

DESCRIPTIONS OF THREE NEW AND RECORDS
OF TWO KNOWN SPECIES OF CHLOROPIDAE
(DIPTERA) FROM INDIA

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(With 3 Text-figures)

INTRODUCTION

The genera *Meijerella* Sabrosky and *Oscinella* Becker are represented in India by only one species of the former and three of the latter. In the present paper three new species, one under *Meijerella* and two under *Oscinella* are described. Besides *Siphunculina striolata* (Wiedemann) and *Cadrema nigricornis* (Thomson) are being recorded for the first time from India.

The type specimens are deposited in the National Zoological Collections, Zoological Survey of India, Calcutta.

I am grateful to the Director, Zoological Survey of India, for facilities for work and to Mr. K.S Pradhan, Superintending Zoologist, for constant encouragement.

SYSTEMATIC ACCOUNT

Cadrema nigricornis (Thomson) comb. nov.

1869. *Hippelates nigricornis* Thomson, *Eugen. Resa.* P : 607 (Type loc.— Ross Island)
1869. *Hippelates flavus* Thomson, *Eugen. Resa.* P : 607 (Type loc.— Keeling Island)
1904. *Hippelates bilineatus* de Meijere, *Bijdr. Dierkunde* : 113 (Type loc.— Java : Pasuruan)
1923. *Hippelates nigricornis* Thomson var. *bilineatus* de Meijere : Frey, *Notulae Ent.*, 3 : 100.
1934. *Liohippelates nigricornis* Thomson var *bilineatus* (de Meijere) Duda, *Tijdschr. Ent.*, 77 : 61.
1934. *Liohippelates nigricornis* (Thomson) var. *flavus* (Thomson) : Duda, *Tijdschr. Ent.*, 77 : 61.

Frey (1923) considered *C. bilineatus* (de Meijere) a variety of *C. nigricornis* (Thomson) and this was followed by Duda (1934). Besides Duda considered *C. flavus* (Thomson) also a variety of *C. nigricornis* (Thomson). Out of the two specimens before me one agrees entirely with the descriptions of *flavus* (Thomson) but in the other out of the four longitudinal stripes on the mesonotum the two median ones are distinctly separable only anteriorly. Moreover in the latter specimen the lateral stripes are distinctly blackened and each is broken at the transverse suture. It is the first record of this species from India.

2 Examples. India : Calcutta, 1 ♀, 27. vii. 1972 (*P. T. Cherian*).
1 ♀, 28. viii. 1972 (*P. T. Cherian*).

Siphunculina striolata (Wiedemann)

1830. *Chlorops striolatus* Wiedemann, *Aussereurop. Zweifl. Insekten* 2 : 597 (Type loc.—China).
1858. *Oscinis signata* Wollaston, *Ann. Mag. nat. Hist.*, (3) 1 : 117 (Type loc.—Madeira).
1910. *Microneurum signatum* (Wollaston), Becker, *Arch. Zool.*, 1 : 132, 149.
1912. *Siphunculina signata* (Wollaston), Becker, *Ann. Mus. Nat. Hist.*, 10 : 191.
1963 *Siphunculina striolata* (Wiedemann), *Ann. Mag. nat. Hist.*, (13) 6 : 750.

