

A New Species of Gall Midge (Diptera: Cecidomyiidae) from India

S. R. Wagh

Abstract—Cecidomyiids, popularly known as gall midges, are minute to small, fragile, slender bodied, having long antennae and somewhat hairy flies, mostly inhabitants of galls and belonging to the order Diptera, the suborder Nematocera, the superfamily Mycetophiloidea and the family Cecidomyiidae. *Neolestremia nagari* sp. nov. is described from Ahmednagar District of Maharashtra State, India. Key to the Indian species of the genus is provided.

Keywords—Cecidomyiidae, Diptera, Lestremiinae, *Neolestremia nagari*.

I. INTRODUCTION

THE genus *Neolestremia* was erected by Mani (1934) for midges bred from the leaf bud galls of *Boerhavia* spp. from Chennai (South India). The genus approaches *Lestremia* Macq., very closely, but is chiefly distinguished from it by its triarticulate palpi. Later Sharma and Rao (1979) described one new species from Maharashtra. Deshpande et. al. (2002) added one more new species from Nanded, Maharashtra. The present species is the fourth from India and third from Maharashtra. At present, the range of distribution of the genus appears to be peninsular India, since it is not yet recorded from other countries of Indian subcontinent. The number of antennal segment in this genus has been a point of interest. Recorded information is that the male has 16 segmented antenna and the female has 11 segmented antenna.

II. MATERIAL EXAMINED

Holotype: One male dissected and mounted on slide, labeled as, “at light, Parner, Dist. Ahmednagar, S. R. Wagh collection, dated 13.VI.2010”.

Paratype: Two males dissected and mounted on slide, labeled as in holotype.

Type slides are retained in author’s collection at Parner for the time being.

Etymology: The specific epithet *nagari* refers to location from Ahmednagar district of Maharashtra State, India.

III. ABBREVIATIONS

Cu- Cubitus	M 1- Media 1
M 2- Media 2	M 3- Media 3
M 4- Media 4	R 1- Radius 1
R 5- Radius 5	

IV. RESULTS: DIAGNOSTIC FEATURES

Male: Body 1.10 mm long, pale brown in preserved condition. Eyes separate; ocelli two. Trophi normal.

Palpus: triarticulate, long, sparsely setose, densely hairy; first segment (12 : 8) short, sub cylindrical, length 1.5 x as long as its maximum thickness; second segment (15 : 6) cylindrical, longer and thinner than first, 1.25 x the length of the first and 2.5 x as long as its maximum thickness; third segment (20 : 4) cylindrical, longest of all, 1.33 x as long as the second and 5 x as long as its maximum thickness.

Antenna: 0.40 mm long, shorter than body with 2 + 13 segments, segments cylindrical, enlargements with stems, distal segments becoming thinner and shorter, enlargements with two whorls of long setae; scape (11 : 10), cup shaped, length 1.1 x its maximum thickness; pedicel (9 : 8) subglobose, longer than wide; third segment (15) not confluent with but longer than fourth, with a very short basal prolongation (2 : 3), enlargement (11 : 9) 0.73 x the length of the segment and 1.22 x as long as thick with a short apical stem (2 : 4) 0.18 x the length of the enlargement and 0.50 x as long as its maximum thickness; fourth segment (16) with enlargement (12 : 9) 0.75 x the length of the segment and 1.33 x as long as its maximum thickness, apical stem (4 : 5) 0.33 x the length of the enlargement and 0.8 x as long as its maximum thickness; fifth segment (19) slightly longer than fourth with enlargement (14 : 9) 0.73 x the length of the segment and 1.55 x as long as its maximum thickness, apical stem (5 : 4) 0.35 x the length of the enlargement and 1.25 x as long as its maximum thickness; sixth segment (18) slightly shorter than fifth with enlargement (13 : 8) 0.72 x the length of the segment and 1.62 x as long as its maximum thickness, apical stem (5 : 3) 0.38 x the length of the enlargement and 1.66 x as long as its maximum thickness; seventh and eighth segments (19) longer than sixth segment with enlargement (13 : 8) 0.68 x the length of the segment and 1.62 x as long as thick, apical stem (6 : 4) 0.46 x the length of the enlargement and 1.5 x as long as its maximum thickness; ninth segment (18) shorter than eighth with enlargement (12 : 7) 0.66 x the length of the segment and 1.71 x as long as thick, apical stem (6 : 4) 0.50 x the length of the enlargement and 1.5 x as long

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as its maximum thickness; tenth segment (17) shorter than ninth with enlargement (12 : 6) 0.70 x the length of the segment and 2 x as long as thick, apical stem (5 : 4) 0.41 x the length of the enlargement and 1.25 x as long as its maximum thickness; eleventh and twelfth segments (16) shorter than tenth, enlargement (11: 6) 0.68 x the length of the segment and 1.83 x as long as thick, apical stem (5 : 4) 0.45 x the length of the enlargement and 1.25 x as long as its maximum thickness; thirteenth segment (13) 0.81 x the length of twelfth segment, enlargement (8 : 5) 0.61 x the length of the segment and 1.6 x as long as thick, apical stem (5 : 3) 0.62 x the length of the enlargement and 1.66 x as long as its maximum thickness; penultimate segment (11 : 5) without apical stem, 0.84 x the length of thirteenth segment and 2.2 x as long as its maximum thickness; terminal segment (14) 1.27 x the length of penultimate segment with enlargement (12 : 5) 0.85 x the length of the segment and 2.4 x as long as thick, apical stem (2 : 2) as long as its maximum thickness, in the form of round knob.

