

**REVISION OF THE GENUS *NEBOSELANDRIA* ROHWER FROM INDIA
(HYMENOPTERA: SYMPHYTA: TENTHREDINIDAE: SELANDRIINAE)
WITH DESCRIPTION OF SIX NEW SPECIES**

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Abstract

With the recognition of eleven species (five already known including the one recorded for the first time from India and the other six as new to science) the genus *Nesoselandria* Rohwer is revised from India. Described as new are: *Nesoselandria antennata* sp. nov., *N. dirangensis* sp. nov., *N. manii* sp. nov., *N. muchei* sp. nov., *N. indica* sp. nov. and *N. devinderi* sp. nov. *N. shanica* Malaise, recorded for the first time from the Indian subcontinent, is redescribed alongwith a key for the Indian species of this genus.

Keywords

Taxonomic revision, Nesoselandria, new descriptions, Hymenoptera, Selandriinae, India.

Abbreviations

AT - Apical tooth	BL - Basal lobe
CL - Clypeus	EL - Eye length
GP - Gonostipes	H - Harpae
IATS - Inner apical tibial spur	ICD - Inter cenchri distance
IDMO - Interocular distance at level of median ocellus	ITD - Inter tegular distance
LB - Labrum	LID - Lower interocular distance
MB - Metabasitarsus	OATS - Outer apical tibial spur
OCL - Ocellooccipital line	OOL - Oculoocellar line
PNS - Parapenis	POL - Postocellar line
SAT - Subapical tooth	VC - Valviceps
VV - Valvula	

Introduction

Rohwer (1910a) erected the genus *Nesoselandria* with *Paraselandria imitatrix* as the type species from Philippines. He (Rohwer, 1915) added a new species to this genus from Calcutta. Malaise (1944) shifted *Aneugmenus annandalei* Rohwer and *Neobusarbia flavipes* Takeuchi to this genus. Benson (1939) erected a new genus *Melisandra* taking *Selandria morio* (Fabricius) as its type species from Holarctic region but Smith (1969) synonymized it under *Nesoselandria*. Malaise (1944) made two new additions, i.e., *Nesoselandria sulciceps* from Dehradun and *Nesoselandria turneri* from Shillong. Some of the other important works concerning this

genus from the Oriental region include those of Ashmead (1905), Enslin (1912), Rohwer (1916), Takeuchi (1928) and Forsius (1929, 1931a,b, 1932, 1933). Prior to the present work, this genus was represented by 22 species from the Oriental region. Of these only four species were on record from the Indian subcontinent. This genus is now represented by 11 species in India, out of which one is recorded for the first time, while six are added as new to science. This genus is widely distributed throughout the Holarctic and Oriental regions.

The present paper deals with the systematic descriptions of all the species of *Nesoselandria* Rohwer known from the Indian

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subcontinent. A key to the species of this genus is also provided. The terminology used in the text is after Ross (1937, 1945) and Malaise (1945).

Genus *Nesoselandria* Rohwer

Nesoselandria Rohwer, 1910a: 657; Forsius, 1933: 182; Takeuchi, 1941: 262; Malaise, 1944: 11; Zhelokhovtsev, 1951: 131; Malaise, 1963: 173; Abe & Smith, 1991: 56.

Type species: *Paraselandria imitatrix* Ashmead. Original designation. *Neobusarbia* Takeuchi, 1928: 40; Takeuchi, 1941: 262 (= *Nesoselandria* Rohwer).

Type species: *Neobusarbia flavipes* Takeuchi. Original designation. *Melisandra* Benson, 1939: 110; Benson, 1940: 211; Takeuchi, 1941: 262 (= *Nesoselandria* Rohwer); Zhelokhovtsev, 1951: 131 (= *Nesoselandria* Rohwer); Benson, 1952: 60; Malaise, 1963: 175; Smith, 1967: 95.

Type species: *Selandria morio* (Fabricius) Enslin. Original designation.

Distribution

Holarctic and Oriental regions.

Diagnostic features

Front wings with two radial and three or four cubital cells. Basalis and first recurrent vein strongly converging. Nervulus at the apical third of the cell. Anal cell without crossvein. Hind wings with two closed middle cells and anellan cell mostly petiolate at the apex. Malar space linear to half the diameter of median ocellus. Clypeus truncate or very shallowly emarginate. Frontal area mostly poorly or not defined, subconvex. Antennal furrows reduced to isolated lateral pits, sometimes transverse and communicating by a groove from one eye to the other. Inner margins of eyes faintly to distinctly converging downwards. Hind orbits extremely short and strongly narrowing behind the eyes, not carinate even below. Antennae slender, mostly filiform, sometimes faintly incrassated in middle. Pedicel slender, almost as long as scape; third antennal joint longer than fourth one. Claws with acute but shorter basal lobe sometimes difficult to notice, subapical tooth almost as long as or shorter than apical one. Hind basitarsus mostly somewhat shorter than the following tarsal joints combined.

Remarks

Prior to the present work only four species were known from India. In this paper six species are being added new to science from India, while a species, *N. shanica* Malaise is recorded for the first time from India, thus raising the total number to 11.

Nesoselandria antennata sp. nov.

(Fig. 1-3)

Material examined

Holotype: Female, 29.iv.1994, Cheerapunji, Meghalaya, India, 1420m, Coll. M.S. Saini.

Distribution

India: Cheerapunji in Meghalaya.

Etymology

The species name pertains to the characteristic colour pattern of its antenna.

Diagnosis

Female: Colour - Body black; yellowish-white are: antennal segments 4-6; all sternites; all legs except somewhat infuscated profemur and claw segments. Scape, pedicel and apical three antennal segments partly infuscated. Wings subinfumated; costa, stigma and venation blackish.

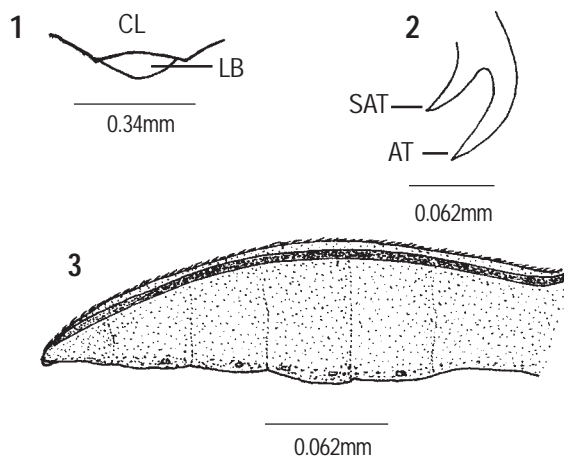
Structure: Length 3.5 mm. Antenna filiform, 1.75 x head width, scape and pedicel almost equal and both are longer than their apical width; segment 3 longer than 4 as 6:5. Anterior margin of clypeus almost truncate (Fig. 1). Labrum broader than long as 2:1 with rounded anterior margin. Malar space linear. LID:IDMO:EL=2.0:2.3:2.1; OOL:POL:OCL=1.5:1.0:1.4. Frontal area above level of eyes. Supraantennal tubercles and frontal ridges blunt and almost indistinct. Lateral antennal pits distinctly transversally elongate and together included in a furrow from one eye to other, this furrow with a carina-like elevation below and some traces of wrinkles parallel to the furrow. Circum-, inter- and postocellar furrows indistinct. Lateral furrows diverging backwards and distinct only in the anterior half of postocellar area. Postocellar area subconvex, broader than long as 3:2. Head narrowing behind eyes. Inner margins of eyes converging downwards. Hind orbits short and not carinate. Mesoscutellum flat, appendage not carinate. ITD:ICD = 4.0:1.0. Epicnemium separated from mesopleuron by very indistinct furrow. Subapical tooth of tarsal claw slightly shorter than apical one (Fig. 2). Metabasitarsus equal to following tarsal joints combined. IATS:MB:OATS = 2.0:7.5:1.8. Lancet (Fig. 3) with six serrulae.

