FIVE NEW SPECIES OF Nesoselandria Rohwer (Hymenoptera: Selandriinae) FROM INDIA

M.S. Saini and V. Vasu

Department of Zoology, Punjabi University, Patiala, Punjab 147002, India

ABSTRACT

Five new species of the genus Nesoselandria Rohwer are added to science from India. The taxonomic validity of these species has been supported by descriptions of morphology and genitalia, illustrations and detailed discussion.

KEYWORDS

Hymenoptera, India, Nesoselandria bengali sp. nov., N. fuscitarsus sp. nov., N. iari sp. nov., N. icar sp. nov., Selandriinae

ABBREVIATIONS

EL - Eye length; IATS - Inner apical tibial spur; ICD - Inter cenecular distance; IDMO - Interocicular distance at level of median ocellus; ITD - Inter tegular distance; LID - Lower interocular distance; MB - Metabasitarsus; OATS - Outer apical tibial spur; OCL - Oculooccipital line; OOL - Oculoocellar line; POL - Postocellar line.

Rohwer (1910) erected the genus Nesoselandria taking Paraselandria imitratix Ashmead as its type species from Phillipines. Again Rohwer (1915) added a new species to this genus from Calcutta, India. Malaise (1944) shifted Aneugmenus anandalei Rohwer and Neohusaria 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 Rohwer. Malaise (1944) made two additions -- Nesoselandria sulciceps from Dehradun and N. turneri from Shillong. Some of the other important works concerning this genus from the oriental region include those of Emslin (1912), Rohwer (1916), Takeuchi (1928), and Forhsius (1929, 1931a, 1931b, 1932, 1933), prior to which this genus was represented only by 22 species from this region. Only four species were on record from the Indian subcontinent. Following these contributions Saini and Vasu (1999), Vasu and Saini (1999a, 1999b), and Saini et al. (2001) added several new species to science under this genus from the Indian subcontinent. This genus is now represented by 25 species from India that includes the dealt herein five new species collected from the Himalayan region of northern and northeastern states. The present text deals with the descriptions of morphology and illustrations of the new species in question. The species has been supported by descriptions of morphology and genitalia, illustrations and detailed discussion.

Nesoselandria fuscitarsus sp. nov. (Figs. 1-5)

Material examined

Holotype: Female, 05.ix.1993, Elephant Falls, Meghalaya, 1500m, coll. V. Vasu.

Paratype: One female, 05.ix.1993, Elephant Falls, Meghalaya, 1500m, coll. V. Vasu; one female, 10.v.1986, Ranipool, Sikkim, 1600m, coll. M.S. Saini.

Distribution

India: Meghalaya, Sikkim.

Etymology

Species is named after its fuscous tarsi.

Diagnostic features

Black colour of tegula and abdomen with some tergites yellowish bringing N. fuscitarsus sp. nov. close to N. rufiventris Rohwer. However, they can be set aside as malar space 1.0x diameter of median ocellus (0.75x in latter), postocellar area wider than long as 2:1 (3:2 in latter), abdominal segments 2-5 aureate (abdomen entirely yellowish in female and basal six segments in male in latter), interocellar furrow absent (distinct in latter) and circumocellar furrow indistinct (distinct in latter). And also based upon the following combination of characters such as: labrum wider than long as 2:1, ventral surface of mesoscutellum almost flat and labral notch longer than following three joints combined as 1:2:1, ICD:ITD = 1:6, malar space 1x diameter of median ocellus, lateral furrows indistinct, and postocellar area wider than long as 2:1. N. fuscitarsus remains distinct from all other species.

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Five new species of Nesoselandria Rohwer (Hymenoptera: Selandriinae) from India

M.S. Saini & V. Vasu

Material examined
Holotype: Female, 02.v.1992, Elephant Falls, Meghalaya, 1500m, coll. V. Vasu.
Paratype: One female, 02.v.1992, Elephant Falls, Meghalaya, 1500m, coll. V. Vasu.

Individual variation
Both specimens alike.

Distribution
India: Meghalaya.

Etymology
Species name alludes to its spotted legs.

