

ON SOME ASILIDAE (DIPTERA) PRESENT IN THE
B. P. BISHOP MUSEUM, HONOLULU I

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ABSTRACT

The paper deals with twenty-six species of fifteen genera of Asilidae from India and Nepal. Out of these, seven are new species, i. e., *Maira bicolor* sp. nov., *Microstylum coimbatorensis* sp. nov., *Xenomyza pseudoartigasi* sp. nov., *Ommatius bengalensis* sp. nov., *Neoitamus sedlaceki* sp. nov., *Neomochtherus himalayensis* sp. nov., and *Promachus genitalis* sp. nov. and in one species i. e., *Xenomyza dravidica* Joseph and Parui, the females are reported for the first time.

INTRODUCTION

Through the courtesy of Dr. Neal I. Evenhuis, Associate Entomologist, B. P. Bishop Museum, Honolulu, Hawaii 96819, we have received a small, but interesting, collection of robberflies from India and Nepal, and the result of the study is dealt within this paper.

Types are deposited in the B. P. Bishop Museum, Honolulu and the Zoological Survey of India, Calcutta.

Laphria Meigen

Laphria Meigen, 1803, *Magazin insektdede*, 2 : 270.

1. **Laphria indica** Joseph and Parui

Laphria indica Joseph and Parui, 1981, *Ent. Scand.*, 12 (2) : 216.

Material examined : 2 ♂♂, India, Tamil Nadu, Anamalai Hills, Cinchona, 1050 m., i. 1967, Coll. P. S. Nathan.

Remarks : This is the second record of the species from type locality.

Maira Schiner

Maira Schiner, 1866, *Verh. Zool. bot. Ges Wien*, 16 : 673.

2. **Maira bicolor** sp. nov.

(Fig. 1)

A small, black and yellowish-brown species with bicoloured abdomen and legs and infuscated wings. Male : length 10 mm, wing 9 mm.

Male : *Head* broader than thorax, black,

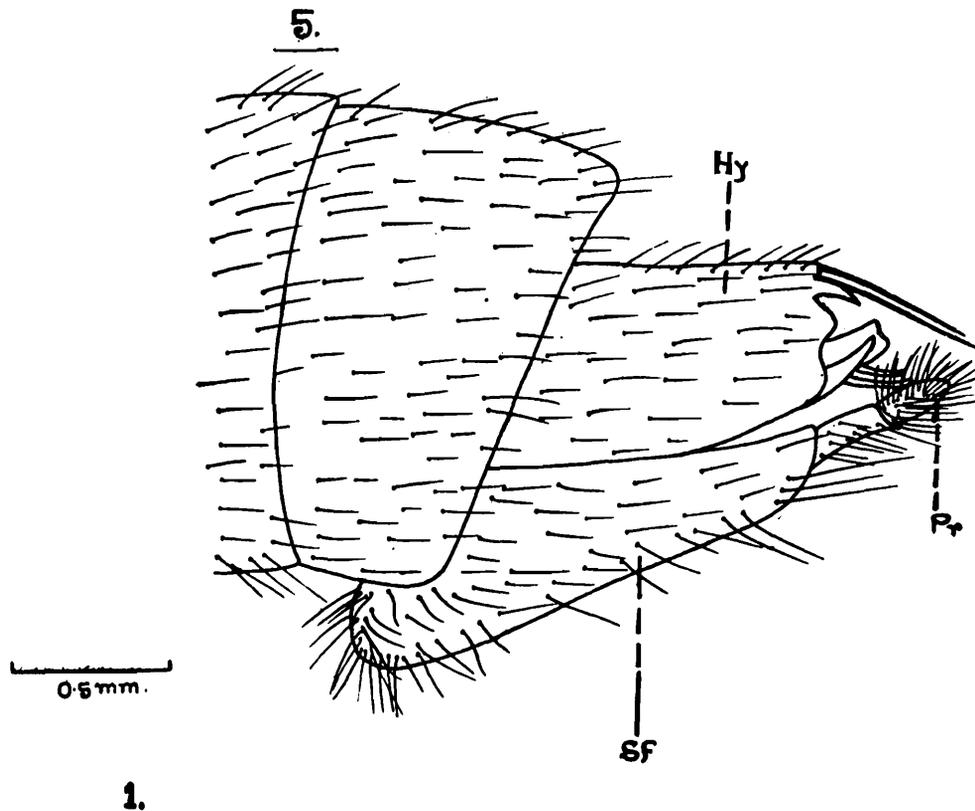


Fig. 1. *Maira bicolor* sp. nov., lateral view of male genitalia.

tomentum grey and greyish-yellow, mystax with long black and short golden yellow bristles ; fronto-orbital hairs golden yellow below and black above, ocellar hairs black ; postcranium above devoid of tomentum, below tomentose, above and sides with black hairs, postgena with pale yellow hairs. Antennae black, basal two segments with black hairs, segment 1 about thrice the length of 2, segment 3 about twice the combined length of segments 1 and 2. Palpi and proboscis black with pale yellow hairs.

Thorax shining black ; pronotum black haired ; mesonotum without mediolongitudinal stripe, vestiture very small, pale yellow ; sentellum with the disc bearing very small pale yellow hairs, hind border with a pair of black bristles ; metapleuron with a bunch of black bristles, pleura grey tomentose. Halteres yellowish-brown.

Legs black and yellowish-brown ; coxa and trochanter black, with its tip yellowish-brown, tibia and tarsus yellowish-brown but hind tibia distally dark brown, hind femur with a pair of short, spiny bristles anteroventrally on the distal side, vestiture pale yellow with some black hairs also, tibia on apex ventrally as well as tarsal segments ventrally with thick golden yellow hairs.

Wings infuscated, but lighter basally ; discal cell in one wing with a supernumerary cross-vein.