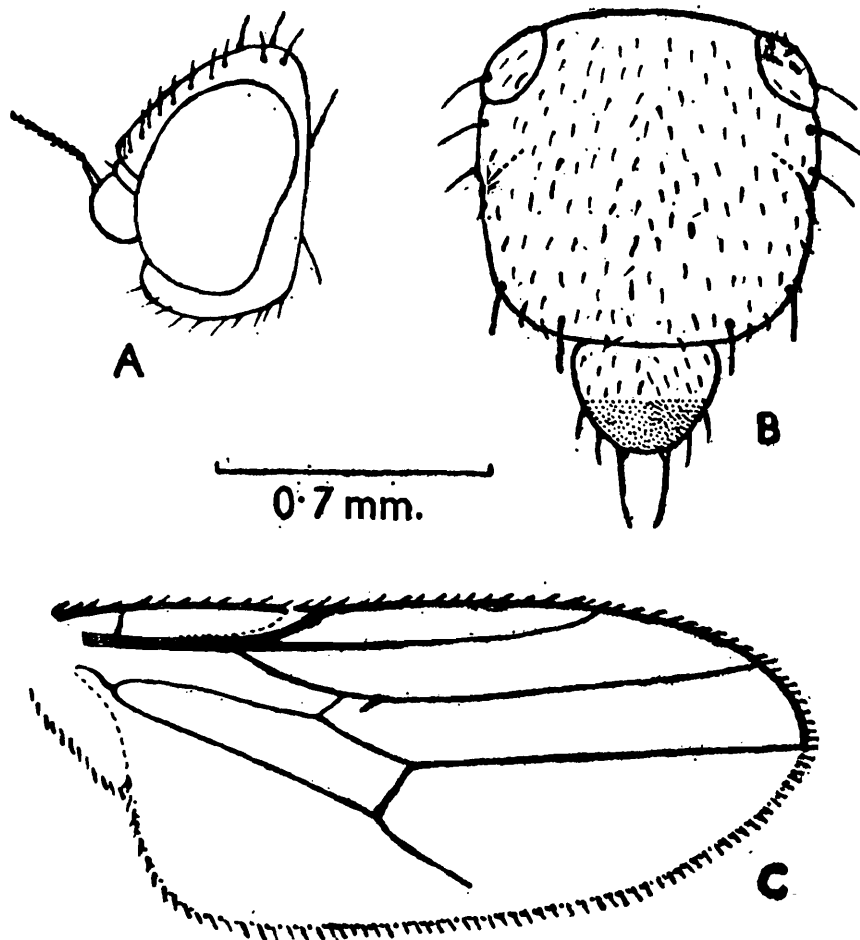
All the four specimens before me, three from Calcutta and one from the Andaman Islands, agree wholly with the descriptions of Wiedemann.

4 Examples. India : Calcutta, 1 ♀, 10.i. 1969 (*A.N.T. Joseph*); Calcutta, 1 ♂ 1 ♀, 11. viii. 1972 (*P. T. Cherian*); South Andamans, Cheria Tappu, 1 ♀, 23.x. 1972 (*P. T. Cherian*).

Meijerella indica, sp. nov.

Head (Text. Fig 1 *a*).—slightly higher than long, height, length and width in the ratio 15:14:18; frons parallel-sided, brownish-yellow, width 0.36 times that of head and two-thirds its own length, with short, golden yellow hairs; frontal triangle sharply demarcated, dull black with grey pollen imparting ash grey colour to the triangle, reaching three-fifths the frons. Eye densely and conspicuously pubescent, long axis vertical. Gena almost half as wide as third antennal segment, dull yellowish-grey, vibrissal angle rounded; postgena concolourous with frontal triangle. Face concave, yellowish-grey; facial carina extending in the form of a low, linear ridge to the epistomal margin. Second antennal segment brown; third segment brownish-yellow, distinctly wider than long; arista slender, basally yellowish-brown but distally dark brown, with concolourous pubescence. Palpi yellowish-brown

and proboscis brown. All head bristles and hairs slender, yellow; *ovt* 0.35 times the width of eye; *ivt* just over half the *ovt*; *ori* about 9, reclinate, longest more than half the *ovt*; *fr* hardly distinguishable from frontal hairs; *pvt* convergent, three-fourths the *ovt*; *oc* slightly reclinate, almost parallel, two-thirds the *ovt*.



Text-fig. 1.— *Meijerella indica*, sp, nov. A— head, B — thorax, C— wing.

Thorax (Text Fig. 1 *b*).— Mesonotum dull black, width equal to its own length and to the width of head, with grey bloom and uniformly with dense piliferous punctures and golden yellow pubescence; five longitudinal stripes are seen which are less grey, of these the median reaches upto the scutellum. Scutellum broadly semicircular with broadly obtuse apex, pubescent and punctate like mesonotum, the distal half ferruginous, the rest concolourous with mesonotum length to width at base 11 : 17; 1 *hu*, pale, slender, hair-like; *np* 1 + 1, almost equal a little less than half the width of eye; *pa*, equal to posterior *np*; *pa*₂ absent; 1 *dc* equal to *pa*; *as* half the width of eye and 0.8 times the length of scutellum, set on small tubercle; *ss*₁ half the *as*, very slender, pale, set on very fine tubercles, *ss*₂ two-thirds the *ss*₁. All the thoracic bristles, except the *hu* and *ss* dark brown.

Wing (Text fig. 1 c).— Hyaline, width to length 4 : 11 ; costal sectors 2 to 4 as 14 : 9; 5; middle cross-vein greatly distad of the middle of the discal cell as 2 : 1; terminal sectors of iii and iv veins straight. Knob of haltere white, stalk yellow.

Legs.— Coxae brown to dark brown; fore tibia brown, mid and hind tibiae and all tarsi yellowish-brown.