Diagnostic features
The characters separating *N. maculipoda* sp. nov. from its allied species *N. rufiventris* Rohwer are femora, tibiae and basitarsi distinctly infuscated or reddish (entirely aureate in latter), postocellar area wider than long as 2:1 (3:2 in latter), tergites 3-5 and sternites 2-6 aureate (abdomen entirely yellowish in female and basal six segments in male in latter), frontal area flat (faintly depressed in latter), inter and circumocellar furrow fine (distinct in latter) and antennal segments three and four as 4:3 (3:2 in latter). And also based upon the following combination of characters such as: labrum wider than long as 2:1, mesoscutellum almost flat, metabasitarsus longer than following three joints combined as 4:3, ICD:ITD = 1.6, malar space 1x diameter of median ocellus, lateral furrows indistinct, and postocular area wider than long as 2:1, this species *viz.*, *N. fuscitarsus* remains all distinct from all other species described under this genus.

Female:

Colour: Body black, aureate are: tergites 2-5, sternites 2-5, all legs except infuscated extreme bases of coxae, apical rings of tibiae and tarsi. Wings hyaline, venation including costa, subcosta and stigma fuscous.

Structure: Length 6.0mm. Antenna 1.8x head width, scape equal to pedicel, segments three and four as 3:2; clypeus (Fig. 1) almost truncate, labrum (Fig. 1) broader than long as 2:1 with rounded pointed anterior margin; malar space 1x diameter of median ocellus; LID:IDMO:EL = 1.0:1.3:0.9, POL:OCL:OOL = 1.0:1.3:1.0; supraantennal pits deep and round, area between them smooth; frontal area flat, above level of eyes; median fovea in form of deep, oval pit above supraclypeal area; post and interocellar furrows absent, circumocellar furrows distinct; lateral furrows indistinct; postocular area wider than long as 2:1; head parallel behind eyes; mesoscutellum almost flat, appendage ecarinate; ICD:ITD = 1.0:6.0; epicnemium separated from mesopleuron by fine furrow, tarsal claw (Fig. 2) with subapical tooth shorter than apical one, basal lobe distinct; metabasitarsus distinctly longer than following 3 joints combined as 4:3, IATS:MB:OATS = 1.0:2.6:0.9. Ovipositor sheath as in Fig. 3 (lateral view), Fig. 4 (dorsal view). Lancet (Fig. 5) having nine serrulae.

Sculpture: Body impunctate, shining.

Pubescence: Fuscous, 0.3x scape length.

Male:

Yet to be discovered.

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**Nesoselandia maculipoda sp. nov.**

(Figs. 6-10)

*Figures 1-5. Nesoselandria fuscitarsus sp. nov.*

1 - Clypeus and labrum; 2 - Tarsal claw; 3 - Lateral view of ovipositor sheath; 4 - Dorsal view of ovipositor sheath; 5 - Lancet. Scale = 0.5mm

*Figures 6-10. Nesoselandria maculipoda sp. nov.*

6 - Clypeus and labrum; 7 - Tarsal claw; 8 - Lateral view of ovipositor sheath; 9 - Dorsal view of ovipositor sheath; 10 - Lancet. Scale = 0.5mm
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Structure: Length 4.0mm. Antenna 1.6x head width, scape equal to pedicel, segments 3 and 4 as 4:3; clypeus (Fig. 6) shallowly emarginate, labrum (Fig. 6) broader than long as 3:2 with deflexed, rounded anterior margin, malar space 0.75x diameter of median ocellus, LID:IDMO:EL = 1.0:1.2:0.9; POL:OCL-OOL = 1.0:1.1:1.0; supraantennal pits deep and round, area between them smooth; frontal area flat, above level of eyes; median fovea in form of deep, transverse pit above supraclypeal area; postocular furrow absent, inter and circumocellar furrows fine; lateral furrows fine, bulging medially and reaching hypothetical hind margin of head; postocular area wider than long as 2:1; head narrowing behind eyes; mesoscutellum subconvex, appendage ecarinate; ICD:ITD = 1.0:5.0; epicnemium separated from mesopleuron by fine furrow; tarsal claw (Fig. 7) with subapical tooth shorter than apical one, basal lobe minute; metabasitarsus distinctly longer than following three joints combined as 4:3, IATS:MB:OATS: = 1.0:2.8:0.9. Ovipositor sheath as in Fig. 8 (lateral view) and Fig. 9 (Dorsal view), Lancet (Fig. 10) having eight serrulae.

Sculpture: Body almost impunctate, shining.

Pubescence: Fuscous, 0.4x scape length.

Male: Yet to be discovered.