Sculpture and pubescence: Head and thorax smooth, shining and impunctate. Abdomen impunctate, subshining. Body covered with minute golden pubescence.

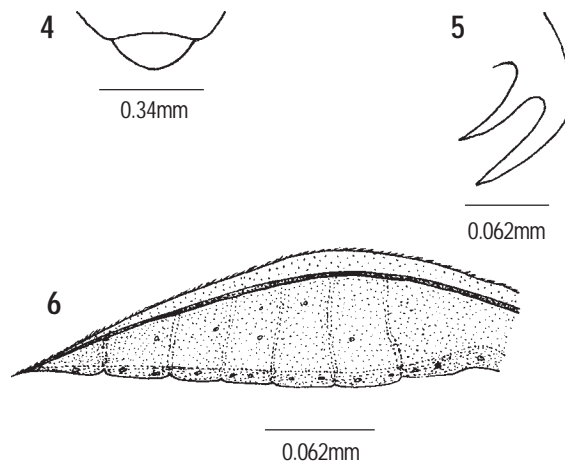
Male: Yet to be recorded.

Diagnostic features

On the basis of lateral supraantennal pits distinctly transversely elongate and united together by a furrow from one eye to the



Figures 1-3. *Nesoselandria antennata* sp. nov.
1 - Clypeus and Labrum; 2 - Tarsal claw; 3 - Lancet



Figures 4-6. *Nesoselandria dirangensis* sp. nov.
4 - Clypeus and Labrum; 5 - Tarsal claw; 6 - Lancet

other, this species exhibits some resemblance with *N. sulciceps* but can be clearly separated from latter by other characters such as colour of legs and abdomen, ratio of antennal segments 3 and 4, and of postocellar area, and shape of lateral furrows. The antennal segments 4-6 which are pale, makes this species further distinct from rest of the species of this group.

***Nesoselandria dirangensis* sp. nov.**
(Figs. 4-6)

Material examined

Holotype: Female, 17.ix.1992, Dirang, Arunachal Pradesh, India, 1500m, Coll. V. Vasu.

Paratypes: One female, 19.ix.1992, Dirang, Arunachal Pradesh, India, 1500m, Coll. M.S. Saini; One female, 29.v.1993, Coll. T.P. Saini.

Distribution

India: Dirang in Arunachal Pradesh.

Etymology

The species name has reference to its type locality.

Diagnosis

Female: Colour: Body black; pale are: tegula, sternites 2-4, legs except apical three tarsal segments of pro- and mesolegs, extreme tip of metatibia; apical end of metatibia and rest of tarsal segments of metaleg are fuscous. Abdominal tergites 2-4 somewhat brownish. Wings almost hyaline; costa, stigma and venation black.

Structure: Average length 6mm. Antenna almost filiform, 2 x headwidth, scape and pedicel equal, longer than their apical width; segment 3 longer than 4 as 4:3. Clypeus truncate (Fig. 4). Labrum broader than long as 2:1 with bluntly pointed anterior margin. Malar space linear. LID:IDMO:EL = 2.0:2.7:2.4; OOL:POL:OCL = 1.3:1.0:1.0. Frontal area slightly above the level of eyes and indistinct. Lateral supraantennal pits rounded like the central one and not connected by a furrow over them. Supraantennal tubercles and frontal ridges absent. Circum- and interocellar furrows distinct, postocellar furrow indistinct. Lateral furrows indicated, excurved and ending a little before reaching the hind margin of head. Postocellar area subconvex, broader than long as 2:1. Head narrowing behind the eyes. Inner margins of eyes distinctly converging downwards. Hind orbits extremely short and not carinated. Mesoscutellum flat, appendage ecarinate. ITD:ICD = 4.0:1.0. Epicnemium separated from mesopleuron by indistinct furrow. Subapical tooth of tarsal claw slender and slightly shorter than apical one (Fig. 5). Metabasitarsus slightly shorter than following joints combined as 7:8. IATS:MB:OATS = 2.0:5.0:1.9. Lancet (Fig. 6) with seven serrulae.

Sculpture and pubescence: Body smooth, shining, impunctate and having minute silvery pubescence.

Male: Yet to be recorded.

Population variation

In one specimen tergites 2-5 are fulvous.

Diagnostic features

This species goes close to *N. manii* on the basis of colour of

abdomen, ratio of postocellar area, etc., but can be distinguished from it by the following combination of characters: interocellar furrow distinct (indistinct in *N. manii*) clypeus truncate (subtruncate in *manii*); tegula pale (black in *manii*).

***Nesoselandria manii* sp. nov.**

(Figs. 7-11)

Material examined

Holotype: Female, 19.v.1993, Pfutsero, Nagaland, India, 2100m, Coll. V. Vasu.

Paratypes: Eight males with same data as holotype.

Distribution

India: Pfutsero in Nagaland

Etymology

This species has been named in honour of Dr. M.S. Mani, a pioneer and dedicated worker in the field of high altitude entomology in India.

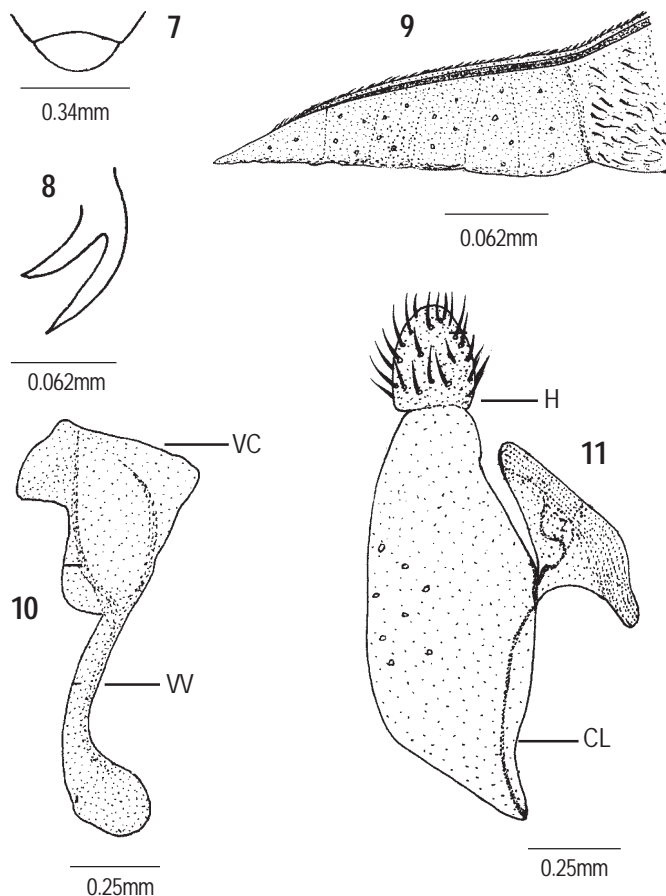
Diagnosis

Female: Colour: Body black; yellow are: abdominal segments 2-4; legs except apical two tarsal segments of pro- and mesolegs and four tarsal segments of metaleg are lightly infuscated. Apex of forewing somewhat infumated, rest of wings clear; costa stigma and venation brownish-black.