Abdomen.— Second segment at the posterolateral margin and third wholly blackish-brown; fourth segment yellowish-brown but for a large, subtriangular, black spot in the middle and two blackish patches, one on each side; fifth segment wholly black.

Measurements.— ♂ Body length 1.5 mm; Wing length 1.7 mm.

This species comes close to *M. inaequalis* (Becker) from Formosa from which it differs in the number and colouration of the longitudinal stripes on the mesonotum and the bicolourous nature of the scutellum. Moreover in *indica* the frons and gena are narrower.

Holotype : ♂ on pin, India : Lingamala water falls (Maharashtra), 17.i 1972. (K.S. Pradhan)

Genus *Oscinella* Becker

1909. *Oscinella* Becker, *Bull. Mus. Nat. Hist. Nat. Paris*, 15 : 120.

Oscinella Becker is a very large genus represented by many species in all the fauna! regions. It can be distinguished by the following characters : Frontal triangle shiny or dusted only between ocelli or (rarely) at angles and without hairs; front margin of frons concave; face perpendicular; eyes and arista pubescent and thoracic pubescence scanty and arranged more or less in lines. The larvae live mostly as stem-miners. Only three species *minuta* Becker, *pura* Becker and *frit* (Linn.) have so far been recorded from India. Two new species are described here.

Key to the Indian species of *Oscinella* Becker.

1. Legs yellow to ferruginous-yellow eye naked. *pura* Becker
Legs partly black; eye pubescent. 2
2. Frontal triangle short, reaching only upto the middle of frons: antennae bright reddish yellow *minuta* Becker
Frontal triangle reaching three-fourths or more the length of frons. 3
3. Gena only half as wide as third antennal segment: arista distinctly pubescent..... 4
Gena nearly as wide as third antennal segment: arista not so distinctly pubescent *frit* (Linn.)
4. Frontal triangle dull, pointed apically : knob of haltere yellow : cerci widened at base, almost triangular *fusidentata*, sp. nov.
Frontal triangle shiny, obtusely truncate apically; knob of haltere yellow; cerci slightly narrowed at base *moirangae* sp. nov.

Oscinella fusidentata, sp. nov.

Male, Female : Head. (Text Fig. 2a)— Higher and wider than long, length, height and width in the ratio 5:7:8; frons dull black, width 1.1 times its own length and 0.56 times the width of head; frontal triangle raised, dull black, reaching nearly to the anterior margin of frons, pointed at apex; eye finely pubescent, long axis slightly diagonal; gena dull black, width half the width of third antennal segment, vibrissal angle rounded; postgena black; face very narrow, facial carina indistinct; epistomal margin retreating. Antenna black, third segment wide, width to length 5:4; arista black, with long black pubescence. Palpi and proboscis black. All the head and thoracic bristles and hairs black; *ovt* slender, 0.4 times the width of eye; *ivt* very slender, nearly three-fourths the *ovt*; *ori* 7, slender, reclinate, half the *ovt*; *pvt* cruciate, a little over one-third the width of eye; *oc* cruciate, slightly proclinate, a trifle shorter than *pvt*; *ovt* 7-8.