Abdomen yellowish-brown and shining black, segment 1 shining black, segment 2 yellowish-brown with a black mark on tergum, segments 3 and 4 yellowish-brown, 5 yellowish-brown and black, vestiture golden yellow, a few hairs laterally on segment 1 form bristles. Male genitalia (Fig. 1) shining black with black hairs.

It differs from all the other known Indian species of *Maira* by the yellowish-brown and black abdomen. In male genitalia it resembles to *M. hispidella* Wulp from Java from which it can be separated by the structural details of hypandrium.

Holotype ♂, India, Sukna, 55 km. S. of Darjeeling, v, 1966, Coll. J and M. Sedlaeck, B.M. Reg. No. 13104.

Microstylum Macquart

Microstylum Macquart, 1838, *Dipt. exot.*, 1 (2) : 26.

3. *Microstylum coimbatorensis* sp. nov. (Fig. 2)

A rather small, black species with heavily infuscated grey abdomen, almost wholly black legs and anteriorly brownish wings. Male : length 18 mm., wing 11 mm.

Male : *Head* broader than thorax, black, infuscated with grey tomentum ; mystax with a transverse row of apical black bristles ; fronto-orbital bristles and ocellar bristles black ; postcranium on sides densely grey tomentose and medially bare, postocular

bristles black, postgena with dense white to pale yellow hairs. Antennae lost from segment 3 onwards, segments 1 and 2 nearly equal in length, their hairs black with one or more ventrolaterally elongate. Palpi and proboscis black, the former bearing black hairs.

Thorax black infuscated with grey tomentum ; pronotum medially pale yellow haired and laterally black haired ; mesonotum sparsely grey tomentose medially and densely grey tomentose laterally, mediolongitudinal stripe absent, hairs and bristles black with a few white hairs on humeri ; scutellum sparsely grey tomentose, hind border bearing a pair of black bristles, metanotal slopes with a bunch of white hairs ; pleura densely grey tomentose. Halteres pale yellow to hyaline.

Legs black but tibia and tarsus comparatively lighter coloured ; vestiture predominantly white with some black hairs also, bristles mostly black with some pale yellow ones.

Wings brownish anteriorly and hyaline posteriorly.

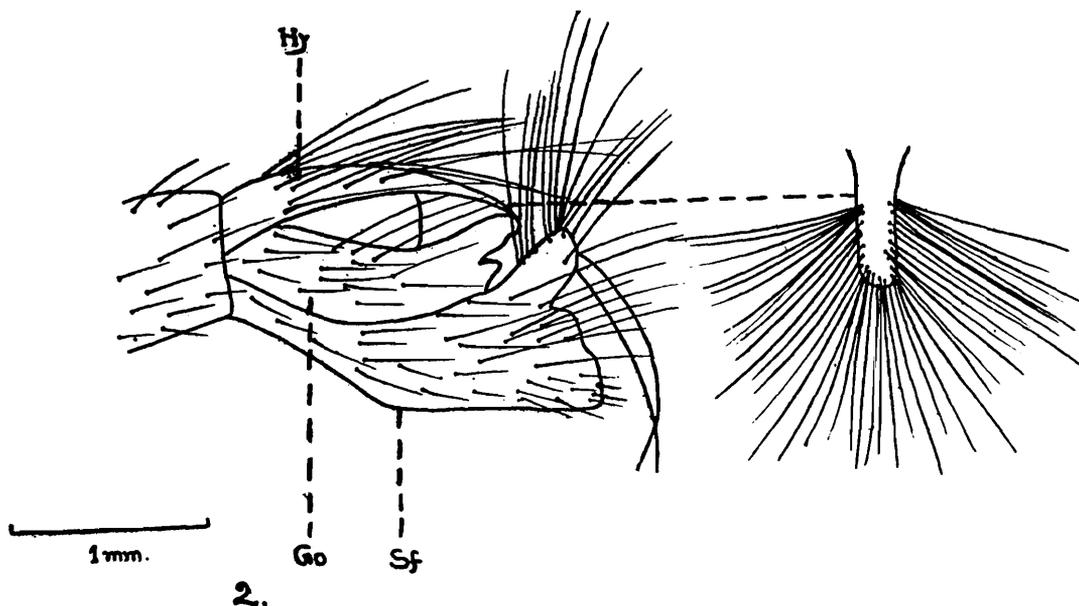


Fig. 2. *Microstylum coimbatorensis* sp. nov., lateral view of male genitalia.

Abdomen black with the tergites of segments 3-5 wholly and 6 distally densely grey tomentose, segments 1-3 with bunches of white hairs, vestiture white and black. Male genitalia (Fig. 2) black with black and a few white hairs on the apex of superior forceps, apex of hypandrium bearing a bunch of white hairs.

Of the various known regional species, *Microstylum coimbatorensis* sp. nov. is similar to *M. varshneyi* Joseph and Parui differing from which in the greyish infuscated abdomen, almost uniformly black legs, in the shape of hypandrium as well as its hairs being white, and in the shape of superior forceps.

Holotype ♂, South India, Madras State (Tamil Nadu), Coimbatore, 420 m., iv. 1960, Coll. P. S. Nathan, B. M. Reg. No. 13105.

4. *Microstylum ananthakrishnani* Joseph and Parui

Microstylum ananthakrishnani Joseph and Parui, 1984, *Ent. Scand.*, 15 : 449.

Material examined : 1 ♀, India, Kerala, Calicut District, Chembra Peak Area, 1067 m., v. 1970, Coll. P. S. Nathan.

Remarks : This species was described from Kerala and it is the second report.

5. *Microstylum varshneyi* Joseph and Parui

Microstylum varshneyi Joseph and Parui, 1984, *Ent. Scand.*, 15 : 452.

Material examined : 1 ♂, India, Tamil Nadu, Coimbatore, 420 m., iv. 1960, Coll. P. S. Nathan ; 1 ♂, ix. 1964, other data as in preceding.

Remarks : It is the second record of the species and from the type locality.