Structure: Length 5mm. Antenna filiform, 2.2 x head width, scape and pedicel almost equal, both longer than their apical width; segment 3 longer than 4 as 5:4. Anterior margin of clypeus subtruncate (Fig. 7). Labrum broader than long as 2:1 with bluntly pointed anterior margin. Malar space linear. LID:IDMO:EL = 2.0:2.6:2.5; OOL:POL:OCL = 1.2:1.0:1.0. Frontal area at the level of eyes and indistinct. Lateral supraantennal pits rounded and connected by a furrow over them. Circumocellar furrow distinct, inter- and postocellar furrows indistinct. Lateral furrows indistinct. Postocellar area subconvex, broader than long as 2:1. Head narrowing behind eyes. Inner margin of eyes converging downwards. Hind orbits extremely short and not carinated. Mesoscutellum flat, appendage not carinate. ITD:ICD = 4.0:1.0. Epicnemium almost indistinct and separated from mesopleuron by indistinct furrow. Subapical tooth of tarsal claw slightly shorter than apical one (Fig. 8). Metabasitarsus equal to following joints combined. IATS:MB:OATS = 2.0:5.7:1.9. Lancet (Fig. 9) with eight serrulae.

Sculpture and pubescence: Body smooth shining, impunctate and covered with minute silvery pubescence.

Male: Average length 4.2 mm. Similar to female except following: wings hyaline; lateral furrows of postocellar area at least



Figures 7-11. *Nesoselandria manii* sp. nov.
7 - Clypeus and Labrum; 8 - Tarsal claw; 9 - Lancet;
10 - Penis valve; 11 - Gonoforceps

indicated; antenna somewhat incrassated towards apex.

Genitalia: Penis valve (Fig. 10), Gonoforceps (Fig. 11).

Population variation

All specimens are alike.

Diagnostic features

This species can be clearly separated from its allied species *N. dirangensis* on the basis of characters already discussed under the latter.

***Nesoselandria muchei* sp. nov.**

(Figs. 12-16)

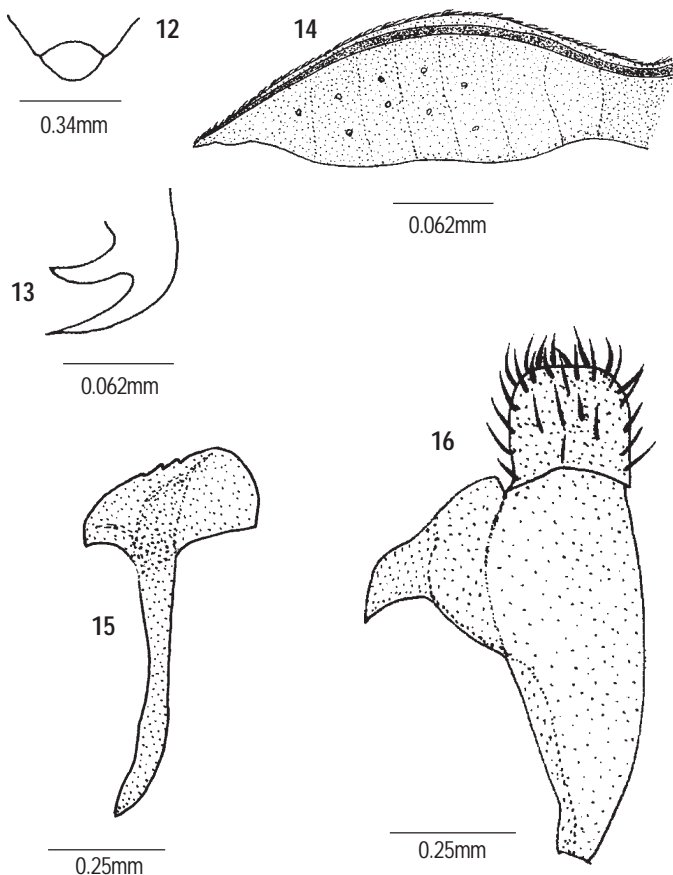
Material examined

Holotype: Female, 1.v.1990, Elephant Falls, Meghalaya, India, 1450m, Coll. M.S. Saini.

Paratypes: One female, one male, Bomdila, Arunachal Pradesh, India 2800m, 14.ix.1992, Coll. V. Vasu; Two females, two males, 1.v.1990, Elephant Falls, Meghalaya, 1450m, Coll. M.S. Saini; One female, Uttar Pradesh, (gifted by Dr. D.R. Smith, USNM, Washington) bearing labels as "Kumaon Survey" 11.viii; Gwaldam, 1.vii.1994, M.S. Mani and party, School of Entomology, St. John's College, Agra, India.

Distribution

India: Bomdila in Arunachal Pradesh; Elephant Falls in Meghalaya; Kumaon in Uttar Pradesh



Figures 12-16. *Nesoselandria muchei* sp. nov.
12 - Clypeus and Labrum; 13 - Tarsal claw; 14 - Lancet;
15 - Penis valve; 16 - Gonoforceps

Etymology

This species has been named in honour of Dr. H. Muche of East Germany, the only sawfly worker who has made contributions towards Indian sawflies after Malaise (1945).

Diagnosis

Female: Colour: Body black; pale are: sternites 2-5 in middle, front four legs except claw joints, metaleg except fuscous apex of metatibia and metatarsal segments. Wings uniformly subinfumated; costa, stigma and venation black.

Structure: Average length 5.5mm. Antenna filiform, 1.75 x head width, scape and pedicel almost equal, longer than their apical width; segment 3 longer than 4 as 3:2. Anterior margin of clypeus subtruncate (Fig. 12). Labrum broader than long as 2:1 with rounded anterior margin. Malar space 0.5 x diameter of median ocellus. LID:IDMO:EL = 2.0:2.2:1.9; OOL:POL:OCL = 1.4:1.0:1.0. Frontal area at the level of eyes and indistinct. Lateral supraantennal pit rounded and not connected by a furrow over them. Supraantennal tubercles and frontal ridges absent. Median fovea with a pit in front of median ocellus. Circumocellar furrow distinct, inter- and postocellar furrows indistinct. Lateral furrows fine, diverging backwards and ending just before reaching to hind margin of head. Postocellar area subconvex, broader than long as 2:1. Head narrowing behind eyes. Inner margins of eyes faintly converging downwards. Hind orbits extremely short and not carinated. Mesoscutellum subconvex, its appendage ecarinate. ITD:ICD = 4.0:1.0. Epicnemium separated from mesopleuron by very indistinct furrow, Subapical tooth of tarsal claw shorter than apical one (Fig. 13). Metabasitarsus shorter than following joints combined as 6:7. IATS:MB:OATS = 2.0:6.2:1.9. Lancet (Fig. 14) with five serrulae.

Sculpture and pubescence: Head, thorax and abdomen smooth, shining and impunctate. Silvery-brownish pubescence almost negligible.

Male: Average length 3.3 mm. Similar to female except following: antenna stoutly filiform, proximal end of femora lightly infuscated.

Genitalia: Penis valve (Fig. 15), Gonoforceps (Fig. 16).

Population variation

Some specimens having metatibia and basitarsi of all legs entirely pale.

Diagnostic features

This species is quite close to *N. rufiventris* but can be distinguished from it on the basis of combination of characters already discussed under the latter.

