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A NEW GENUS AND NEW SPECIES OF GALL MIDGE [CECIDOMYIIDAE : DIPTERA] INFESTING *GARUGA PINNATA* ROXB., [BURSERACEAE] FROM INDIA

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INTRODUCTION

In years 1993 to 1995 Cecidomyiid flies were bred by one of us [THS] from leaf galls of *Garuga pinnata* Roxb., at Bhokar Dist. Nanded, Maharashtra, India. The leaf gall is the first Indian record of cecidomylid gall from the host plant. On the closer observation of these flies a new genus *Garugadiplosis* and a new species *Garugadiplosis brevipalpis* are described as under.

Key Words : Diptera, Nematocera, Cecidomyiidae, *Garugadiplosis brevipalpis*, new genus and new species.

Garugadiplosis gen. nov.

Eyes confluent above. Trophi normal. Palpi short, biarticulate. Antenna : 2+12 segmented in both sexes; in male flagellate segments binodose with short stems, two whorls of long setae, one on each enlargements, two whorls of short and regular circumfila, one each on basal and apical enlargements; in female flagellate segments cylindrical, with short stems, two whorls of long setae, circumfila low, third and fourth segments confluent; vein R5 reaching wing margin well beyond its apex and interrupting at its union, vein Cu forked; claws simple on all legs, empodium shorter than the claw. Genitalia : basal clasp segment globose, with small blunt apical lobe, terminal clasp segment stout, ending in a thooth apically, dorsal plate deeply incised, lobes round, subdorsal plate longer than the dorsal, bilobed, lobes triangular, aedeagus longer than the subdorsal plate, truncated apically. Ovipositor protractile, lamellae thick, rod shaped.

[Type species : *Garugadiplosis brevipalpis* sp. nov.]

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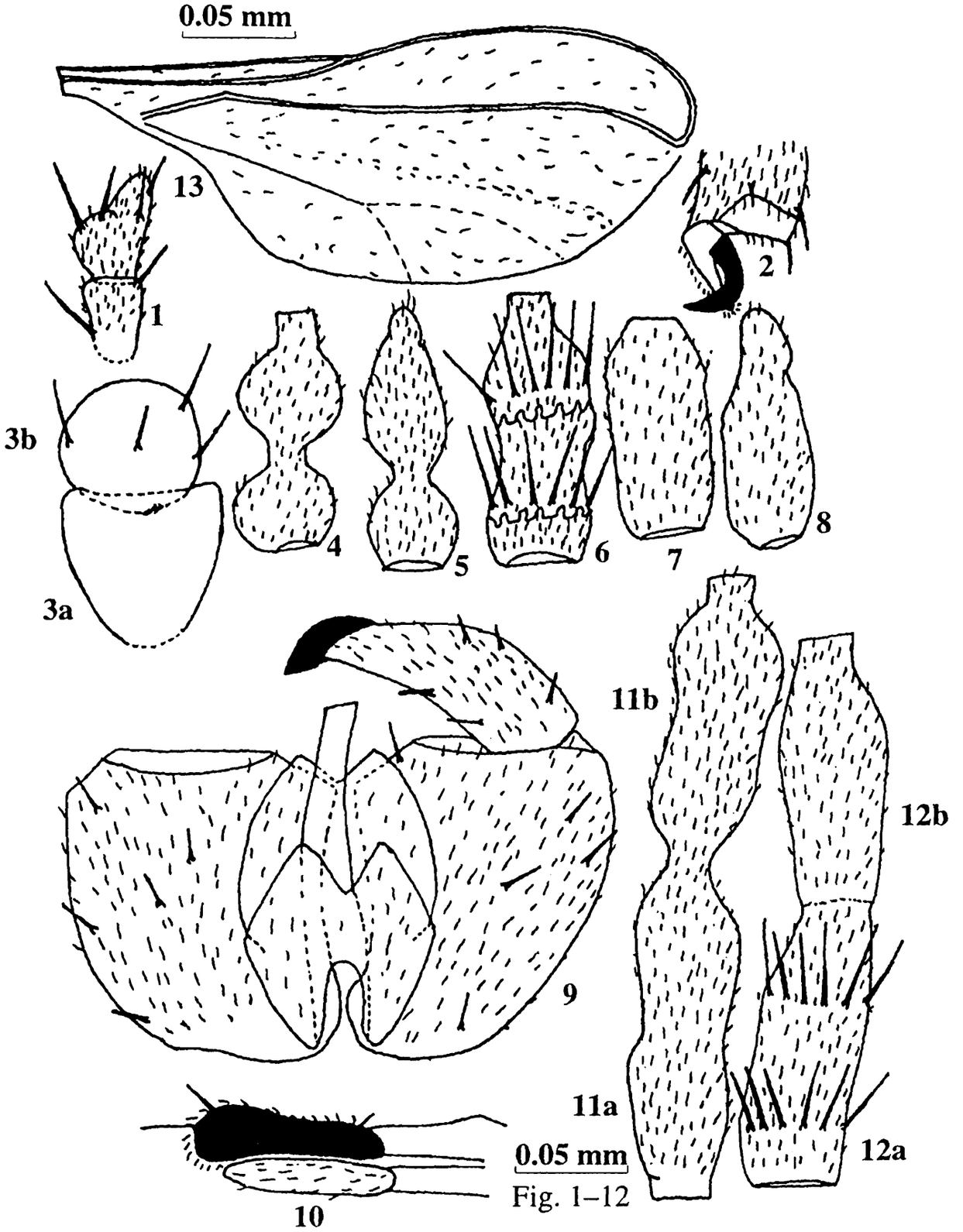
Garugadiplosis brevipalpis sp. nov.

