

**DESCRIPTIONS OF TWO NEW GALL MIDGES (DIPTERA : CECIDOMYIIDAE)
FROM NILGIRI BIOSPHERE RESERVE, KARNATAKA**

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INTRODUCTION

The Nilgiri Biosphere Reserve is spread over three States in the Indian Peninsula, namely Tamilnadu, Kerala and Karnataka. Later accounts for 1520.40 sq.kms of the total Biosphere Reserve and comprises of Bandipur Tiger Reserve and Nagarhole National Park, which lie between 12°3'30" and 12°54'17" North Latitudes and 76°7' and 76°52'4" East Longitudes; 11°45' and 12°45' NL and 76°5' and 76°25' EL respectively.

During the course of faunistic survey in Nagarhole National Park of the Biosphere Reserve, several gall midge species were encountered, of which, two turned out to be new to Science which are described here.

Subfamily : CECIDOMYIINAE

Tribe : CECIDOMIID

1. *Blastodiplosis longipennis* sp. nov. (Figs. 1-8)

Male : Body 2.00 mm long, pale brown. Eyes confluent above. Trophi normal. Palpus 4-segmented, moderately setose; first segment (10 : 7) short, 1.42 × its maximum thickness; second segment (21 : 10) roughly half the length of first and a little more than twice its maximum thickness; third segment (25 : 7) longer and thinner than second; 3.57 × its maximum thickness; fourth segment (43 : 5) slender, longest of all, 8.60 × its maximum thickness.

Antenna : broken, longer than body, possibly with 2 + 12 binodose, tricircumfilar segments; basal enlargements globose, apical enlargements slightly constricted; basal enlargement with a whorl of regular circumfila and one whorl of long setae; apical enlargements with two whorls of regular circumfila and one whorl of long setae; circumfila shorter than apical enlargements; apical stems longer than basal ones; scape (21 : 23) cup-shaped; wider than long; pedicel (17 : 16) sub-globose; third segment (85) confluent with and shorter than fourth; basal prolongation very small; basal enlargement (19 : 15) 0 : 22 the length of the segment and 1.26 × its maximum thickness; basal stem (19 : 8) as long as basal enlargement and 2.37