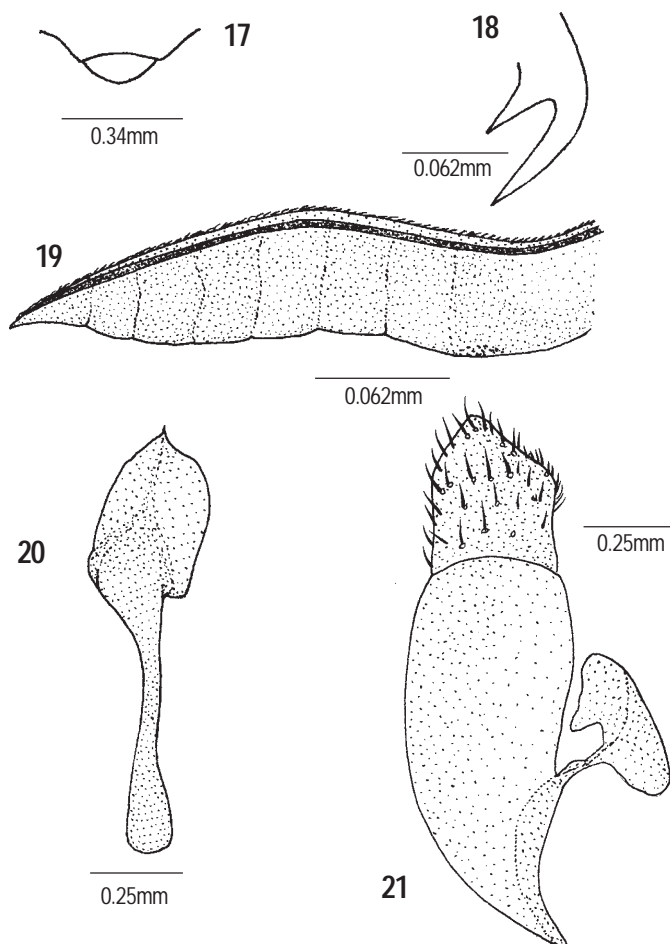
***Nesoselandria indica* sp. nov.**

(Figs. 17-21)

Material examined

Holotype: Female, 25.vi.1992, Mandal, Uttar Pradesh, India, 2200m, Coll. V. Vasu.

Paratypes: One female, seven males, 17.iv.1983, Cheerapunji, Meghalaya, India, 1500m, Coll. M.S. Saini; One male, 27.vi.1992, Auli, Uttar Pradesh, India, 2700m, Coll. V. Vasu; One female, five males, 25.vi.1992, Chopta, Uttar Pradesh, India, 3000m, Coll. T.P. Saini; Five males, 20.vi.1992, Dhanoulti, Uttar Pradesh, India, 2000m, Coll. T.P. Saini; Five females, 21.vi.1985, Mandal, Uttar Pradesh, India, 2200m, Coll. M.S. Saini; One male, 20.vi.1989, Ramgarh, Uttar Pradesh, India, 1800m, Coll. M.S. Saini; One female, one male, 14.vi.1994, Son Prayag, Uttar Pradesh, India, 1700m, Coll. V. Vasu; Eight males, 8.v.1983, Darjeeling, West Bengal, India, 2300m, Coll. M.S. Saini.



Figures 17-21. *Nesoselandria indica* sp. nov.
 17 - Clypeus and Labrum; 18 - Tarsal claw; 19 - Lancet;
 20 - Penis valve; 21 - Gonoforceps

Distribution

India: Cheerapunji in Meghalaya; Auli, Chopta, Dhanoulti, Mandal, Ramgarh, Son Prayag in Uttar Pradesh; Darjeeling in West Bengal.

Etymology

Species name is derived as genitive of India, the country in which its collection locality is situated.

Diagnosis

Female: Colour: Body entirely coal black. Wings uniformly subinfumated; costa, stigma and venation black.

Structure: Average length 5mm. Antenna subincrassinated in middle, 1.5 x head width, scape and pedicel almost equal and longer than their apical width; segment 3 longer than 4 as 4:3. Clypeus truncate anteriorly (Fig. 17). Labrum broader than long as 2:1 with rounded anterior margin. Malar space almost linear LID:IDMO:EL = 2.0:2.2:1.6; OOL:POL:OCL = 1.9:1.0:1.2. Frontal area at the level of eyes, almost distinct and limited anteriorly by a blunt carina and this carina somewhat incised in the middle; Lateral supraantennal pits rounded and not connected by a furrow over them. Median fovea flat in front of median ocellus and surrounded by blunt frontal ridges. Circum-, inter- and postocellar furrows indistinct. Lateral furrows very fine, hardly visible and reaching a little more than half to hind margin of head. Postocellar area subconvex, broader than long as 3:2. Head subparallel behind eyes. Inner margin of eyes faintly converging downwards. Hind orbits not carinate even at base of mandibles. Mesoscutellum subconvex, appendage not carinate. ITD:ICD = 3.5:1.0. Epicnemium absent. Subapical tooth of tarsal claw much shorter than apical one (Fig. 18). Metabasitarsus shorter than following tarsal joints combined as 6:7. IATS:MB:OATS = 2.0:6.1:1.9. Lancet (Fig. 19) with seven serrulae.

Sculpture and pubescence: Body smooth, shining and impunctate. Pubescence negligible.

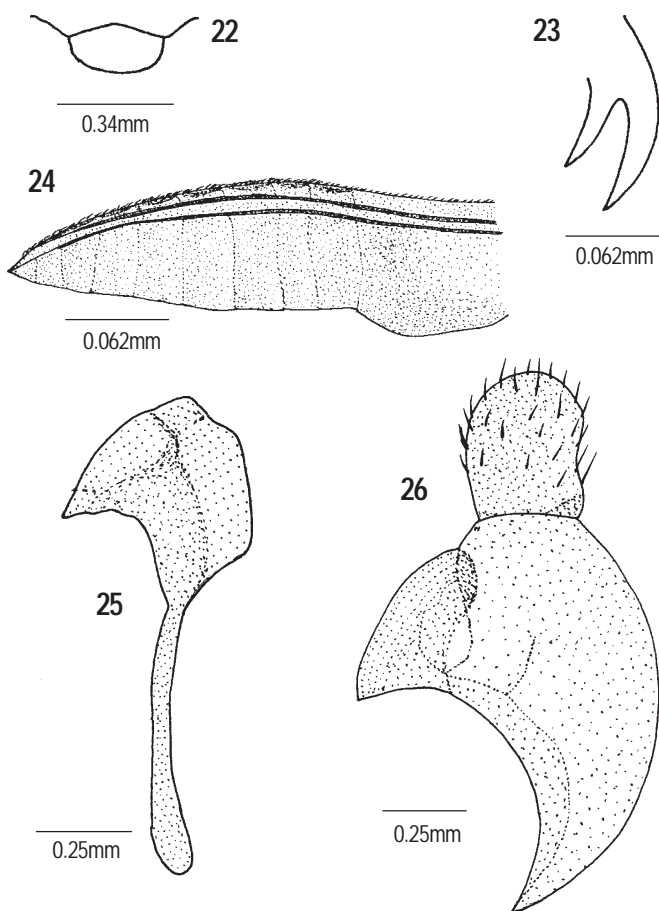
Male: Average length 4.8mm. Similar to female except antenna distinctly incrassated towards apex.

Genitalia: Penis valve (Fig. 20), Gonoforceps (Fig. 21).

Population variation: In some specimens the shape of antenna is almost filiform and infuscation of wings also varies.

