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A NEW SPECIES OF GENUS *Lasioptera* Meigen (Diptera: Cecidomyiidae: Lasiopteridi) FROM MAHARASHTRA, INDIA

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

This contribution includes the description of a new species *Lasioptera gangakhedensis* reared from *Setaria verticilla* L (Poaceae) a new host grass species collected at Gangakhed (Dist. Parbhani) Maharashtra, India.

Keywords: *Lasioptera gangakhedensis*; sp. nov; (Diptera, Cecidomyiidae); Maharashtra; India.

1. INTRODUCTION

During studies carried out on gall-midges of Marathwada region of Maharashtra state for two years (2006 –2007), a few gall midge flies belonging to genus *Lasioptera* Meigen were reared by one of us (Najam) from inflorescence of *Setaria verticilla* (L) (Poaceae) [1,2,3].

Genus *Lasioptera* Meigen 1818 is basically phytophagous genus that is widely distributed chiefly in the old world [4]. The *Lasioptera* species develop galls mostly on stem, a few on leaves on a wide range of natural order in dicotyledons especially cucurbitaceae and a few on grasses (Poaceae).

Galls developed by these flies are mostly not apparent, some of them are slightly swollen and spices associated with grasses infesting the inflorescence however, do not show any marked deformity.

Salient feature of this genus include flagellum with more than 12 segments; R_5 straight, not curved, distance between the costa and R_5 widest at the base of the wing; genitalia with chitinised parameres and the basal clasp segments with or without densely setose basal lobe; ovipositor with hook shaped spines on the dorsal lamella.

Type species *Lasioptera picta,* Meigen, 1818.

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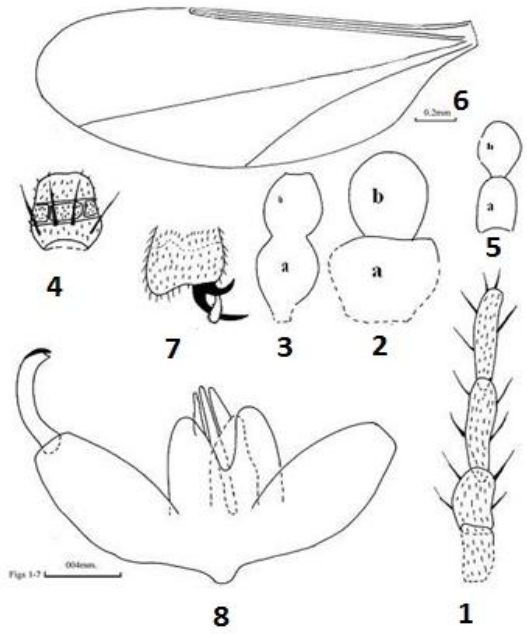
So far 24 species of *Lasioptera* are reported from India (Sharma, 2009). One new species, *Lasioptera gangakhedensis* sp.nov. is described here based on the flies reared from the inflorescence of *Setaria verticilla* (L).

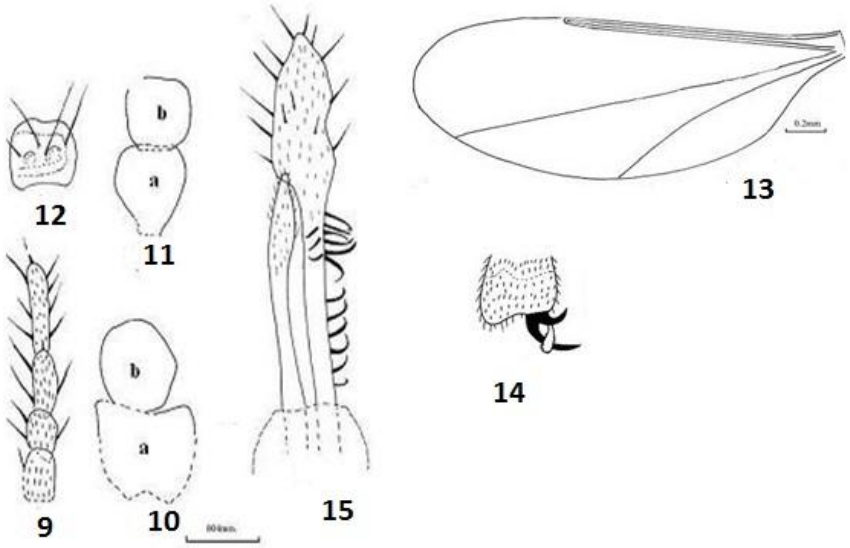
***Lasioptera gangakhedensis*, sp nov, (Figs. 1-15):**