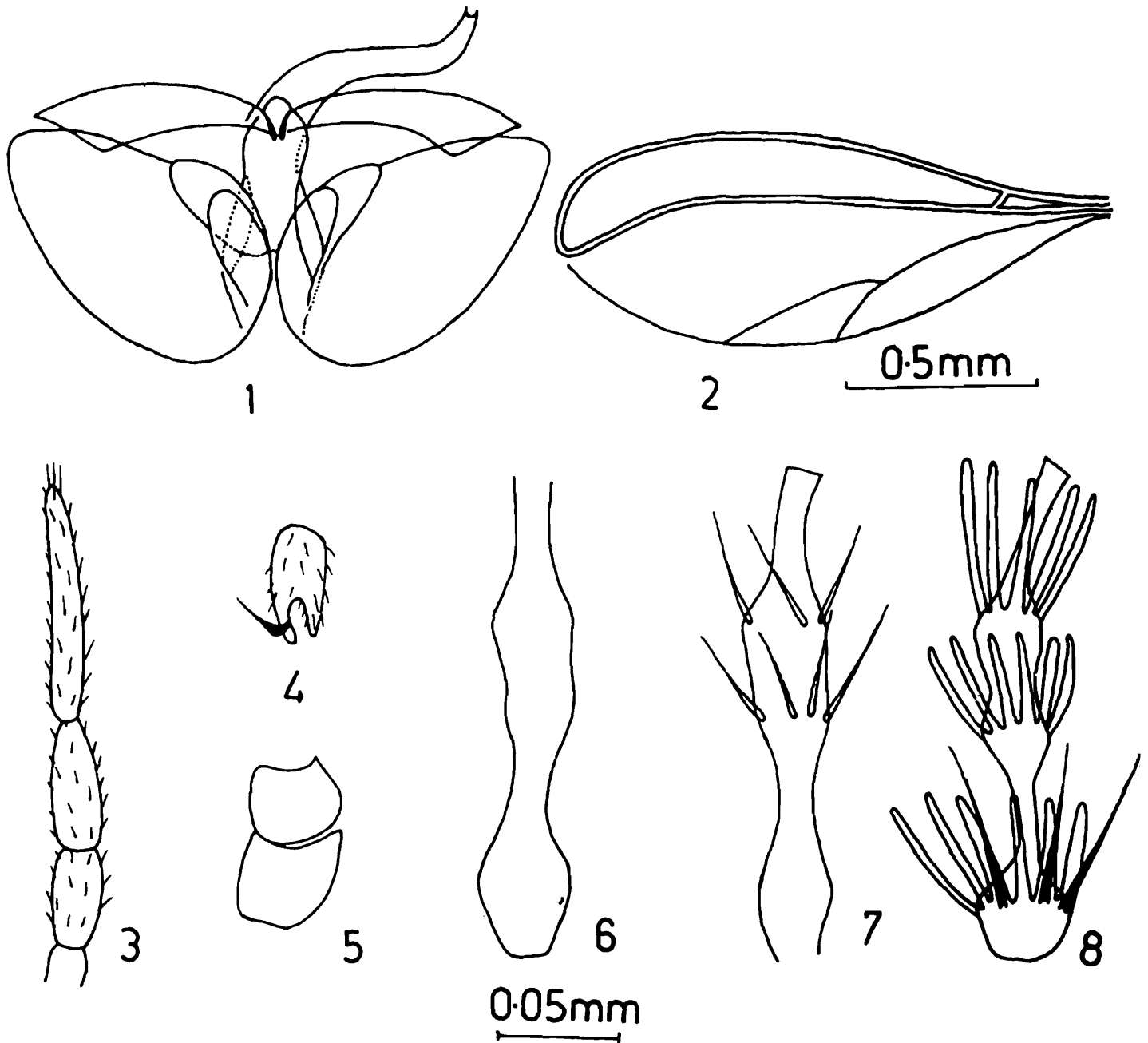


Fig. 1-8. *Blastodiplosis longipennis* sp. nov. (male) : 1. Genitalia (dorsal view); 2. Wing; 3. Palpus; 4. Claw; 5. Scape and Pedicel; 6, 7, 8. Third fourth and tenth antennal segments respectively.

× its maximum thickness; apical enlargement (26 : 15) 0.30 the length of the segment and 1.73 × its maximum thickness; apical stem (20 : 7) 0.76 the length of the apical enlargement and nearly 3.00 × its maximum thickness; fourth segment (92) longer than third, with basal enlargement (19 : 18) 0.20 the length of the segment and a little longer than wide; basal stem (19 : 8) as long as basal enlargement and 2.37 × its maximum thickness, apical enlargement (29 : 15) 0.31 the length of the segment and nearly 2.00 × its maximum thickness; apical stem (25 : 7) 0.86 the length of the apical enlargement and 3.57 × its maximum thickness, fifth, sixth and seventh segments gradually becoming shorter and thinner, eighth and ninth segments similar and longer than seventh, tenth segment shorter than ninth.

Wing : (70 : 23) hyaline, nearly 3.00 × as long as broad, vein R_1 joining costa well before the middle of the wing; vein R_5 present, vein R_5 meeting costa beyond the apex of the wing; Costa interrupted at its union; vein $M_3 + 4$ absent, vein *Cu* forked. *Legs* : long, sparsely hairy, metatarsus (7) half the length of the terminal tarsal segment; second tarsal segment (70) 10.00 × the length of the metatarsus and shorter than the following segments combined together (79); claw evenly curved, simple on all legs; empodium shorter than the claw.

Genitalia : pale brown; sparsely setose, basal clasp segment (55 : 32) 1.71 × as long as broad, median lobe in the form of well sclerotized conspicuous setose buldge; terminal clasp segment (46 : 15) slender, evenly curved, ending in a pointed tooth; nearly 3.00 × as long as broad, dorsal plate (26 : 30) broader than long, deeply bilobed, lobes setose; subdorsal plate (35 : 15) longer than dorsal, spatulate, setose, 2.33 × as long as broad; aedeagus (64 : 11) very long, well sclerotized, dorsally recurved and 5.80 × its maximum thickness.

Female : Unknown.

Holotype : Male dissected and mounted on slide, at light, Nagarhole National Park, Karnataka, India, 15.v.1989, R. M. Sharma, coll. The type is in the collections of the Zoological Survey of India, Pune for the time being.

