



NEW SPECIES OF GENUS *PHYLLOMYA* (DIPTERA: TACHINIDAE) FROM WESTERN MAHARASHTRA, INDIA

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Abstract:

A new species *Phyllomya panhalensis* is reported and described for the first time from India. Gena and parafacials appearing silvery but not reddish brown. Antenna silvery-light brown and antennal third segment more than thrice as long as second segment. Vibrissae weak not differentiated from hairs on vibrissal angle. Bend of M distinct and shows small projection of M₂ on wing. Abdomen black with white bands, not seen uniformly to naked eye elongated. Legs brownish black with yellow tibia.

Keywords: *Phyllomya panhalensis*, new species, description, India.

Introduction:

Tachinid flies (Diptera: Tachinidae) are excellent biocontrol agents of many insect pests. The family Tachinidae is one of the largest families of Diptera with 10,000 described species worldwide (Irwin, et al., 2003; Stireman, et al., 2006). Tachinids are parasitic on members of order Hymenoptera, Lepidoptera, Heteroptera, Coleoptera, Orthoptera, and several others (Tschorsnig and Herting, 1994). The family Tachinidae is much larger and widely attempted from Neotropical, Afrotropical and Australasian regions but very little attention is paid on oriental region including India (O'Hara, 2005). Review of literature indicates that, Indian tachinids have been studied by Crosskey (1976), Lahiri (2003; 2006), Sathe et al. (2014), etc.

The genus *Phyllomya* was erected by [Robineau-Desvoidy](#) in 1830 as a Holarctic group and few species are found in place in the northern borders of oriental region. Eleven species have been described from various parts of the world (Villeneuve, 1937). From India, two species have been reported (Crosskey, 1976).

Materials and Methods:

For taxonomical studies, Tachinid flies have been collected from the fields of western Maharashtra at 15 days interval from June to February. The collected tachinid flies have been preserved in the laboratory by pinning and drying in the insect box. Taxonomical studies of Tachinids have been made on head, thorax, abdomen and their appendages. Measurements were taken with the help of ocular meter. The description of species was made with the help of appropriate literature (Crosskey, 1976; Wood, 1987; etc.).

Results and Discussion:

Male: 8.5mm long, Head 0.76mm, Thorax 2.92mm, Abdomen 5.1mm, Wing 8.52mm

length and 2.84mm width, Halter 1.53mm length and 0.53mm width.

HEAD- 0.76mm, Black in color; Vertex Narrow; Inner vertical bristles with single reclinate pair; Outer vertical bristle single pair, proclinate; Ocelli present; Ocellar bristles long; Frontal vita dark brown, narrow; Frontal bristles single row mediocline; Face concave silvery white; Lower facial margin protruded forward; Vibrissa small weak; Facial ridge slightly concave; Parafacial Silvery white; Gena with small hairs, gena and parafacials appearing silvery but not reddish brown; Genal dilation weakly developed; Back of head Convex with few hairs; Eyes 0.42mm; Reddish brown in color; Dichoptic; Bare; Antenna silvery-light brown with scape short 0.7mm in length, Pedicel short 0.09mm with few hairs, First flagellomere 0.62mm, antennal third segment more than thrice as long as second segment; Arista plumose type; Proboscis well developed; Prementum short with labella; Palpus filiform- parallel sided, brownish.

THORAX- 2.92mm; Black with thin silvery pollinosity most evident on pleural regions; Humeral callus three setae dorsally projected; Proepisternum Bare; Proepimeron pair of setae present; Scutum 1.92; double dark bands; Acrostichal bristles strong, reclinate (Presutural 3+ Postsutural 3); Dorsal central bristles strong; reclinate (Presutural 3+ Postsutural 3); Notopleuron 2 setae; Postalar callus 2 setae; Scutellum 1mm; Basal scutellar bristles straight; Subapical scutellar bristles very long than other, strong; Subscutellum convex; Katepisternum with 2 strong setae; Anepimeron with single seta; Katepimeron bare; Anatergite bare; Anterior thoracic spiracle narrow, with closed fringes of hairs.

WING – 8.52mm, transparent with very faint brownish tinge to naked eye; Lower calypter small slightly separated from scutellum; Second

costal section bare; Base of costa with costal bristle; costigeal setae strong conspicuously larger than basal scutellar setae; Fourth costal section longer than 6th costal section; R₁ bare; Cu A₁ bare; Bend of M distinct and shows small projection of M₂; Wing cell r₄₊₅ open; Cross vein R-M present; Cross vein d M-Cu present; Anal vein not reaching towards hind margin of wing; Halter reddish yellow, 1.53mm length, 0.53mm width.

LEG –

Blackish brown; Fore and mid femora with row of spines ventrally; Fore tibia yellow, with 1 Preapical anterodorsal seta, fore tarsus brown; mid tibia yellow 1 preapical anterodorsal setae present; Hind tibia yellow, 1 preapical posteroventral seta present, 1 antero dorsal bristles present; Hind coxa with 1 short setae.

ABDOMEN-

5.1mm, black with white bands, not seen uniformly to naked eye elongated; Abdominal tergite 5th as long as about 4th tergite; Mid dorsal depression on syntergite 1+2 not reaching of that segment; Tergite 5th tapered at end; Discal bristles present Abdominal sternite overlapped by ventral edges of tergites; Spiracle remains on side of tergite 7

GENITALIA-

Terminalia retracted within abdominal tergite 5; Tergite 6 less reduced joining segment 7.

COLOUR-

Black: Head, Thorax Abdomen

Brown: Antenna, Palpus,

Dark brown: Frontal vita,

Yellow: Fore Tibia, Mid Tibia,

Hind Tibia

Silvery white: Face, Parafacial,

Reddish brown: Eyes,

HOST- Unknown

HOST PLANT- *Calotropis* sp.

HOLOTYPE-

Male, India, Maharashtra, Coll. 8-VIII-2013, Panhala, P.M.Bhoje; antenna, wings, legs, tergite on slides, labeled as above.

PARATYPE- 3 Males, Sex ratio (M: F) 3:0, June-February same data as above.

ETYMOLOGY-

The species name is described from the Panhala region of Kolhapur where the type material has been collected.

DISTRIBUTIONAL RECORD –

India, Maharashtra, ♂ 1 Kolhapur 28- XI-2013; ♂ 1 Panhala 13-VIII- 2013; ♂1 Amba 08-XI-2013.

REMARKS-

According to key of Crosskey, 1976, this species runs close to *Phyllomya gibsonomyides* by having following characters,

1. Genal dilation weakly developed
2. Ocellar bristles long
3. Palpus filiform- parallel sided, brownish
4. Thorax black with thin silvery pollinosity most evident on pleural regions
5. Wings transparent with very faint brownish tinge to naked eye

However, it differs from the above species by following distinct characters,

1. Gena and parafacials appearing silvery but not reddish brown
2. Antenna silvery-light brown and antennal third segment more than thrice as long as second segment
3. Vibrissae weak not differentiated from hairs on vibrissal angle
4. Bend of M distinct and shows small projection of M₂ on wing
5. Abdomen black with white bands, not seen uniformly to naked eye elongated
6. Legs brownish black with yellow tibia.



Figure. 1- Dorsal view



Figure. 2- Lateral view



Figure. 3- Head front view



Figure. 4- Antenna lateral view

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