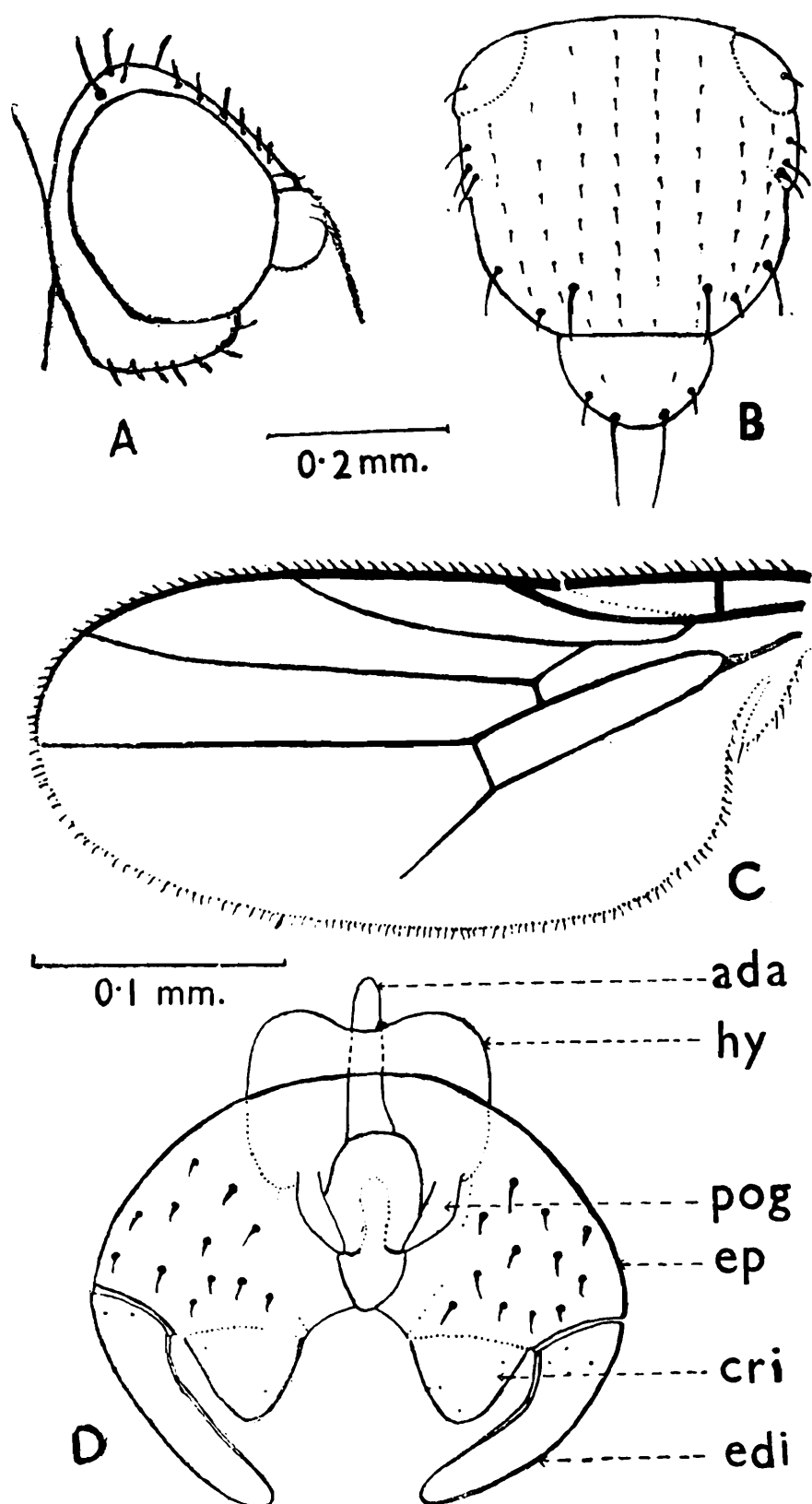
Thorax (Text Fig. 2 b).— Mesonotum slightly wider than long and as wide as head, width to length 8:7, black finely granulose, mesonotal hairs arranged in about eight longitudinal rows; pleural region polished; scutellum semicircular, dull black, width to length 8:5; *hu* 1, one-fifth the width of eye; *np* 1 + 2, anterior very slender, a little longer than *hu*, posterior two fairly stout and almost equal, nearly twice the *hu*; *pa*, slender, equal to posterior *np*; *pa*₂ represented by a fine hair that can scarcely be called a bristle; *l dc* slender, three-sevenths the width of eye; *as* convergent to cruciate, 1.25 times the scutellum; *ss* 1 pair, one-third the *as*.

Wing (Text Fig. 2 c).— Hyaline, veins brown, width 0.35 times the length; costal sectors 2 to 4 as 5 : 5 : 2; middle cross-vein distad of the middle of the discal cell as 3:2; terminal sectors of iii and iv veins nearly straight. Stalk of haltere pale grey, knob white.

Legs.— Coxae, trochanters and femora brownish-black; fore and mid tibiae yellowish-brown to dark brown; hind tibia dull black, but pale at both ends; tarsi dark brown, but basal segments of mid and hind tarsi yellowish-brown.

Abdomen.— Very narrow, dull black but two basal segments especially in the male, brownish-yellow, with dark brown patches.

Genitalia. (Text Fig. 2 d)— Edita (EDI) shorter than epandrium (EP), blunt at tip, set with scattered hairs; cerci (CRI) in the form of a triangular plate, less than half as long as the edita; gonite (POG) acute at tip, hypandrium (HY) only slightly sinuate proximally; aedeagal apodeme (ADA) a little over half the epandrium.



Text-fig. 2. — *Oscinella fusidentata*, sp. nov. A — head, B — thorax, C — wing, D — genitalia.