Stenopogon Loew

Stenopogon Loew, 1847, *Linn. Ent.* 2 : 453.

6. *Stenopogon hulli* Joseph and Parui

Stenopogon hulli Joseph and Parui, 1981, *Oriental Ins.*, 15 (1) : 27-28.

Material examined : 1 ♂, India, Kerala, Trivandrum District, Poonmudi Range, 900 m., iv-v. 1971, Coll. P. S. Nathan.

Remarks : So far the species is recorded from type locality only.

7. *Stenopogon manii* Joseph and Parui

Stenopogon manii Joseph and Parui, 1981, *Oriental Ins.*, 15 (1) : 106-107.

Material examined : 1 ♂, 5 ♀♀, Tamil Nadu, Anamalai Hills, Cinchona, 1050 m., iv. 1956, Coll. P. S. Nathan.

Remarks : This is the second record of the species from the type locality.

Trigonomima Enderlein

Trigonomima Enderlein, 1914, *Wein. ent. ztg.*, 33 : 164.

8. *Trigonomima anamaliensis* Joseph and Parui

Trigonomima anamaliensis Joseph and Parui, 1980, *Bull. zool. Surv. India*, 2 (2 & 3) : 197.

Material examined : 5 ♀♀, India, Tamil Nadu, Nilgiri Hills, Devala, 960 m., v. 1964, Coll. P. S. Nathan.

Remarks : This is the second record of the species.

Xenomyza Wiedemann

Xenomyza Wiedemann, 1817, *Zool. Mag. (Wied.)* 1 : 60.

9. *Xenomyza pseudoartigasi* sp. nov. (Fig. 3)

A black species with black thorax and abdomen, infuscated wings and black tinged hind femora. Male : length 9-10 m., wing 10 mm. ; female : length 10 mm., wing 11 mm.

Male : *Head* broader than thorax, black, grey tomentose, mystax a transverse row of black bristles ; fronto-orbital plate bare, ocellar bristles black ; postcranium greyish tomentose, postgena pale yellow hairs.

black marking, hind femur apically black and with a median black mark more or less forming a ring, tibiae yellowish-brown with black apex, tarsal segments basally yellowish-brown and apically black, the latter increasing

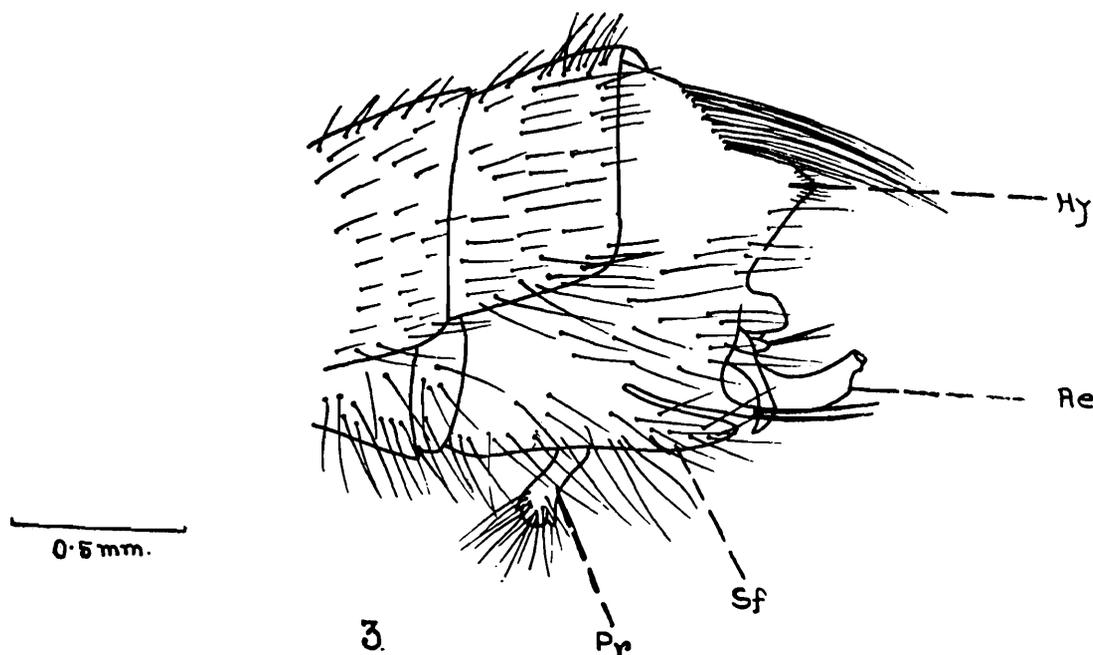


Fig. 3. *Xenomyza pseudoartigasi* sp. nov., lateral view of male genitalia.

Antennae black with the distal half of arista pale yellow, segment 1 small, shorter than half of 2 and ventrally bearing a long, black bristle, segment 2 globular. Palpi and proboscis black, their hairs pale yellow but for a few apical black ones on palpi.

Thorax black, infuscated with grey and greyish-yellow tomentum ; pronotum bearing white hairs laterally ; mesonotum black, sides grey tomentose, hairs mostly white with some pale yellow ones also, more or less confined to the sides ; scutellum greyish tomentose, nearly bare ; pleura greyish-yellow tomentose. Halteres brown with the stalks comparatively lighter.

Legs yellowish-brown and black to dark brown, coxa and trochanter black, mid and hind femora yellowish-brown with apical

in distal segments so much so the last segments almost wholly black ; hind leg enlarged, trochanter swollen anteroventrally which bears dense short black bristles, femur thickened with its distal half bearing an anteroventral and posteroventral row of black spiny bristles, vestiture black with some pale yellow hairs also.

Wings fuscous but gradually become lighter coloured posteriorly.

Abdomen black, sides of segments 1 and 2 with white hairs, vestiture white. Male genitalia (Fig. 3) black with some yellowish-brown marking, hypandrium with some long hairs, its lower angle bearing a pair of long bristles, near the middle with an obtuse projection, and below with a projection bearing two black bristles ; superior forceps narrow.