Diagnostic features

This species is close to *N. shanica* and *N. devinderi* by having postocellar area broader than long as 3:2, but can be separated from both on the basis of following combination of characters: legs entirely black (yellow in *shanica* and *devinderi*); clypeus truncate (subtruncate in *shanica* and *devinderi*); antennal



Figures 22-26. *Nesoselandria devinderi* sp. nov.
22 - Clypeus and Labrum; 23 - Tarsal claw; 24 - Lancet;
25 - Penis valve; 26 - Gonoforceps

segments 3 and 4 as 4:3 (as 3:2 in *shanica* and *devinderi*).

***Nesoselandria devinderi* sp. nov.**
(Figs. 22-26)

Material examined

Holotype: Female, 16.v.1993, Namchi, Sikkim, India, 1500m, Coll. T.P. Saini.

Paratypes: One female, 14.v.1993, Gangtok, Sikkim, India, 1700m, Coll. T.P. Saini; One female, nine males, 16.v.1993, Namchi, Sikkim, 1500m, Coll. M.S. Saini.

Distribution

India: Namchi, Gangtok in Sikkim.

Etymology

The species is named in honour of Dr. Devinder Singh, Zoology

Department, Punjabi University Patiala, a sawfly worker.

Female: Colour: Body black, only legs pale yellow except apical three tarsal segments which are lightly infuscated. Wings hyaline; costa, stigma and venation brownish-black.

Structure: Average length 5mm. Antenna sub-incrassinated in middle and tapering towards apex, 1.75 x head width, pedicel conical and somewhat shorter than scape, both are almost as long as broad; segment 3 longer than 4 as 3:2. Anterior margin of clypeus subtruncate. (Fig. 22). Labrum broader than long as 2:1 with rounded anterior margin. Malar space linear. LID:IDMO:EL = 2.0:2.4:2.0; OOL:POL:OCL = 1.1:1.0:1.0. Frontal area at the level of eyes, indistinct and limited anteriorly by a blunt carina and this carina somewhat incised in the middle. Lateral supraantennal pits rounded like the central one and not connected by a furrow over them. Circumocellar furrow distinct, inter- and postocellar furrows indistinct. Lateral furrows fine, diverging backwards and reaching to posterior margin of head. Postocellar area subconvex, broader than long as 3:2. Head narrowing behind eyes. Inner margins of eyes faintly converging downwards. Hind orbits short and not carinated. Mesoseutellum flat, its appendage not carinate. ITD:ICD = 4.0:1.0. Epicnemial furrow separating the mesopleuron indistinct. Subapical tooth of tarsal claw shorter than apical one (Fig. 23). Metabasitarsus shorter than following joints combined as 7:8. IATS:MB:OATS = 2.0:6.2:1.9. Lancet (Fig. 24) with nine serrulae.

Sculpture and pubescence: Body smooth, shining and impunctate. Golden pubescence almost negligible.

Male: Average length 5mm. Similar to female except antenna distinctly incrassated.

Genitalia: Penis valve (Fig. 25), gonoforceps (Fig. 26).

Population variation

All specimens are alike.

Diagnostic features

This species exhibits some resemblance with *N. shanica* but can be easily separated on the basis of characters already described under the latter.

***Nesoselandria annandalei* (Rohwer, 1915)**
(Figs. 27, 28)

Aneugmenus annandalei Rohwer, 1915: 48.

Nesoselandria annandalei: Malaise, 1944: 17.

Material examined

Allotype: (Borrowed from Dr. D.R. Smith, USNM) bearing labels as male, *Aneugmenus annandalei* Rohwer, Allotype No. 4751/19. 15.x.1910, Indian Museum, Bangalore, 900m (3000ft) southern India, Coll. Annandale.

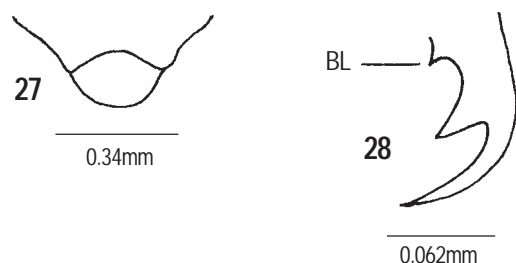
Distribution

India: Bangalore in Karnataka.

Diagnosis

Male: Colour: Body black; yellow are: extreme apex of coxae; all trochanters; femora; tibiae and tarsi except their infuscated apical Joints. Wings dusky hyaline; stigma broad, uniformly rounded beneath, costa, stigma and venation light to dark brown.

Structure: Length 3.8 mm. Antenna filiform, 1.5 x head width, scape longer than pedicel, both longer than their apical widths; segment 3 longer than 4 as 5:4. Clypeus subconvex, anterior margin shallowly arcuately emarginate (Fig. 27). Labrum broader than long as 2:1 with rounded anterior margin. Malar space linear. LID:IDMO:EL=2.0:2.4:2.0; OOL:POL:OCL=0.8:1.0:0.7. Face subconvexly raised above a hypothetical tangent touching both eyes. Frontal area roundly U-shaped and surrounded by very low, blunt carinae and more or less separated from the very large, shallow, transverse and curved middle supraantennal pit. Median fovea flat. Lateral supraantennal pits rounded and not connected by a furrow over them. Circum-, inter- and postocellar furrows indistinct. Lateral foveas shallow and ill-defined. Postocellar area subconvex, broader than long as 3:1. Inner margin of eyes converging downwards. Head narrowing behind eyes. Hind orbits short and not carinated. Mesoscutellum flat, appendage not carinate. ITD:ICD=4.0:1.0.



Figures 27-28. *Nesoselandria annandalei* (Rohwer, 1915)
27 - Clypeus and Labrum; 28 - Tarsal claw

Epicnemium subconvex, separated from mesopleuron by indistinct furrow. Tarsal claw (Fig. 28) with subapical tooth much shorter than apical one, basal lobe minute. Metabasitarsus shorter than following tarsal joints combined as 3:4. IATS:MB:OATS=2.0:5.0:1.9.

Sculpture and pubescence: Body smooth, shining and impunctate. Head and thorax covered with minute silvery pubescence.

Depository: Holotype: Female, IM (ZSI), Calcutta; Allotype: Male, USNMI Washington.

Population variation

Single specimen examined.

Diagnostic features

N. annandalei exhibits some resemblance with *N. turneri* but can be clearly separated on the basis of characters already described under the latter.

Remarks

The allotype of this species was borrowed on loan basis from USNM, Washington and redescribed on a uniform pattern. This species was described by Rohwer (1915) under genus *Aneugmenus* but later on Malaise (1944) shifted it to genus *Nesoselandria*. Due to single specimen (allotype) genitalia could not be dissected out.

***Nesoselandria rufiventris* Rohwer, 1915**
(Figs. 29-33)

Nesoselandria rufiventris Rohwer, 1915: 48-49.

Material examined

Specimens borrowed from USNM, Washington, each bearing labels as: Female, *Nesoselandria rufiventris*, 16.i.1913 Pusa, Bengal, C.S.S.; Male, *N. rufiventris*, 12.xii.1906, Pusa, Bengal, D.P.S.; Male, *N. rufiventris* (C. No. 1185), 23.iii.1915, Pusa Bengal, C.C.G.; Female, *N. rufiventris* Roh., Paratype (No. 18910), 22.xi.1907, IND. Mus., Calcutta (4593119).

Distribution

India: Pusa in West Bengal.

Diagnosis

Female: Colour: Body black; fulvous are: abdomen except extreme apex; coxae; trochanters; femora and tibiae of all legs; basitarsi of four front legs; rest of legs are piceous. Wings dusky hyaline; costa, stigma and venation light to dark brown.