Length	♂	1.2 — 1.4 mm	Wing	1.3 — 1.4 mm
	♀	1.3 — 1.6 mm		1.3 — 1.6 mm

Holotype ♂, on pin, India : Agra, 4.v. 1967, Coll. P. T. Cherian.

Paratype 8 ♂♂, 6 ♀♀, data same as that of holotype.

O. fusidentata comes close to *pusilla* Meigen from Formosa and Europe from which it differs in the width of gena being only half and not almost equal to that of third antennal segment. Again in *fusidentata* the femora are pale at tips, the arista is with fairly long pubescence and fore and mid tibiae are not yellow but dark brown with pale tips.

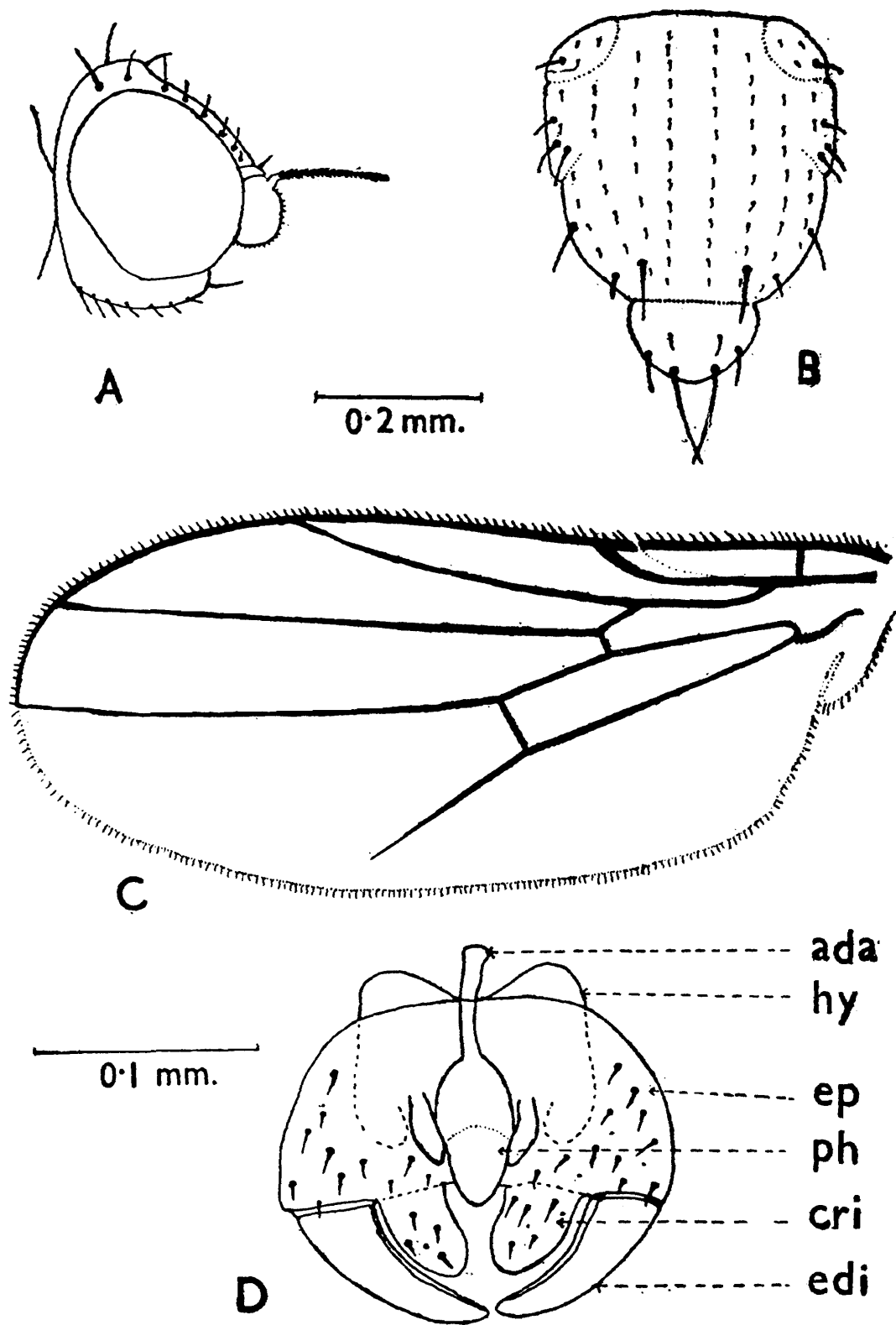
Oscinell 2 moirangae, sp. nov.