Grover and Bakshi (1977-78) described *B. allahabadensis* recording the genus for the first time from India. The present species closely resembles *allahabadensis*, the only known Indian species, but can easily be separated by its remarkably long, dorsally recurved aedeagus; spatulate subdorsal plate and absence of vien $M_3 + 4$.

Etymology : The specific epithet *longipennis* refers to its long aedeagus.

2. *Octodiplosis brevipalpis* sp. nov. (Figs. 9-17).

Male : Body 1.31 mm. long. Eyes confluent above. Trophi normal. Palpus : short, 2-segmented, sparsely setose; First segment (6 : 6) globose; second segment (15 : 6) 2.50 × longer than first, length 2.50 × its maximum thickness.

Antenna : longer than body, with 2 + 12 segments, flagellate segments binodose, tricumfilar; Scape (10 : 19) cup-shaped; pedicel (12 : 16) sub-globose; third segment (51)

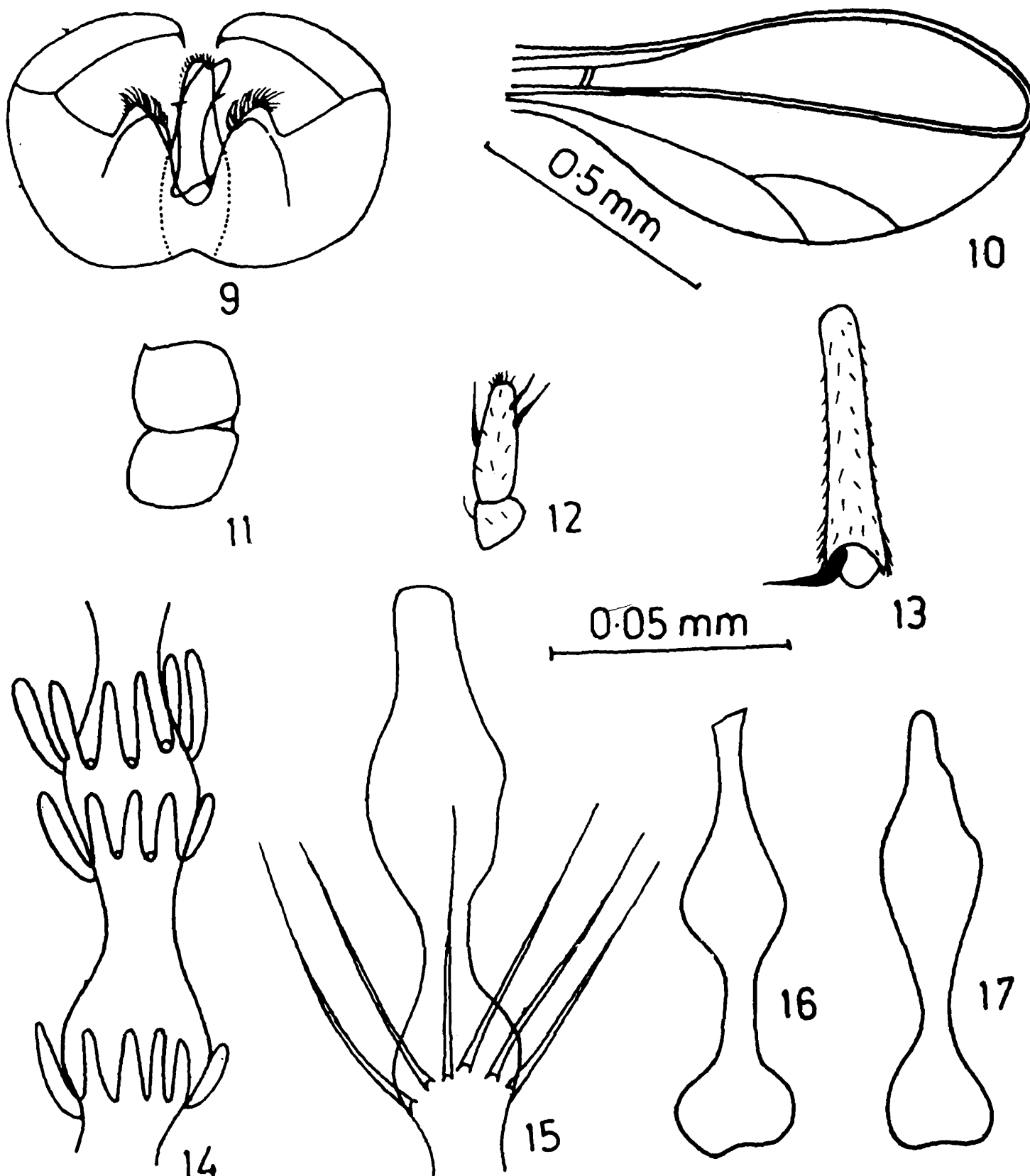


Fig. 9-17. *Octodiplosis brevipalpis* sp. nov. (Male) : 9. Genitalia (dorsal view); 10. Wing; 11. Scape and Pedicel; 12. Palpus; 13. Claw; 14. Third antennal segment; 15. Fourth antennal segment; 16. Penultimate segment; 17. Terminal segment.

confluent with and longer than fourth; basal enlargement (11 : 6) shorter than basal enlargement, slightly less than $2.00 \times$ as long as thick; apical enlargement (15 : 13) 0.25 the length of the segment and slightly longer than wide, apical stem (11 : 5) shorter than apical enlargement and a little more than $2.00 \times$ as long as thick, fourth and sixth segments similar, distal segments gradually becoming shorter, penultimate segment (42) with basal enlargement (9 : 11) 0.21 the length of the segment and wider than long; basal stem (9 : 4) as long as basal enlargement and slightly more than $2.00 \times$ as long as thick; apical enlargement (12 : 10) $1.33 \times$ longer than basal enlargement and $1.20 \times$ its maximum thickness; apical stem (10 : 3) shorter than apical enlargement and $3.33 \times$ as long as thick, terminal segment (40) shortest of all, basal enlargement (9 : 10) 0.22 the length of the segment and slightly wider than long; basal stem (8 : 2) a little shorter than basal enlargement and $4.00 \times$ as long as thick; apical enlargement (19 : 9) 0.49 the length of the segment and a little more than $2.00 \times$ as long as thick, apical stem in the form of an apical knob (5 : 2).