Thorax: Mesonotum brown scutellum and post scutellum pale brown in colour.

Wing: (60:24) hyaline, covered with fine microtrichae, length 2.5 x as long as broad, vein R₁ meeting costa at the basal ¼ of the wing, vein R₅ short unites with costa beyond the middle of the wing, costa interrupted by its union with R₅, fork of M₁₊₂ longer than its stem, vein M₃₊₄ complete, vein Cu simple.

Legs: Long, stout, densely hairy, metatarsus (58) longest of all, shorter than all the tarsal segments combined together (78), second tarsal segment (25) 0.43 x the length of metatarsus, third tarsal segment (21) 0.84 x the length of second tarsal segment; fourth tarsal segment (18) 0.85 x the length of third tarsal segment; terminal tarsal segment (14) 0.77 x the length of fourth tarsal segment and 0.24 x the length of metatarsus; claw (6) evenly curved, simple on all legs; empodium (4) 0.66 x the length of claw.

Genitalia: Light brown, sparsely setose; basal clasp segment (38 : 17) cylindrical, narrowed apically, length 2.23 x as long as thick; terminal clasp segment (22 : 9) slender, broader at the base than at apex, gradually tapering towards tip and ending without any tooth, shorter than basal clasp segment and 2.44 x as long as thick; dorsal plate (18 : 16) entire, broadest basally, shallowly incised, sparsely setose, densely hairy; subdorsal plate (20 : 14) entire, shallowly incised, broadest submedially with a pair of ventrolateral spines basally and apically, 1.42 x as long as broad, tip rounded, aedeagus (42) cylindrical, sclerotised, 1.10 x as long as the basal clasp segment, not covered with cap apically.

Female: Unknown.

V.DISCUSSION

Neolestremia nagari sp. nov. closely resembles to *Neolestremia longipalpia* Deshpande *et al.* (2002c) but can be readily distinguished from it by following set of characters.

- i. Second palpal segment cylindrical, 2.5 x its maximum thickness (not 5 x).
- ii. Third palpal segment cylindrical, 5 x its maximum thickness (not 10.66 x).
- iii. Subdorsal plate with a pair of ventrolateral spines (not two pairs of lateral spines).
- iv. Aedeagus cylindrical, sclerotized not covered with cap apically (covered with flat cap).
- v. Different proportions of antennal segments.
- vi. Different proportion of tarsal segments.
- vii. Empodium 0.66 x the length of claw (not rudimentary).
- viii. Dorsal plate rounded apically (not triangular).

It can be readily differentiated from *Neolestremia orientalis* Sharma and Rao (1979d) in following characters.

- i. Second palpal segment cylindrical, 2.5 x its maximum thickness (not 1.28 x).
- ii. Third palpal segment cylindrical, 5 x its maximum thickness (not 3.25 x).
- iii. Empodium 0.66 x the length of claw (0.57 x).
- iv. Aedeagus cylindrical, sclerotized not covered with cap apically (not with rounded tip).
- v. Different proportions of antennal segments.
- vi. Subdorsal plate with a pair of ventrolateral spines (not two pairs of lateral spines).

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KEY TO THE SPECIES OF *NEOLESTREMIA* MANI (1934)

<p>1. Antenna with 2 + 13 segments; ocelli present. Antenna less than 2 + 13 segments; ocelli absent</p> <p>2. Second palpal segment cylindrical, length 1.28 x its maximum thickness; third palpal segment 3.25 x its labeled maximum thickness; subdorsal plate entire, broad apically, tip rounded, aedeagus cylindrical and with rounded tip. [<i>J. ent. Res.</i>, 3 (1): 36 – 37 (1979d).] Second palpal segment cylindrical, length 5.00 x its maximum thickness; third palpal segment cylindrical, 10.66 x its maximum thickness; subdorsal plate entire, tip truncated with two pairs of lateral spines, aedeagus thick, rod like and covered with flat cap apically. [<i>Zoo's Print. Journal.</i>, 17 (7): 817 – 819 (2002c)] Second palpal segment cylindrical, length 2.5 x its maximum thickness; third palpal segment cylindrical, 5 x its maximum thickness; subdorsal plate entire, broadest submedially with a pair of ventrolateral spines basally, tip rounded; aedeagus cylindrical, sclerotized.</p> <p>3. Antenna with 2 + 9 segments in female, ocelli absent; second palpal segment ovate, elliptical, length 2.00 x its maximum thickness; third palpal segment with length over 4.00 x its maximum thickness. [<i>Rec. Indian Mus.</i>, 36(4): 380 (1934b).]</p>	<p>2 3 <i>Orientalis</i> Sharma & Rao <i>longipalpia</i> Deshpande <i>et al.</i> (1) (2) (a) (b) <i>nagari</i> (c) <i>sp. nov.</i> (d) (e) <i>boerhaviae</i> (f) <i>Mani</i></p>
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PLATE: VII

Neolestremia nagari, sp. nov. (Male)

(Figs. 1 – 10)

- Fig. 1 Wing
- Fig. 2 Palpus
- Fig. 3 a Scape
- Fig. 3 b Pedicel
- Fig. 4 Third antennal segment
- Fig. 5 Fourth antennal segment
- Fig. 6 Fifth antennal segment
- Fig. 7 Penultimate antennal segment
- Fig. 8 Terminal antennal segment
- Fig. 9 Claw
- Fig. 10 Genitalia

PLATE: VII
Neolestremia nagari, sp. nov. (Male)
(Figs. 1 – 10)