Structure: Average length 5mm. Antenna subincrassate in

middle, 1.5 x headwidth, pedicel as long as scape, both are almost equal to their apical width, segment 3 longer than 4 as 3:2. Anterior margin of clypeus subtruncate (Fig. 29). Labrum broader than long as 2:1 with rounded anterior margin. Malar space 0.5 x diameter of median ocellus. LID:IDMO:EL = 2.0:2.3:1.7; OOL:POL:OCL = 0.8:1.0:0.7. Frontal area subconvex and ill defined. Lateral supraantennal pits rounded and not connected by a furrow over them. Supraantennal tubercles low and abruptly cut off from almost indistinct frontal ridges. Median fovea flat. Circum- and interocellar furrows indicated, postocellar furrow indistinct. Lateral furrows indistinct. Postocellar area subconvex, broader than long as 2:1. Head narrowing behind eyes. Inner margin of eyes faintly converging

downwards. Hind orbits short and not carinated. Mesoscutellum subconvex, appendage not carinate. Epicnemium subconvex, separated from mesopleuron by indistinct furrow. Subapical tooth of tarsal claw much shorter than apical one (Fig. 30). Metabasitarsus shorter than following joints combined as 6:7. IATS:MB:OATS 2.0:6.2:1.8. Lancet (Fig. 31) with six serrulae.

Sculpture and pubescence: Head, thorax and abdomen smooth, shining and impunctate. Head and thorax bear minute silvery pubescence.

Male: Length 4mm. Similar to female except blackish last three abdominal segments.

Genitalia: Penis valve (Fig. 32), Gonoforceps (Fig. 33).

Depository

Holotype: Female, IM(ZSI), Calcutta.

Allotype: One male, IM(ZSI), Calcutta; two males USNM, Washington.

Paratypes: Two females, USNM, Washington.

Population variation

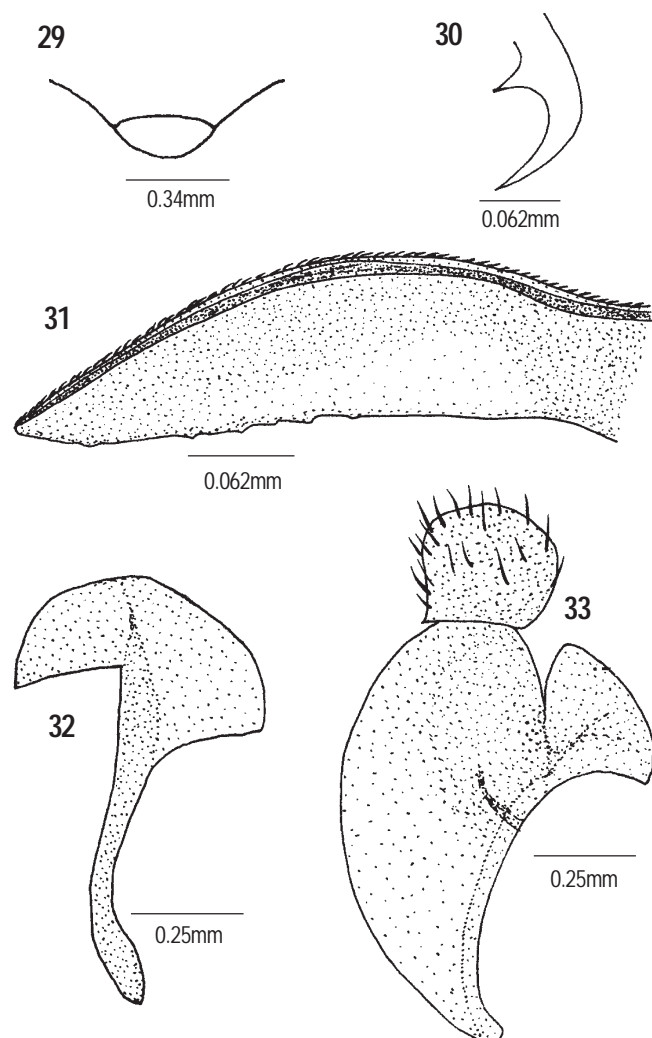
All specimens are alike.

Diagnostic features

Although *N. rufiventris* goes close to *N. muchei* having malar space 0.5 x diameter of median ocellus, abdomen pale or fulvous at least below, etc., yet a combination of some other characters such as: antenna subincrassinate in middle (filiform in *muchei*); tergites 2-4 fulvous (entirely black in *muchei*); lateral furrows indistinct (fine, diverging backwards and reaching almost hypothetical posterior margin of head in *muchei*), sets *N. rufiventris* far apart from *N. muchei*.

Remarks

Nesoselandria rufiventris was described by Rohwer (1915) from Calcutta (Kolkata). The studied specimens were borrowed on loan basis from USNM, Washington and redescribed on a uniform systematic pattern.



Figures 29-33. *Nesoselandria rufiventris* Rohwer, 1915
29 - Clypeus and Labrum; 30 - Tarsal claw; 31 - Lancet;
32 - Penis valve; 33 - Gonoforceps

***Nesoselandria shanica* Malaise, 1944**

(Figs. 34-36)

Nesoselandria shanica Malaise, 1944: 14.**Material examined**

Specimen: One female, 29.iv.1994, Cheerapunji, Meghalaya, India, 1420m, Coll. V. Vasu; One female, 16.ix.1992, Zunhebato, Nagaland, India, 1870m, Coll. T.P. Saini.

Distribution

Burma; India: Cheerapunji in Meghalaya; Zunhebato in Nagaland.

Diagnosis

Female: Colour: Body black; pale are: narrow margin of upper pronotal angles, tegula, legs except base of coxae, claw joints of pro- and mesolegs; tip of metatibia and distal four tarsal segments of metaleg are infuscated. Wings hyaline; costa, stigma and venation black.

Structure: Average length 4.8mm. Antenna filiform, tapering towards apex, 2.2 x headwidth, scape and pedicel almost equal, longer than their apical widths; segment 3 longer than 4 as 3:2. Clypeus subtruncate (Fig. 34). Labrum broader than long as 2:1 with rounded anterior margin. Malar space linear. LID:IDMO:EL = 2.0:2.7:2.5; OOL:POL:OCL = 1.2: 1.0-1 1.0. Frontal area at the level of eyes, indistinct and limited anteriorly by a blunt carina and this carina somewhat incised in the middle. Lateral supraantennal pits rounded like the central one and not connected by a furrow over them. Circumocellar furrow distinct, inter- and postocellar furrows absent. Lateral furrows confused

to a distinct pit close behind each ocellus. Postocellar area subconvex, broader than long as 3:2. Head narrowing behind eyes. Inner margin of eyes distinctly converging downwards. Hind orbits short and not carinated. Mesoscutellum flat, appendage not carinate. ITD:ICD = 4.0:1.0. Epicnemium separated from mesopleuron by indistinct furrow. Tarsal claw (Fig. 35) with subapical tooth shorter than apical one. Metabasitarsus almost equal to following joints combined. IATS:MB:OATS = 2.0:5.8:1.8. Lancet (Fig. 36) with one serrula.

Sculpture and pubescence: Body smooth, shining and impunctate. Pubescence silvery, almost negligible.

Male: Yet to be recorded.

Depository

Holotype: Female, N.R. Stockholm.

Paratypes: Three females, N.R. Stockholm.

Population variation

Both specimens are alike.