Wing : (42 : 17) hyaline, $2.47 \times$ as long as broad; vein R_1 joining costa a little before the basal half of the wing, vein R_s Present vein R_s reaching wing margin beyond the apex and interrupting costa at its union, vein C_u forked.

Legs : long, metatarsus (6) a little more than half the length of the terminal tarsal segment (11), second tarsal segment longest of all (38). Claw simple on all legs, bent at right angles, empodium rudimentary.

Genitalia : (45 : 28) light brown, basal clasp segment cylindrical with a large, basal obtuse lobe, $1.60 \times$ as long as broad (leaving basal lobe), basal lobe very prominent having recurved, dark brown setae at the tip; terminal clasp segment (40 : 10) slender, shorter than basal clasp segment, $4.00 \times$ as long as thick, gradually tapering towards tip, ending in a tooth; dorsal plate (30 : 30) bilobed, deeply bifid in the middle, as long as broad, subdorsal plate (50 : 16) entire, pubescent, elongate, broad basally, tapering apically, tip rounded, $3.12 \times$ as long as broad, aedeagus (50 : 18) with a pair of subapical lateral spine, as long as or longer than subdorsal plate, $2.77 \times$ as long as thick, tip rounded or notched.

Female : Unknown.

Holotype male, paratypes 3 males, dissected and mounted on slides, at light, Nagarhole National Park, Karnataka, India, 15. v. 1989, R. M. Sharma, Coll. The types are deposited in the collections of the Zoological Survey of India, Pune for the time being.

So far, the genus *Octodiplosis* Giard is represented in India by three species viz. *orientalis* (Rao), *quadrispina*, Grover and *bispina* Sharma. The present species is the most distinctive and can easily be separated from all the described species by its short 2-segmented palpus. However, it closely resembles *bispina* in having a pair of spines on aedeagus but differs by its large basal lobe of basal clasp segment.

Etymology : The specific epithet refers to a short 2 -segmented palpus.

SUMMARY

Blastodiplosis longipennis sp. nov. and *Octodiplosis brevipalpis* sp. nov. collected from Nagarhole National Park (Nilgiri Biosphere Reserve) Karnataka State, India, have been described and illustrated.

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