Female : Similar but the median black ring on hind femur faint.

It is allied to *Xenomyza artigasi* Joseph and Parui from which it differs in the comparatively narrow and black abdomen, narrow superior forceps and in the presence of an additional projection on the posterior margin of hypandrium.

Holotype ♂, India, Madras State (Tamil Nadu), Anamalai Hills, Cinchona, 1050 m., ix.1967, Coll. P. S. Nathan, B. M. Reg. No. 13100.

Paratypes : 1 ♂, data same as in holotype, ZSI Reg. No. 7233/H6 ; 1 ♀, xii. 1969, B. M. Reg. No. 13101, rest of details as in holotype.

10. *Xenomyza dravidica* Joseph and Parui

Xenomyza dravidica Joseph and Parui, 1984, *Ent. Scand.*, 15 : 444.

Material examined : 1 ♀, India, Tamil Nadu, Anamalai Hills, Cinchona, 1050 m., i. 1967 ; 1 ♀, Kerala, Trivandrum District, Poonmudi Range, 900 m., iv-v. 1971 ; 1 ♂, Tamil Nadu, Coimbatore, 420 m., iii-iv.1971, all collected by P. S. Nathan.

Remarks : It was described only on males ; this is the first report of females of this species.

11. *Xenomyza rufoabdominalis* Joseph and Parui

Xenomyza rufoabdominalis Joseph and Parui, 1984, *Ent. Scand.* 15 : 445.

Material examined : 2 ♂♂, India, Tamil Nadu, Coimbatore, 420 m., ii-iv. 1971, Coll. P. S. Nathan.

Remarks : This is the second record of the species and for the first time from Tamil Nadu.

Michotamia Macquart

Michotamia Macquart, 1838, *Dipt. Exot.*, 1 (2) : 72.

12. *Michotamia aurata* (Fabricius)

Asilus aurata Fabricius, 1794, *Ent. Syst.*, 4 : 387.

Michotamia aurata : Oldroyd, 1975, *A Catalog of Diptera of the Oriental Region*, 2 : 130.

Material examined : 1 ♂, South India, Pondicherry, Karikal, x. 1968, Coll. P. S. Nathan.

Remarks : Although this species is very common and widely distributed in India, it is the first record from Pondicherry.

Ommatius Wiedemann

Ommatius Wiedemann, 1821, *Dipt. Exot.* 1 : 213.

13. *Ommatius bengalensis* sp. nov.

(Fig. 4)

A small black species with black and yellowish-brown legs, brownish tinged wings and clavate abdomen. Male : length 9 mm., wing 7 mm.

Male : *Head* black, grey tomentose ; mystax wholly white ; fronto-orbital hairs pale yellow, ocellar bristles black ; postcranium sparsely grey tomentose, bare above, postocular bristles black, postgena white haired. Antennae broken off from segment 3 onwards, segment 1 black, 2 lighter coloured, segment 2 with brown bristles, shorter than 1. Palpi and proboscis dark brown, hairs dark brown on the former and white on the latter.

Thorax black with grey and greyish-yellow tomentum ; pronotal hairs sparse, grey ; mesotergum with the mediolongitudinal stripe faintly marked and extending from the anterior end to well beyond the transverse suture, devoid of the narrow dividing line,

laterally and posterior border greyish-yellow tomentose, bristles black; pleuron grey tomentose; scutellum grey tomentose, hind border with a pair of yellowish-brown bristles;

similar to *O. pseudodraavidicus* Joseph and Parui differing from which in the wholly white mystax and differences in the shape of superior forceps and hypandrium.

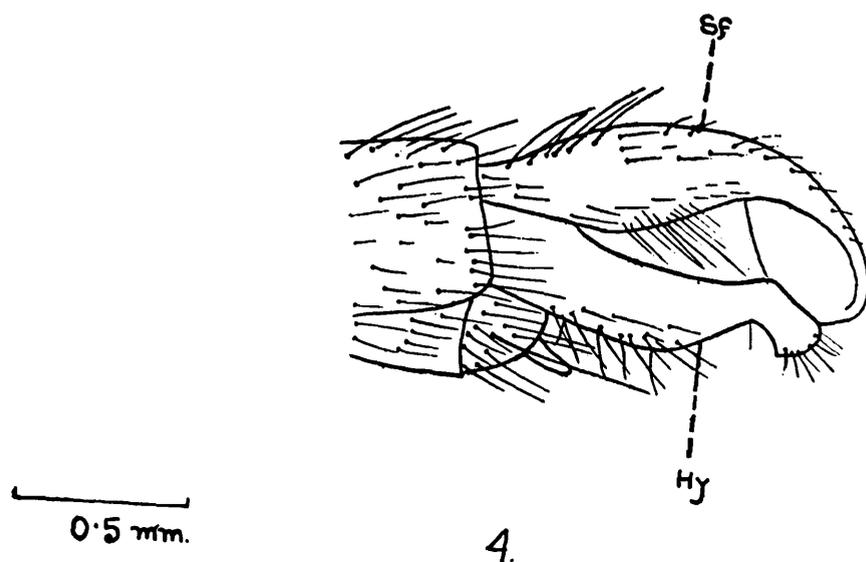


Fig. 4. *Ommatius bengalensis* sp. nov., lateral view of male genitalia.

metapleuron with pale yellow bristles. Halteres yellowish-brown, stalks lighter.

Legs black and yellowish-brown; coxa, trochanter and femur black, tibia yellowish-brown, hind tibia apically darkened, tarsal segment 1 yellowish-brown, in hind legs apically darkened, remaining segments dark brown; vestiture pale yellow, also with some black hairs, bristles black and pale yellow, hind femur with anteroventral and posteroventral rows of pale yellow bristles.

Wings brownish tinged with the base hyaline.