(Figs. 1–13)

Male : Body 0.85 mm long. Palpus short, biarticulate, sparsely setose, first segment [10 : 6] cylindrical, broad apically, length 1.66 × its maximum thickness; second segment [12 : 7] longer and broader than first, flattened medially, 1.71 × its maximum thickness. Antenna : 0.39mm, shorter than body, with 2+12 segments, segments with binodose enlargements and short stems, with two whorls of long setae, one on each enlargement, two whorls of regular and short circumfila, one each on basal and apical enlargements; scape [18 : 17] cup shaped, broader at apex than at base; pedicel [16 : 16] globose; third segment [37] confluent with and longer than fourth, with a small basal prolongation [2 : 7], basal enlargement [15 : 11] 0.45 the length of the segment and 1.36 × as long as it maximum thickness, apical enlargement [15 : 11] similar to the basal, apical stem [5 : 5] 0.55 the length of the apical enlargement and as long as thick; fourth segment [30] 0.85 the length of the third, without basal stem, basal enlargement [13 : 11] 0.43 the length of the segment and 1.81 × its maximum thickness, apical enlargement as long as the basal, apical stem [4 : 5] 0.37 the length of the apical enlargement; penultimate segment [27] shorter than the fifth, basal enlargement [10 : 10] 0.37 the length of the segment; and as long as thick, basal stem [2 : 3] 0.2 the length of the basal enlargement, apical enlargement [10 : 9] 0.37 the length of the segment and 1.1 × as long as thick; terminal segment [29] longer than the penultimate, basal enlargement [9 : 9] 0.33 the length of the segment and as long as thick, basal stem [2 : 3] 0.22 the length of the basal enlargement and thicker than long, apical enlargement [14 9] 1.55 × as long as the basal and 0.64 the length of the segment, apical stem in the form of a round tip. Wing hyaline, 2.7 × as long as broad [70 : 26], vein R5 reaching wing margin well beyond its apex and interrupting costa at its union, vein Cu forked. Legs : long, densely hairy, claws simple on all legs, evenly curved, empodium shorter than the claw [10 : 12]. Genitalia : basal clasp seoment sparsely setose, globose, 1.13 × as long as broad [34 : 30], with a small subapical blunt lobe; terminal clasp segment stout, thicker at base, little more than thrice as long as broad [28 : 9], ending in a tooth; dorsal plate incised in middle, lobes round, broader than long [20 : 23]; subdorsal plate incised, lobes triangular apically, longer than dorsal, 1.5 × its maximum breadth [30 20]; aedeagus rod shaped, broad basally, truncated apically, longer than basal clasp segment length 7 × its maximum thickness [35 : 5].