Nesoselandia icar sp. nov. (Figs. 11-17)

Material examined
Holotype: Female, Manipur; Ukhrul, 1700m, 19.v.1992, coll. V. Vasu.
Paratype: Two males, 11.v.1993, Mirik, West Bengal, 1700m, coll. M.S. Saini.

Individual variation
All specimens alike.

Distribution
India: Manipur, West Bengal.

Etymology
Species name is derived as an arbitrary combination of letters from the funding agency, Indian Council of Agricultural Research.

Diagnostic features
The characters such as: tegula, tergites 2-5 and sternites 2-6 aureate; segments three and four as 3:2; clypeus shallowly emarginate; malar space linear; POL:OCL = 1.0:0.8; frontal concave, above level of eyes; post and interocellar furrows absent; postocular area wider than long as 2:1; ICD:ITD = 1.0:0.4; pubescence aureate and 0.4x scape length, set the species in question N. icar sp. nov. distinctly far apart from all the species described under this genus.

Female:
Colour: Body black, aureate are: tegula 2-5, tergites 2-5, sternites 2-6; all legs except infuscated apical three tarsal joints of mesolegs, and apical four tarsal segments including extreme apex of basitarsus of metalegs. Wings hyaline, venation including costa, subcosta and stigma fuscous.

Structure: Length 5.0mm. Antenna 1.7x head width, scape equal to pedicel, segments three and four as 3:2; clypeus (Fig. 11) Shallowly emarginate, labrum (Fig. 11) broader than long as 3:2 with rounded anterior margin; malar space linear; LID:IDMO:EL = 1.0:1.4:1.2; POL:OCL-OOL = 1.0:0.8:1.0; supraantennal pits deep and round, area between them smooth; frontal concave above level of eyes; median fovea in form of shallow depression above supraclypeal area; post and interocellar furrows absent, circumocellar furrows fine, lateral furrows distinct, bulging medially and ending just before hypothetical hind margin of head; postocular area wider than long as 2:1; head narrowing behind eyes; mesoscutellum subconvex; appendage ecarinate; ICD:ITD = 1.0:4.0; epicnemium separated from mesopleuron by fine furrow; tarsal claw (Fig. 12) with subapical tooth shorter than apical one, basal lobe minute; metabasitarsus longer than following three joints combined as 5:4, IATS:MB:OATS: = 1.0:3.0:0.9. Ovipositor sheath as in Fig. 13 (lateral view), Fig. 14 (dorsal view), Lancet (Fig. 15) having seven serrulae.

Sculpture: Body almost impunctate, shining.

Pubescence: Aureate, 0.4x scape length.

Male: Average length 4.5mm. Similar to female. Genitalia: Penis valve (Fig. 16) gonoforceps (Fig. 17).
**Nesoselandia bengali** sp. nov.  
(Figs. 18-24)

**Material examined**

*Holotype:* Female, 11.v.1993, Mirik, West Bengal, 1600m, coll. V. Vasu.  
*Paratypes:* One female, one male, 11.v.1993, Mirik, West Bengal, 1600m, coll. V. Vasu; one female, 26.v.1989, Darjeeling, West Bengal, 2200m, coll. M.S. Saini; one female, 13.v.1994, Pfutsero, Nagaland, 2100m, coll. V. Vasu.

**Individual variation**

All specimens alike.

**Distribution**

India: West Bengal, Nagaland.

**Etymology**

Species name is derived from the name of the state in which the type locality is situated.

**Diagnostic features**

On the basis of some outstanding key characters such as: abdomen brownish to black at least above, legs with some broad pale yellow markings, and area between supraantennal pit smooth *N. bengali* sp. nov. is closely related to *N. annandalei* (Rohwer). But the two can be separated as: abdomen with tergites two to basal ½ of five yellow (entirely black in latter), malar space 0.6x diameter of median ocellus, antennal segments three and four as 3:2;clypeus (Fig. 18) triangularly emarginate, labrum (Fig. 18) broader than long as 2:1 with rounded anterior margin; malar space 0.6x diameter of median ocellus; LID:IDMO:EL = 1.0:1.3:1.3, POL:OCL:OOL = 1.0:0.8:0.8; supraantennal pits deep and round, area between them smooth; frontal flat, at level of eyes; median fovea in form of distinct transverse pit above supraclypeal area; postocular furrow absent, inter- and cirumocular furrows distinct; lateral furrows distinct diverging posteriorly and ending half way to hypotential hind margin of head postocular area wider than long as 2:1, head narrowing behind eyes; mesoscutellum subconvex, appendage ecarinate; ICD:ITD = 1.0:6.0; epicnemium separated from mesopleuron by fine furrow; tarsal claw (Fig. 19) with subapical tooth shorter than apical one basal lobe minute, metabasitarsus longer than following three joints combined as 4:3, IATS:MB:OATS:= 1.0:2.6:0.9. Ovipositor sheath as in fig. 20 (lateral view), fig. 21 (dorsal view). Lancet (Fig. 22) having six serrulae.