Abdomen black with the hind border of tergites 2-5 narrowly yellowish grey, tergite 1 on sides with a bunch of pale yellow hairs, vestiture pale yellow and black. Male genitalia (Fig. 4) yellowishbrown and dark brown with pale yellow hairs.

Ommatius bengalensis sp. nov. is generally

Holotype ♂, India, Sukna, 55 km. S. of Darjeeling, v. 1966, Coll. J. and M. Sedlacek, B.M. Reg. No. 13099.

14. *Ommatius tuberculatus* Joseph and Parui
Ommatius tuberculatus Joseph and Parui, 1983, *Ent. Scand.*, 14 : 87.

Material examined : 1 ♂, 2 ♀♀, India, Tamil Nadu, Anamalai Hills, Cinchona, 1050 m., i. 1967, Coll. P. S. Nathan; 1 ♂, iv. 1968, other details as in preceding.

Remarks : Recorded for the second time.

Astochia Becker

Astochia Becker, 1913, *Ann. Mus. Zool. Acad. St. Petersburg*, 17 : 538.

15. *Astochia tiwarii* Joseph and Parui
Astochia tiwarii Joseph and Parui, 1981, *Oriental Ins.*, 15 (1) : 18.

Material examined : 2 ♂♂, 1 ♀, India,

Tamil Nadu, Coimbatore, 420 m., iv. 1960, Coll. P. S. Nathan.

Remarks; The species was described from Coimbatore and it is the second record.

Clephyroneura Becker

Clephyroneura Becker, 1925, *Ent. Mitt.*, 14 : 68.

16. *Clephyroneura mudigorensis* Joseph and Parui

Clephyroneura mudigorensis Joseph and Parui, 1984, *Rec. Zool. Surv. India*, Occ. paper No. 66 : 14.

Materials examined : 1 ♂, South India, Pondicherry, Karikal, ii-iv. 1971, Coll. P.S. Nathan.

Remarks : The species was described from Karnataka. The present report is the first from Pondicherry.

17. *Clephyroneura robusta* Joseph and Parui

Clephyroneura robusta Joseph and Parui, 1984, *Rec. Zool. Surv. India*, Occ. paper No. 66 : 7.

Material examined : 1 ♂, South India, Pondicherry, Karikal, ii-iv. 1971, Coll. P.S. Nathan.

Remarks : It is the second report of the species and for the first time from Pondicherry.

Heligmoneura Bigot

Heligmoneura Bigot, in Thomson 1858, *Arch. ent.*, 2 : 356.

18. *Heligmoneura cheriani* Joseph and Parui

Heligmoneura cheriani Joseph and Parui, 1980, *Ent. Scand.*, 11 (3) : 286.

Material examined : 1 ♂, India, Tamil Nadu, Anamalai Hills, Cinchona, 1050 m., i. 1967, Coll. P.S. Nathan.

Remarks : This is the second record of

the species, which is also from the type locality.

Machimus Loew

Machimus Loew, 1849, *Linn. Ent.*, 4 : 1.

19. *Machimus angularis* (Ricardo)

Tolmerus angularis Ricardo, 1922, *Ann. Mag. Nat. Hist.*, (9) 10 : 64.

Machimus angularis : Oldroyd, 1975, *A. Catalog of Diptera of the Oriental Region*, 2 : 144.

Material examined : 1 ♂, Nepal, Langtang Val., 60 km. North of Kathmandu, 2700-3400 m., 13-25.x.1965, Coll. L. M. Quate.

Remarks : This species was described from Uttar Pradesh. ZSI has also collection from Arunachal Pradesh and Himachal Pradesh.

20. *Machimus ricardoi* (Bromley)

Asilus ricardoi Bromley, 1935, *Rec. Indian Mus.*, 37 : 219.

Machimus ricardoi : Oldroyd, 1975, *A Catalog of Diptera of the Oriental Region*, 2 : 145.

Material examined : 1 ♂, Nepal, Bokai-hunde, 20 Km. N. of Trisuli (Nawakto), 2100 m., 13-17. xi.1965, Coll. L.W. Quate.

Remarks : From India, this species has so far been reported from Uttar Pradesh, Himachal Pradesh and Sikkim.

21. *Machimus subgenitalis* Bromley

Machimus subgenitalis Bromley, 1935, *Rec. Indian Mus.*, 37 : 221.

Material examined : 1 ♂, India, West Bengal, Darjeeling, Goom, 2100-2400 m., 24.iv.1966, Coll. J. and M. Sedlacek.

Remarks : The species was described from Himachal Pradesh. This is the second record and for the first time from West Bengal.

Neoitamus Osten-Sacken

Neoitamus Osten-Sacken, 1878, *Smithson. Misc. Collns.*,
16 : 82, 235.

22. *Neoitamus sedlaceki* sp. nov.

(Fig. 5)

A medium, black species with black and pale yellow and yellowish-brown legs and

Thorax black with greyish-yellow and grey tomentum ; pronotum pale yellow haired, mesonotum shining black with the mediolongitudinal stripe extending the entire length, the stripe anteriorly divided by a faint grey mediolongitudinal line, laterally greyish-yellow tomentose, vestiture and bristles black ; scutellum with the disc bear-