Female : Body 0.85 mm long [including ovipositor]. Palpus biarticulate, sparsely setose, first segment [15 : 7] cylindrical, length 2.14 × its maximum thickness; second segment [10 : 8] shorter and broader than the first, flattened medially, length 1.25 × its maximum thickness. Antenna : 0.75 mm long, shorter than the body, with 2+12 segments, enlargements cylindrical, with short apical stems, low circumfila and two whorls of long setae; scape cup shaped, broader than long [13 : 18]; pedicel [15 : 17], subglobose, longer than the scape, broader than long; third segment [32], longest of all, confluent with fourth, enlargement 0.90 the length of the segment [30 : 32]



Garugadiplosis brevipalpis ♂ ♀

Figs. 1-13. *Garugadiplosis brevipalpis* : 1. Palpus [♂]; 2. Claw [♂]; 3a. Scape [♂]; 3b. Pedicel [♂]; 4. Penultimate segment [♂]; 5. Terminal segment [♂]; 6. 5th antennal segment [♂]; 7. Penultimate segment [♀]; 8. Terminal segment [♀]; 9. Genitalia; 10. Ovipositor; 11a. 3rd antennal segment [♂]; 11b. 4th antennal segment [♂]; 12a. 3rd antennal segment [♀]; 12b. 4th antennal segment [♀]; 13. Wing [♂].

and 2.72 × as long as thick [30 : 11], stem thicker than long [2 7]; fourth segment [30], shorter than the third, enlargement 0.86 the length of the segment [26 : 30] and 2.16 × as long as thick [26 12], stem thicker than long [4 : 6]; penultimate segment [22] without stem, 2 × its maximum thickness [22 : 11]; terminal segment [26], longer than penultimate, enlargement 0.76 the length of the segment and 2 × its maximum thickness [20 : 10], apical stem in the form of a nipple [6 : 5]. Wing and legs as in male. Ovipositor : exerted, lamellate; dorsal lamella stout, rod shaped [21 : 6]; basal lamella shorter and thinner than the dorsal, elongated oval [18 : 5].

Material examined :

Holotype : Male dissected and mounted on slide labelled, "emerged from leaf galls of *Garuga pinnata* Roxb., Bhokar, Dist. Nanded. T H. Shaikh coll.", dated 01.VIII.1993.

Allotype : Female dissected and mounted on slide, labelled as in holotype.

Paratype : Two males and two females dissected and mounted on slides, data as in holotype.

Etymology : Generic name is associated with the host plant and species name pertains to the short 2-segmented palpus.

Type material is retained in first author's collection at Nanded for the time being.

REMARKS

Garugadiplosis appeals close to *Amradiplosis* Mani (1947) but differs in having short two segmented palpus; inconspicuous circumfila; simple claws; vein R5 reaching wing margin well beyond wing apex; basal clasp segment with a small subapical lobe; ovipositor long and exerted [In *Amradiplosis* palpi long three segmented, circumfila loops long and regular; claws dentate; vein R5 reaching wing margin at wing apex; basal clasp segment without lobe; ovipositor short and not exerted.]

Description of Leaf gall

Epi-hypophyllous, more pronounced on the lower side of the leaf-blade, sessile, simple, ovoid or globose, smooth, persistent gall, occurs on midrib, veins and veinlets, initially pale green but turns reddish brown as grows old. Gall cavity unilocular enclosing one or two larvae inside. Full grown gall measures 7 – 8 mm in diameter, 3 – 7 galls may arise on a single leaf. Exit hole circular. The gall formation starts in June and adults emerges in July/August.

A psyllid, *phacopteron lentigenosum* Buckton (Homoptera) is well known to cause leaf galls on the same host plant [Mani 1973]. But a Cecidomyiid causing gall on *Garuga pinnata* is reported for the first time from India.

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