorax; abdomen more or less cylindrical, bare or with bristly hairs; antennae very long, especially 1st joint; thorax more or less humped, generally with conspicuous bristle; 2nd longitudinal vein with loop *Toxophorinae*
 - Head generally narrower than thorax; abdomen short and rounded; frequently with dense furry pubescence; antennae approximate at base; thorax generally arched; 2nd longitudinal vein never with a strong loop near tip *Bombyliinae*

A. Subfamily TOXOPHORINAE

Genus *Toxophora* Meigen

Toxophora Meigen, 1803, *Magazin InsektKde.*, 2 : 270. Type-species : *Toxophora maculata* Meigen

***1. *Toxophora javana* Wiedemann**

1821. *Toxophora javana* Wiedemann, *Dipt. exot.*, : 179.

Material examined : 1 ♂, Ghata village, Balaram-Ambaji wildlife sanctuary, 13.viii.2000, Coil. P. Parui.

Diagnosis : Antennae very long, prominent, horizontal, approximate at the base; vertex very small, black with a pair of strong ocellar bristles; thorax black, humped with a coating of very small, oblong, brownish scales lying flat on the surface; abdomen black, long narrow, with a layer of small brownish scales as on the thorax; three posterior cells.

Distribution : Gujarat, Tamil Nadu, Uttar Pradesh; Jawa, Krakatau.

Remarks : This is the first report from the Indian part of Thar Desert.

B. Subfamily BOMBYLIINAE

Genus *Bombylius* Linnaeus

1758. *Bombylius* Linnaeus, *Syst. Nat. Ed.*, **10** : 606. Type-species : *Bombylius major* Linnaeus.

***2. *Bombylius maculatus* Fabricius**

1775. *Bombylius maculatus* Fabricius, *Syst. Ent.*, : 803.

Material examined : 1 ♂, 1 ♀, Iswania hill, Balaram-Ambaji wildlife sanctuary, 8.viii.2000, Coll. P. Parui.

Diagnosis : Head in ♂ black; frons with elongate white or yellowish-white scales; antennae black; thorax black, a pair of faint bluish well-separated narrow stripes visible on the denuded surface; abdomen black, black hairs surround the tip of the abdomen; wings clear, costal cell yellowish, whole base of wing as far as humeral cross-vein dark brown.

Distribution : Gujarat, Orissa, Tamil Nadu.

Remarks : This is the first report from the Indian part of Thar Desert.

C. Subfamily ANTHRACINAE

Key to the genera

1. Body large, hairy; third antennal joint short, onion shaped (sometimes more conical), with styliform prolongation always bisected near tip, and bearing an apical pencil of hairs .
..... *Argyromoeba* Schiner
- Body small, less hairy; third antennal joint forming a style-like cone with microscopic apical bristle, no pencil of hairs 2
2. Body hairy; wing almost clear *Anthrax* Scopoli
- Body bare; wing membrane wrinkled, not clear *Petrorossia* Bezzi