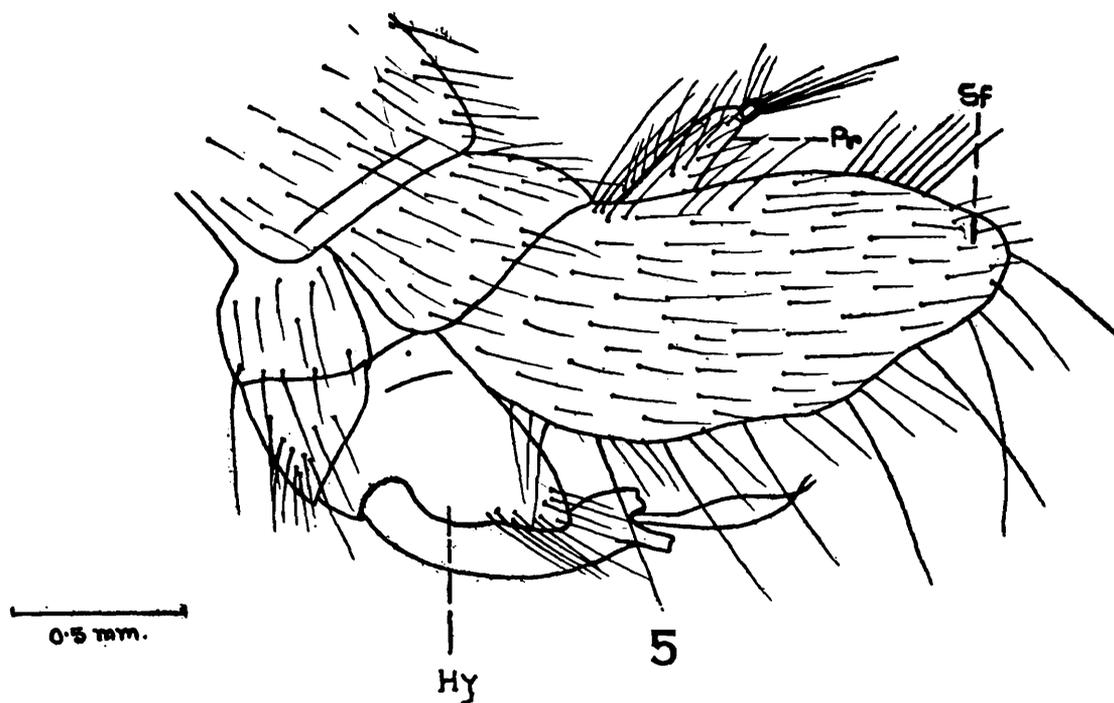


Fig. 5. *Neoitamus sedlaceki* sp. nov., lateral view of male genitalia.

infuscated wings. Male : length 15-16 mm., wing 11-13 mm.

Male : *Head* broader than thorax, black with greyish to grey tomentum ; mystax pale yellow bristles surrounded by black ones, fronto-orbital bristles and ocellar bristles black, postcranium bare above, postocular bristles black, postgena with pale yellow hairs. Antennae black, bristles on segments 1 and 2 black, segment 2 about two-thirds of 1, segment 3 slightly longer than the combined length of 1 and 2. Palpi and proboscis black, the former with black and the latter with apical yellow hairs.

ing sparse black hairs and hind border with a pair of black bristles ; pleura greyish-yellow and grey tomentose. Halteres yellowish-brown.

Legs black and pale yellow to yellowish-brown ; coxa, trochanter and femur black, tibia pale yellow to yellowish-brown with apical blackening, tarsal segment 1 yellowish-brown with blackened apex, remaining segments black, vestiture pale yellow and black, bristles black.

Wings apically infuscated which continues along the posterior border into fifth posterior cell.

Abdomen black, hind border of tergites 1-4 with transverse grey stripe, sides of tergite 1 with a bunch of pale yellow bristles, tergites 2-4 on sides with a pair or more of pale yellow bristles, vestiture predominantly black with a few pale yellow hairs laterally. Male genitalia (Fig 5) black with black hairs, in one example proctiger with pale yellow hairs.

This species is quite similar in colouration to *Neotamus barsilensis* Joseph and Parui and *N. cyanurus* Loew from both of them it can be separated by its distinct male genitalia.

Holotype ♂, Nepal, Kathmandu, 1300-1400 m., 7-12. v.1966, Coll. J. and M. Sedlacek, B.M. Reg. No. 13103.

Paratypes 2 ♂♂, details as in holotype.

Neomochtherus Osten-Sacken

Neomochtherus Osten-Sacken, 1878, *Smithson. Misc. Collns.*, 16 : 82, 235.

23. *Neomochtherus himalayensis* sp. nov.

(Fig. 6)

A small black species with black legs, pale yellow and black mystax and distally infuscated wings. Males: length 12 mm, wing 9 mm.

Male: *Head* broader than thorax, black, grey and greyish-yellow tomentose; mystax pale yellow below and black above, fronto-orbital bristles and ocellar bristles black, postcranium medially and below grey to greyish-yellow tomentose, laterally black, postocular bristles black, postgena with pale yellow hairs. Antennae black, segment 2 more than half of 1, segment 3 slightly longer than the combined length of segments 1 and 2, style longer than half of segment 3. Palpi and proboscis black with pale yellow hairs.