**Sculpture:** Body almost impunctate, shining.

**Pubescence:** Aureate, 0.5x scape length.

**Male:** Average length 3.5mm. Similar to female. Genitalia: Penis valve (Fig. 23), gonoforceps (Fig. 24).

**Nesoselandia iari** sp. nov.  
(Figs. 25-29)

**Material examined**

*Holotype:* Female, 07.v.1994, Tissa, Arunachal Pradesh, 700m, coll. M.S. Saini.  
*Paratype:* One female, 03.05.1992, Jowai, Meghalaya, 1500m, coll. V. Vasu.

**Individual variation**

Both specimens alike.

**Distribution**

India: Arunachal Pradesh, Meghalaya.

**Etymology**

Species name is derived as an arbitrary combination of letters from the Indian Agricultural Research Institute, where the type material is housed.

Figure 18-24. *Nesoselandia bengali* sp. nov.  
18 - Clypeus and labrum; 19 - Tarsal claw; 20 - Lateral view of ovipositor sheath; 21 - Dorsal view of ovipositor sheath; 22 - Lancet; 23 - Penis valve; 24 - Gonoforceps.  
Scale = 0.5mm
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Diagnostic features

*N. iari* sp. nov. is allied to *N. icar* sp. nov. from which it can be set apart as: scape and pedicel yellow, tergites 3-5 yellow, circumcerebral furrow absent, lateral furrows fine and indicated just behind lateral ocelli in former whereas scape and pedicel black, tergites 2-5 yellow, circumcerebral furrow fine, lateral furrows distinct and ending just before hypothetical hind margin of head in latter. On the other hand this species does not come close to any of the Oriental species described under this genus so far. The characters of taxonomic significance to keep it far apart from all other species are: clypeus circularly emarginate, malar space linear; LID:IDMO:EL = 1:0.8:0.7, frontal flat and above level of eyes; median fovea in form of distinct transverse pit, post-, inter- and circumcerebral furrows absent; lateral furrows fine and indicated just behind lateral ocellidum lancet having five serrulae.

**Female:**

**Colour:** Body black, aureate are: scape, pedicel, tegula, tergites two except broad lateral spots, tergites 3-5 entirely, sternites 2-6; all legs except infuscated apical three tarsal joints of metalegs. Wings hyaline, venation including costa, subcosta and stigmafuscous.

**Structure:** Length 5.0mm. Antenna 1.7x head width, scape equal to pedicel, segments three and four as 5:4; clypeus (Fig. 25) circularly emarginate, labrum (Fig. 25) broader than long as 3:2 with rounded anterior margin, malar space linear; LID:IDMO:EL = 1.0:1.5:1.5, POL:OCL:OOL = 1.0:0.8:0.7; supraantennal pits deep and round, area between them smooth, frontal flat, above level of eyes; median fovea in form of distinct transverse pit above supraocipital area: post-, inter- and circumcerebral furrows absent; lateral furrows fine and indicated just behind lateral ocelli; postocular area wider than long as 2:1; head narrowing behind eyes; mesoscutellum subconvex, appendage ecarinate; ICD:ITD = 1.0:5.0; epicnemium separated from mesopleuron by fine furrow; tarsal claw (Fig. 26) with subapical tooth shorter than apical one, basal lobe minute; metabasitarsus longer than following three joints combined as 4:3, IATS:MB:OATS = 1.0:3.0:0.9. Ovipositor sheath as in Fig. 27 (lateral view), Fig. 28 (dorsal view). Lancet (Fig. 29) having five serrulae.

**Sculpture:** Body almost impunctate shining.

**Pubescence:** Aureate, 0.4x scape length.

**Male:** Yet to be discovered.

**REFERENCES**


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