Male, Female : Head (Text Fig. 3 a).—A trifle higher and much wider than long, length, height and width in the ratio 31:33:43; frons almost parallel-sided, slightly concave in front, width 0.53 times that of head and a little more than its own length, brownish-black; frontal triangle polished, shiny black, reaching the anterior margin of frons and ending with an obtuse apex, eye densely and finely pubescent, the long axis nearly vertical, gena brownish-black, width half that of third antennal segment; vibrissal angle rounded, not projecting in front beyond the eye; postgena dull black; face narrow, concave, brownish-black, facial carina indistinct, epistomal margin a little raised, antennae approximated, black; third segment wider than long, width to length 11:9; arista 0.9 times the width of eye, black, with short black pubescence, palpi, proboscis and all the head and thoracic bristles and hairs black, *ovt* slender, 0.37 times the width of eye, *ivt* nearly four-fifths the *ovt*, *ori* 5—6, slender, reclinate, half the *ovt* last one shorter; *fr* 7, turned inwards, equal to *ori*; *pvt* nearly cruciate, 0.8 times the *ovt*, *oc* slender, proclinate, cruciate, over two-thirds the *pvt*. *ovi* 8, slender, last one stout.

Thorax (Text Fig. 3 b).—Shiny black, mesonotal hairs arranged in about eight longitudinal rows, pleura glabrous, scutellum short, not semicircular, width to length 3:2, the latter 0.3 times the length of mesonotum, *hu* 1, slender, one-fourth the width eye, *np* 1+2, 1.5 times the *hu*, anterior slightly slender, *pa*₁ slender, nearly equal to *np*: *pa*₂ not distinct, 1 *dc* half the width of eye, *as* convergent, 1 1 times the scutellum, *ss* 1 pair, two-thirds the scutellum.

Wing (Text Fig. 3 c).—Hyaline, veins brown, width to length 5:13, costal sectors 2 to 4 as 21:16:8, terminal sectors of iii and iv veins slightly diverging, middle cross-vein distad of the middle of the discal cell as 3:2 and beyond the level of the costal break, hind cross-vein slightly oblique. Stalk of haltere ferruginous-yellow, knob yellowish-brown.

Legs.—Coxae black, trochanters dull brown, femora brownish black except the pale ends, fore and mid tibiae dark yellowish at base and tip, in the middle brown: hind tibia broadly dull black in the middle, the ends brownish-yellow; fore tarsi and the last three segments of mid and hind tarsi dark brown, the rest yellowish-brown.



Text-fig. 3. — *Oscinella moirangae*, sp. nov. A — head, B — thorax, C — wing. D — genitalia.

Abdomen.— Black, finely granulose, sparsely short pubescent.

Genitalia (Fig. 3 d).— Edita (EDI) nearly as long as the epandrium (EP), blunt at apex; cerci (CRI) slightly narrowed at base, over half the length of edita; hypandrium (HY) sinuate proximally; phallus (PH) blunt apically; aedeagal apodeme (ADA) over half the epandrium.

Length	♂	1.3 mm	Wing	1.3 mm
	♀	1.5 mm	Wing	1.56 mm

Holotype ♂, India : Agra, 24.ix. 1967, Coll. *P. T. Cherian*.

Paratypes 10 ♂♂, 7 ♀♀, data same as that of holotype; 2 ♀♀, India: Manipur, Moirang, 7.v. 1968, Coll. *Ipe M Ipe*.

O. moirangae comes near *fusidentata* from which it differs especially in the polished frontal triangle which is obtuse at apex and the uniformly dull black abdomen.

Abbreviations Used In The Text.— *as* — apical scutellar bristle, *dc* — dorsocentral bristle; *fr* — frontal bristle; *hu* — humeral bristle; *ivt* — inner vertical bristle; *np* — notopleural bristle; *oc* — ocellar bristle, *ori* — fronto-orbital bristle, *ovi*—oral vibrissae, *ovt* — outer vertical bristle, *pa₁* & *pa₂* — postalar bristles, *pvt* — postvertical bristle, *ss₁* *ss₂*—subapical bristle.

ADA— aedeagal apodeme, CRI — cerci, EDI—edita, EP — epandrium, HY— hypandrium, PHA— phallus, POG — gonite.

Summary Three new species of Chloropidae (Diptera), one under the genus *Meijevella* Duda, and two under *Oscinella* Becker are described here and two known species are recorded for the first time from India.

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