Thorax black, grey tomentose; pronotum heavily infuscated with grey tomentum,

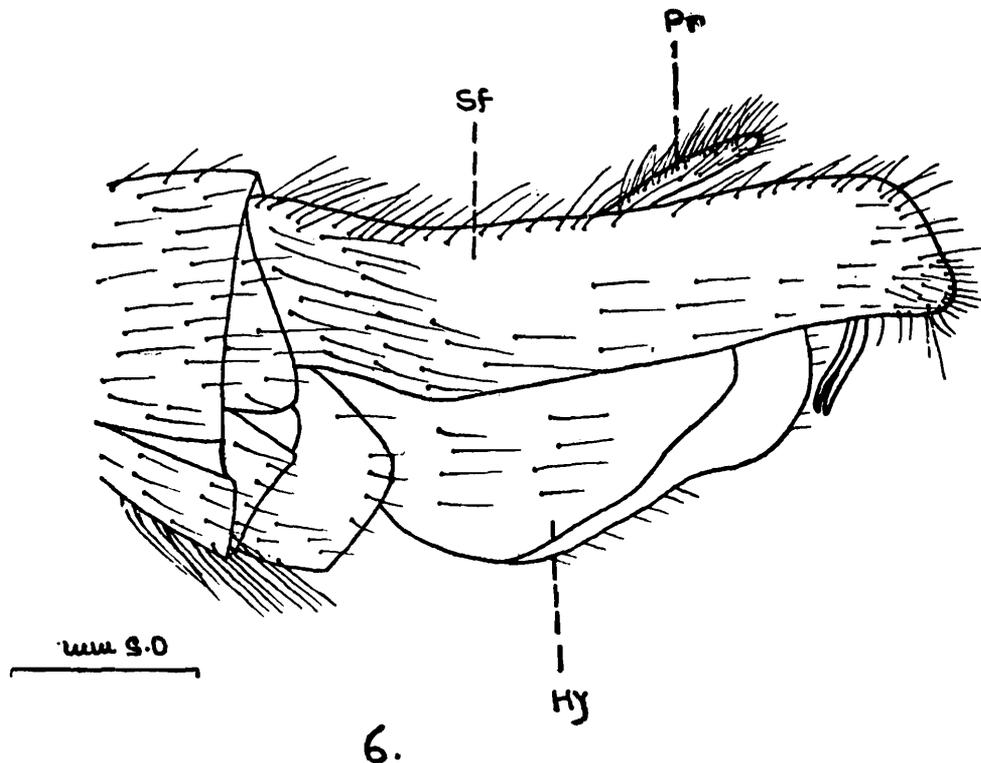


Fig. 6. *Neomochtherus himalayensis* sp. nov., lateral view of male genitalia.

hairs pale yellow, sparse and restricted to sides; mesonotum with the mediolongitudinal black stripe extending the entire length but the stripe dividing it indistinct, laterally yellowish-grey tomentose; bristles black anteriorly and golden yellow posteriorly; scutellum with sparse pale yellow hairs on disc and a pair of golden yellow bristles on border. Halteres yellowish-brown, stalks lighter coloured.

Legs black with the tarsal segments dark brown, fore femur densely haired ventrally, vestiture pale yellow with some black ones also, bristles golden yellow to pale yellow and black.

Wings infuscated anteriorly which extends along the border into axillary cell.

Abdomen black, infuscated with grey or greyish-yellow tomentum which is dense on posterior segments, vestiture pale yellow and black, some hairs laterally on segments 1 and 2 elongate. Male genitalia (Fig. 6) black with black and a few pale yellow hairs, superior forceps entire at apex.

The genus *Neomochtherus* is represented by four species in India, viz., *N. congedus* (Walker), *N. gnavus* (Van der Wulp), *N. indianus* (Ricardo) and *N. trisignatus* (Ricardo), the species described here being quite different and having uniformly black legs and distinct genitalia, the superior forceps being entire at apex.

Holotype ♂, India, N. E. Darjeeling, Tiger Hill, 2250 m., 30.viii.1959, Coll. J. L. Gressitt, B. M. Reg. No. 13106.

Philodicus Loew

Philodicus Loew, 1848, *Linn. Ent.*, 3 : 391.

24. **Philodicus javanus** (Wiedemann)

Asilus javanus Wiedemann, 1819, *Zool. Mag.*, 1 (13) : 4.
Philodicus javanus : Oldroyd, 1975, *A Catalog of Diptera of the Oriental Region*, 2 : 149.

Material examined : 1 ♂, South India, Pondicherry, Karikal, viii. 1970, Coll. P. S. Nathan.

Remarks : Though it is a very common species in India, it is the first record from Pondicherry.

Promachus Loew

Promachus Loew, 1848, *Linn. Ent.*, 3 : 390.

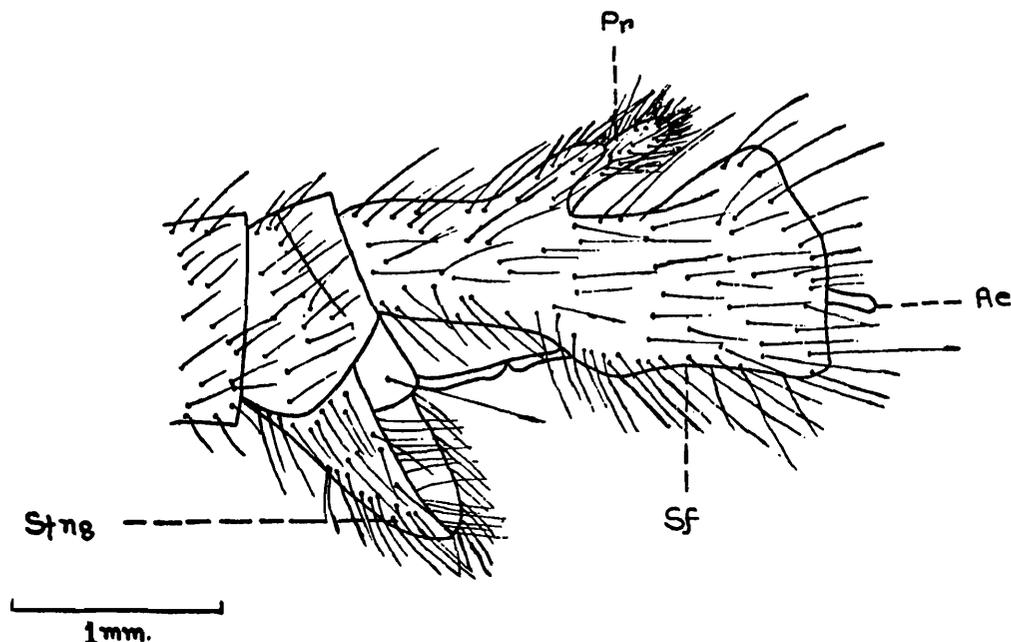
25. **Promachus genitalis** sp. nov.

(Fig. 7)

A medium black species with black legs infuscated wings, reddish haired abdomen and well developed eighth sternite. Male : length 20mm., wing 13mm.; female length 18mm., wing 11mm.