Diagnostic featuresThis species comes close to *N. devinderi* by having: legs yellow, abdomen entirely black, clypeus subtruncate anteriorly and antennal segment 3 longer than 4 as 3:2, but can be separated from it on basis of following characters: antenna 2.2 x head width (1.75 x head width *devinderi*); tegula pale (black in *devinderi*); antenna filiform (subincrassinated in middle in *devinderi*); inner margins of eyes distinctly converging downwards (faintly converging downwards in *devinderi*).**Remarks***N. shanica* was described by Malaise (1944) from Burmese Shan states. This species is reported for the first time from India.***Nesoselandria sulciceps* Malaise, 1944**

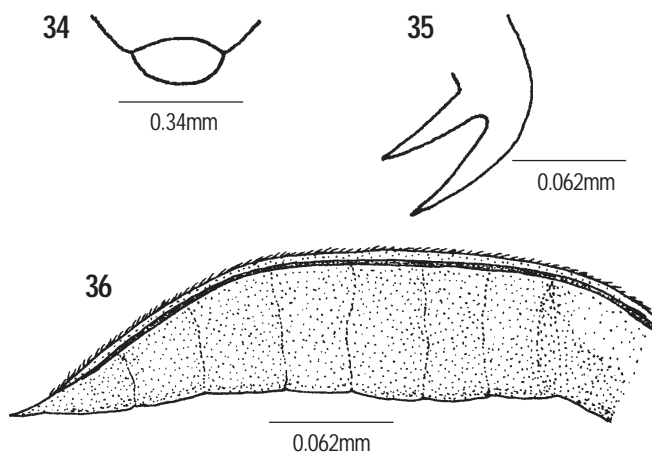
(Figs. 37-41)

Nesoselandria sulciceps Malaise, 1944: 14.**Material examined**

One female, 15.ix.1992, Dirang, Arunachal Pradesh, India, 1500m, Coll. V. Vasu; one male, 6.v.1994, Lazu, India, 2200m, Coll. V. Vasu; four males, 16.v.1993, Namchi, Sikkim, India, 1500, Coll. T.P. Saini; one male, 12.v.1983, Gangtok, India, 1700m, Coll. M.S. Saini; one female, 10.v.1993, Mirik, West Bengal, India, 1700m, Coll. V. Vasu.

Distribution

Burma; India: Dirang in Arunachal Pradesh; Namchi in Sikkim; Mirik in West Bengal.



Figures 34-36. *Nesoselandria shanica* Malaise, 1944
34 - Clypeus and Labrum; 35 - Tarsal claw; 36 - Lancet

Diagnosis

Female: Colour: Body black, pale are apex of coxae; meso- and metatrochanters; extreme apex of femora; tibiae except apex and proximal two tarsal segments of all legs. Apex of the front wings infumate from the base of stigma; costa, stigma and venation blackish.

Structure: Average length 4mm. Antenna filiform, 2.1 x head width, pedicel slender, almost as long as scape, both longer than their apical width; segment 3 longer than 4 as 4:3. Clypeus truncate anteriorly (Fig. 37). Labrum broader than long as 2:1 with rounded anterior margin. Malar space almost linear. LID:IDMO:EL = 2.0:2.6:2.7; OOL:POL:OCL = 1.3:1.0:0.9. Frontal area at the level of eyes. The lateral supraantennal pits distinctly transversally elongate and together included in a furrow from one eye to the other; traces of wrinkles parallel to the furrow are present on subconvex frontal area above that furrow. Supra antennal tubercles and frontal ridges insignificant. Circumocellar

furrow distinct, inter- and postocellar furrows indistinct. Lateral furrows almost indistinct. Postocellar area subconvex, broader than long as 4:1. Head narrowing behind eyes. Inner margin of eyes subparallel in middle and distinctly converging downwards. Hind orbits extremely short and a pseudo-carina present along the posterior margin of head. Mesoscutellum subconvex, appendage not carinate. ITD:ICD = 4.6:1.0. Epicnemium separated from mesopleuron by indistinct furrow. Subapical tooth of tarsal claw shorter than apical one (Fig. 38). Metabasitarsus shorter than following joints combined as 7:8. IATS:MB:OATS = 2.0:6.3:1.9. Lancet (Fig. 39) with five serrulae.

Sculpture and pubescence: Body smooth, shining and impunctate; pubescence silvery, sparse.

Male: Length 3.5mm. Similar to female except having femora entirely black. Genitalia: Penis valve (Fig. 40), gonoforceps (Fig. 41).

Depository

Holotype: Female, N. R. Stockholm.

Paratypes: N. R. Stockholm.

Population variation

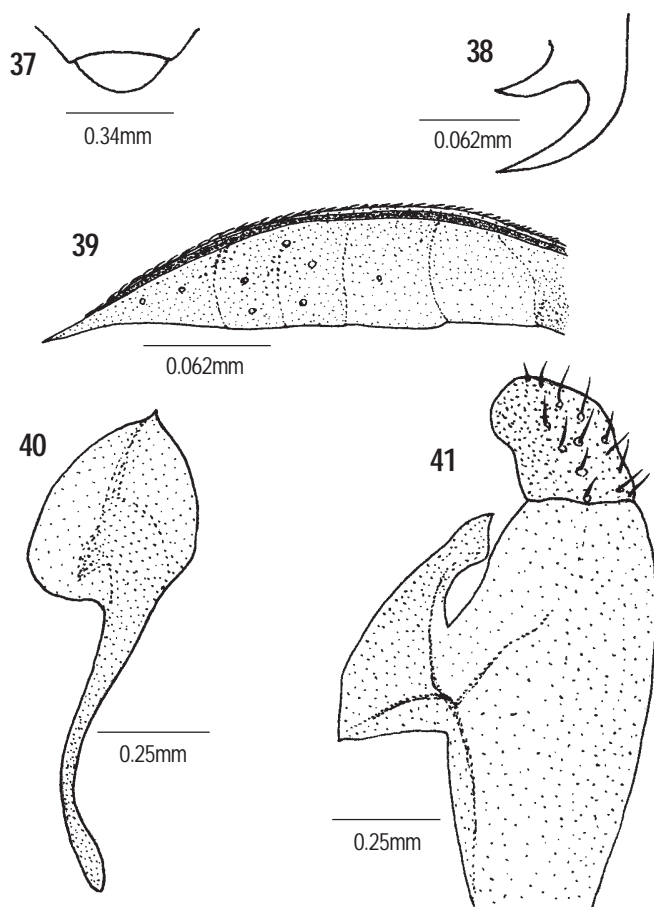
Wings entirely clear in one specimen.

Diagnostic features

This species is quite close to *N. antennata* by having lateral supraantennal pits distinctly transversely elongated and together included in a furrow stretching from one eye to other, but can be clearly separated from the latter on the basis of colour of abdomen and legs, ratio of postocellar area, and of antennal segments 3 and 4, etc., already described under *N. antennata*.

Remarks

This species was described by Malaise (1944) from Dehradun (India) and Bunna. The studied specimens agree well with the description available in the literature.



Figures 37-41. *Nesoselandria sulciceps* Malaise, 1944
37 - Clypeus and Labrum; 38 - Tarsal claw; 39 - Lancet;
40 - Penis valve; 41 - Gonoforceps

***Nesoselandria turneri* Malaise, 1944**
(Figs. 42-46)

Nesoselandria turneri Malaise, 1944: 15.

Material examined

One female, one male, 12.ix.1992, Kohima, Nagaland, 1500m, Coll. M.S. Saini; one female, 16.ix.1992, Mokokchung, Nagaland, 1600m, Coll. V. Vasu.

Distribution

India: Kohima, Mokokchung in Nagaland.