Diagnostic features: Male; Body 0.65 mm long. Head: Eyes confluent above, ocelli absent; Trophi normal. Palpus (Fig. 1); quadriarticulate; sparsely setose, first segment (5:3) cylindrical, 1.66 x as long as thick; second segment (7:3) slightly longer than the first but 2.3 x as long as thick; third segment (8.3) cylindrical, broad apically, 2.66 x as long as thick; fourth segment (10:2) longest of all, 5 x as long as thick. Antenna: 0.35 mm long, nearly half the body length, with 2+12 sessile segments, flagellar segments with a whorl of long setae basally, circumfila low & horse shoe shaped; scape (Fig. 2a); 7:10 cup shaped; pedicel (Fig. 2b); 8:10 subglobose, thicker than long; third segment (Fig. 3a); 12 confluent with fourth, & nearly as long as the fourth, with a small basal prolongation (2:3) 0.17 the length of the segment, enlargement (10:7), 1.42 x as long as thick; fourth segment (Fig. 3b); (13:6), 2.16 x as long as thick; fifth segment (Fig. 4); 11:6 slightly shorter than the fourth, 1.83 x as long as thick; sixth and seventh segments (10:6) nearly as long as the fifth, 1.6 x as long as thick; eighth to twelfth segments progressively shortened distally; penultimate segment (Fig. 5a); 7:5 suboval, 1.4 x as long as thick; terminal segment (Fig. 5b); 6:5 smallest of all, round apically. Wing (Fig. 6): 75:28 hyaline, 2.67 x as long as broad, vein R_5 Joins costa in the distal third of the wing, vein M_{1+2} absent, vein M_{3+4} present, Cu simple. Legs: long, hairy, metatarsus (20) short; second tarsal segment (110) longest of all, shorter than the all terminal segments combined (182). Claw (Fig. 7): (9) dentate, on all legs, empodium (8) nearly as long as claw. Genitalia (Fig. 8): pale brown, sparsely setose, basal clasp segment (27:10) cylindrical, without lobe, 2.7 x as long as broad; terminal clasp segment short, broad basally and narrowed beyond middle, ending into a nail like spine; dorsal plate (14:13) deeply incised, lobes somewhat angulated apically, slightly longer than broad; subdorsal plate (16:7) entire, shorter than the dorsal, 2.29 x as long as broad; aedeagus (28) slender, longer than both the plates, with rounded tip, surrounded by two paramere lobes, extending slightly beyond the aedeagus.

Female: Body 0.70 mm long. Head: Eyes confluent above, ocelli absent, trophy normal. Palpus (Fig. 9): quadriarticulate, sparsely setose, first segment (6:3) subcylindrical, broad apically, 2 x as long as thick; second segment (10:4) subcylindrical, broad medially, 2.5 x as long as thick; third segment (7:4) suboval, nearly as long as first, 1.75 x as long as thick; fourth segment (11:3) cylindrical, nearly 4 x as long as thick. Antenna**:** 0.37 mm long, shorter than the body, with 2+16 cylindrical, sessile segments, flagellar segments progressively shortened distally, circumfila low, horse shoe shaped, and two whorls of long setae basally; scape (Fig. 10a); 5:7 cup shaped; pedicel (Fig. 10b); 8:8 globose; third segment (Fig. 11a); 15 confluent with and longer than fourth, with a small basal prolongation (2:2), enlargement (13:6) 0.86 the length of the segment, 2.16 x as long as thick; fourth segment (Fig. 11b); 14, 1.85 x as long as thick, apical stem very short; fifth segment (Fig. 12); 11:8 shorter than the fourth, 1.37 x as long as thick; sixth to fourteen segments progressively shortened; penultimate segment (6:6) similar to the fourteenth, as long as thick; terminal segment (5:6) subglobose, nearly as long as thick. Wing (Fig. 13): 83:34 hyaline, 2.44 x as long as broad, venation as the male wing; Legs: long, densely hairy, metatarsus (20) shortest of all, second tarsal segment (105) shorter than the terminal tarsal segments combined together (115). Claw (Fig. 14): (9) dentate on all legs, empodium (6) 0.6 the length of claw, Abdomen normal, without spines or colour patches. Ovipositor (Fig. 15): 6 the length of the abdomen, protractile, typical lasiopterarn type, dorsal lamella 6.25 x as long as its maximum thickness, with recurved spines subapically; ventral lamella shorter than the dorsal, densely hairy apically.



Figs. 1-8. *Lasioptera gangakhedensis*, sp.nov, male
1. Palpus, 2. Scape & Pedicel, 3. Third & fourth Antennal segments, 4. Fifth Antennal segment, 5. Penultimate & Terminal antennal segments, 6. Wing, 7. Claw, 8. Genitalia



Figs. 9-15. *Lasioptera gangakhedensis,* sp.nov, female
9. Palpus, 10. Scape & pedicel, 11.Third & fourth Antennal segments, 12. Fifth Antennal segment, 13. Wing, 14, Claw, 15. Ovipositor

2. MATERIAL EXAMINED

Holotype: Male, dissected and mounted on slide no *L. gangakhdensis*- 01, labelled as "reared from grass S*etaria verticilla*, (L), K.A. Ahad. Najam. Coll., 12-08-2006 Gangakhed, (Dist. Parbhani), Maharashtra, India".

Allotype: one female, dissected and mounted on slide no *L. gangakhedensis*- 02, data as of Holotype.

Paratype: One male and one female dissected and mounted on slides no *L. gangakhdensesis*. 03 & 04 data same as Holotype.

Etymology: The specific epithet *gangakhedensis* refers to locality i.e. Gangakhed.

3. RESULTS AND DISCUSSION

This new species closely resembles *L. asystasiae* (Nayar [5]), but can be easily separated from the later with following differences.

L. gangakhednsis sp.nov. & two new related species are without lobes in their basal clasp segment.

i) Lobes of dorsal plate angulated (dorsal plate with rounded apex in *asystasiae*).
ii) Antenna with 14 segments in male (antenna with 16 segments in *asystasiae*)
iii) 4th antennal segment 2.16 x as long as thick (0.75 x in *asystasiae*)

This new species can also be separated easily from *L.mangiflorae* Gagne (Grover [6]) Gagne with following differences.

i) 7th abdominal segment without a chitinised black patch and stout spines (7th abdominal segment with a chitinised black patch and stout spines, in *L. mangiflorae*)
ii) Fourth antennal segment 2.16 x as long as thick (1.20 x in *L. mangiflorae*).

4. CONCLUSION

From above result and discussion it is clear that the new species *Lasioptera gangakhedensis,* sp.nov, is differ from known species viz. *L. asystasiae* (Nayar) and *L. mangiflorae* Gagne (Grover) and new to Science.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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