Male : *Head* broader than thorax, black, densely grey and greyish-yellow tomentose; mystax pale yellow with some black bristles above and laterally, fronto-orbital hairs pale yellow and black; postcranium pale yellow haired, postocular bristles black. Antennae black, segments 1 and 2 bearing black hairs and bristles, segment 2 longer than half of 1, segment 3 subequal to 1, style elongate. Palpi and proboscis black, the former black and pale yellow haired while the latter wholly pale yellow haired.

Thorax black, grey and greyish-yellow tomentose; pronotum pale yellow haired with a transverse row of black bristles in between; mesonotum with the mediolongitudinal black stripe divided by a narrow greyish-yellow stripe, the stripe extending from the anterior end to well beyond the



7.

Fig. 7. *Promachus genitalis* sp. nov., lateral view of male genitalia.

transverse suture, on either side with two distinct black spots, vestiture black but some hairs on humeri and posteriorly pale yellow, bristles black; scutellum on the disc yellow haired with four black bristles in between, hind border bearing a pair of black bristles; pleura grey and greyish-yellow tomentose. Halteres with dark brown head and yellowish-brown stalk.

Legs uniformly black, vestiture black with some pale yellow hairs, bristles black.

Wings infuscated, but at base medially hyaline; marginal and first submarginal cells with an obscure streak.

Abdomen black, grey tomentose on sides and hind border of tergites from 2-7, tergites 1-4 and to some extent 5 reddish haired which decrease in density and length from the anterior to the posterior tergites, vestiture black. Male genitalia (Fig. 7) black, eighth sternite well developed, hairs black, devoid of tuft of white hairs.

Female: Similar but with the following

differences: scape with some white hairs laterally in addition to the black ones; mesonotum without mediolongitudinal stripe and lateral spots; scutellum with 6 black and yellow bristles on disc and hind border with 4 pale yellow bristles. Female genitalia shining black with black bristles, cercus broad with yellow hairs.

This species is generally similar to *Promachus duvaucelii* (Macquart) in the presence of tufts of reddish hairs on basal abdominal tergites as well as the obscure streak in the marginal and first submarginal cells of wings, but quite close to *P. jabalpurensis* Joseph and Parui from which it differs in the well produced eighth sternite as well as the tufts of reddish abdominal hairs.

Holotype ♂, Central India (Madhya Pradesh), Jabalpur, 480 m., x. 1957, Coll. P. S. Nathan, B. M. Reg. No. 13102.

Paratype ♀, details as in holotype. ZSI Reg. No. 7234/H6.

26. *Promochus jabalpurensis* Joseph & Parui

Promachus jabalpurensis Joseph and Parui, 1981, *Oriental Ins.*, 15 (1) : 25-26.

Material examined : 1 ♂, India, Madhya Pradesh, Jabalpur, 480 m., x. 1957, Coll. P. S. Nathan.

Remarks : This is the second record and it is also from type locality.

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Abbreviations : Ae, aedeagus ; Cl, Clasper ; Go, gonopod (gonocoxite) ; Hy, hypandrium ; Pr, proctiger ; Sf, superior forceps (epandrium), Stn₈, eighth sternite.

REFERENCES

- BROMLEY, S. W. 1935. New Asilidae from India (Insecta : Diptera). *Rec. Indian Mus.*, 37 219-230.
- FABRICIUS, J. C. 1794. *Entomologica Systematica* 4 : 1-6+1-472.
- JOSEPH, A.N.T. and PARUI, P. 1980. New and little-known Indian Asilidae (Diptera) IV, Key to Indian *Heligmoneura* Bigot with descriptions of ten new species. *Ent. Scand.*, 11 (3) : 281-290.
- JOSEPH, A. N. T. and PARUI, P. 1980. First record of *Trigonomima* Enderlein (Diptera : Asilidae) from India with description of a new species. *Bull. zool. Surv. India*, 2 (2 & 3) : 197-199.
- JOSEPH, A. N. T. and PARUI, P. 1981. *Astochia* Becker, *Promachus* Loew and *Saropogon* Loew (Diptera : Asilidae) from India. *Oriental Ins.*, 15 (1) : 17-29.
- JOSEPH, A. N. T. and PARUI, P. 1981. *Stenopogon* Loew and *Michotamia* Macquart (Diptera : Asilidae) from India. *Oriental Ins.*, 15 (1) : 103-111.
- JOSEPH, A.N.T. and PARUI, P. 1981. New and little-known Indian Asilidae (Diptera) V. The genera *Laphria*, *Maria* and *Orthogonis* with descriptions of nine new species. *Ent. Scand.*, 12 (2) : 213-222.
- JOSEPH, A.N.T. and PARUI, P. 1983. New and little-known Indian Asilidae (Diptera) VI. Key to Indian *Ommatius* Wiedemann with descriptions of fourteen new species. *Ent. Scand.*, 14 (1) : 85-97.
- JOSEPH, A.N.T. and PARUI, P. 1984. New and little-known Indian Asilidae (Diptera) VII. Ten new *Xenomyza* Wiedemann and *Microstylum* Macquart and keys to Indian species. *Ent. Scand.*, 15 : 443-453.
- JOSEPH, A. N. T. and PARUI, P. 1984. Studies on the Asilidae (Diptera) Collections made by Dr. Ghorpade. *Rec. zool. Surv. India*, Occ. paper No. 66, pp. 1-40.
- JOSEPH, A.N.T. and PARUI, P. Some Asilidae (Diptera) present in the British Museum (Nat. Hist.) from India and Bangla Desh. *Rec. zool. Surv. India*. (In press).
- LOEW, H. 1849. Ueber die europaischen Raubfliegen (Diptera Asilica) *Linnaea Entomologica*, Stettin, 4 : 1-155.
- RICARDO, G. 1922. Notes on the Asilinae of the South Africa and Oriental Region. *Ann. Meg. nat. Hist.*, (9) 10 : 36-76.
- WIEDEMANN, C. R. W. 1819. *Zool. Mag.* (Wied.) 1 (3) : 4-6.