Diagnosis

Female: Colour: body black; pale are: trochanters along with adjoining parts of coxae and femora, extreme bases of all tibiae. Front wings wilfonny subinfuscated, hindwhigs clear; costa, stigma and venation black.

Structure: Average length 5.3mm. Antenna faintly incrassate in middle and distinctly tapering towards apex, 1.8 x head width, scape and pedicel almost equal and longer than their apical width; segment 3 longer than 4 as 4:3. Anterior margin of clypeus subtruncate (Fig. 42). Labrum broader than long as 2:1 with rounded anterior margin. Malar space linear. LID:IDMO:EL = 2.0:2.6:2.2; OOL:POL:OCL = 1.2:1.0:1.3. Frontal area slightly above the level of eyes. Lateral antennal pits rounded like central one and not connected by a furrow over them. Supraantennal tubercles and fomtal ridges absent; frontal area indistinct. Circumocellar furrow almost distinct, mter- and postocellar furrows absent. Lateral furrows broad, although indistinct, reaching almost to the margin of head. Postocellar area subconvex, broader than long as 2:1. Head somewhat narrowing behind eyes. Inner margins of eyes almost parallel in middle and converging downwards at extreme base. Hind orbits short and not carinated. Mesoscutellum subconvex, appendage not carinate. ITD:ICD = 4.0:1.0. Epicnemium separated from mesopleuron by indistinct furrow. Subapical tooth somewhat shorter than apical one (Fig. 43). Metabasitarsus almost equal to following joints combined. IATS:MB:OATS = 2.0:5.5:1.8. Lancet (Fig. 44) with seven serrulae.

Sculpture and pubescence: Body smooth, shining, impunctate and covered with silvery pubescence.

Male: Length 4.5mm. Otherwise similar to female.

Genitalia: Penis valve (Fig. 45), Gonoforceps (Fig. 46).

Depository

Holotype: Female, NHM, London.

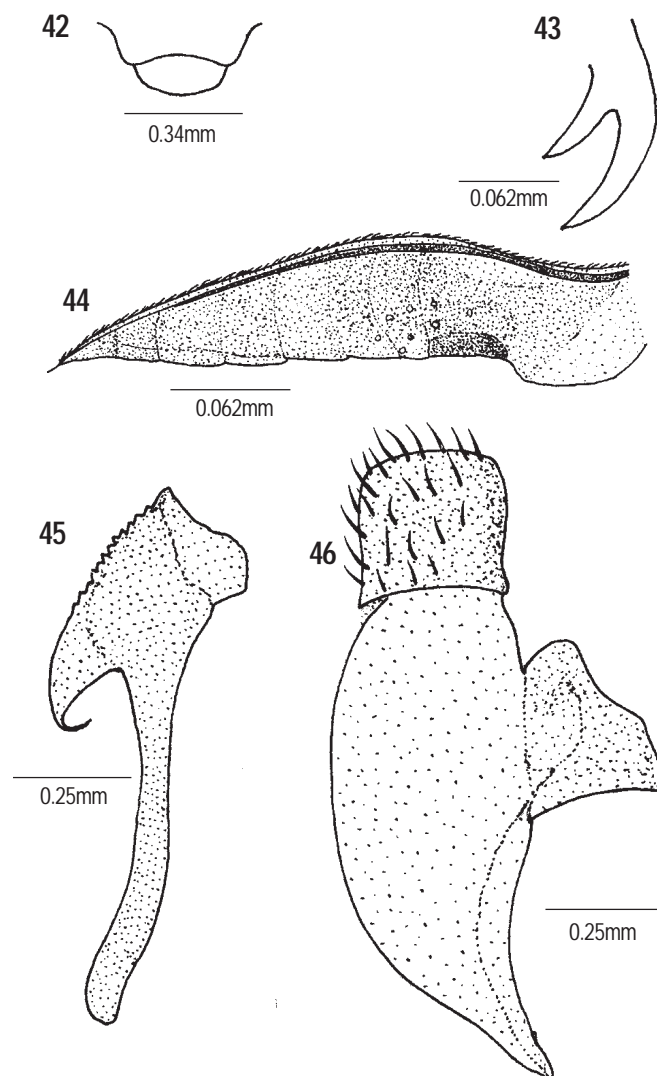
Paratype: Female, N.R. Stockholm.

Population variation

All specimens are alike.

Diagnostic features

This species resembles *N. annandalei* but can be clearly separated on the basis of following combination of characters: antenna faintly incrassate in middle (filiform in *annandalei*); tibiae except base and femora black (tibiae and femora yellow in *annandalei*); venation black light to dark brown in *annandalei*; lateral furrows broad although indistinct, reaching almost to hind margin of head (shallow and ill defined in *annandalei*).



Figures 42-46. *Nesoselandria turneri* Malaise, 1944
42 - Clypeus and Labrum; 43 - Tarsal claw; 44 - Lancet;
45 - Penis valve; 46 - Gonoforceps

Key to the Indian species of *Nesoselandria* Rohwer

1. Abdomen pale at least in the middle below 2
- 1A. Abdomen entirely black 6
2. Malar space linear 3
- 2A. Malar space 0.5x diameter of median ocellus 4
3. Antenna entirely black; postocellar area broader than long as 2:1 5
- 3A. Antennal segments 4-6 pale; scape, pedicel and apical three segments somewhat infuscated; postocellar area broader than long as 3:2 *N. antennata* sp. nov.
4. Tegula pale; interocellar furrow distinct; antennal segment 3 longer than 4 as 4:3; tergites 2-4 brownish; lateral furrows indicated, excurved and ending a little before reaching to hind margin of head
..... *N. dirangensis* sp. nov.
- 4A. Tegula black; interocellar furrow indistinct; antennal segment 3 longer than 4 as 5:4; tergites 2-4 yellow; lateral furrows indistinct *N. manii* sp. nov.
5. Abdominal tergites 2-4 fulvous; lateral furrows indistinct; interocellar furrow indicated, antenna subincrasinate in middle *N. rufiventris*
- 5A. Abdomen entirely black above; lateral furrows fine diverging backwards; interocellar furrow indistinct; antenna filiform *N. muchei* sp. nov.
6. Lateral antennal pits rounded like central one and connected by a furrow over them, postocellar area not broader than long as 4: 1 7
- 6A. Lateral antennal pits distinctly transversally elongate and together included in a furrow from one eye to other; postocellar area broader than long as 4:1 *N. sulciceps*
7. Postocellar area broader than long as 3: 1 or 2: 1 8
- 7A. Postocellar area broader than long as 3:2 9
8. Antenna 1.8x head width, segments 3 and 4 as 4:3; postocellar area broader than long as 2:1; tibiae except base and femora black; lateral furrows broad, reaching almost to hind margin of head
..... *N. turneri*
- 8A. Antenna 1.5x head width, segments 3 and 4 as 5:4; postocellar area broader than long as 3: 1; tibiae and femora yellow; lateral furrows shallow, ill-defined *N. annandalei*
9. Legs yellow; clypeus subtruncate anteriorly; antennal segments 3 and 4 as 3:2 10
- 9A. Legs entirely black; clypeus truncate; antennal segments 3 and 4 as 4:3 *N. indices* sp. nov.
10. Tegula pale; tip of metatibia fuscous; antenna filiform; inner margin of eyes distinctly converging downwards *N. shanica*
- 10A. Tegula black; metatibia entirely yellow; antenna subincrasinated in middle; inner margin of eyes faintly converging downwards *N. devinderi* sp. nov.

Remarks

N. turneri was described by Malaise (1944) from Shillong. The specimens dealt with here agree well with the account available in literature.

Acknowledgements

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