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# Four new species of *Neostromboceros* Rohwer from India (Hymenoptera, Tenthredinidae: Selandriinae)

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(With 28 figures)

## Abstract

Four new species, i.e. *Neostromboceros nigrisclerite* sp. n., *N. aspersus* sp. n., *N. nigrifemur* sp. n. and *N. distinctus* sp. n. are described and illustrated. The sexual dimorphism and population variations are noted and a key to the Indian species of this genus is provided.

## Introduction

Relevant literature concerning this group reveals that so far this genus is recorded from the Oriental region including South China only. Rohwer (1912) was the first to describe this genus based on *Strombeceros metallica* from Singapore. To this date nine species are known from Indian fauna, out of which six are described by Cameron, i. e. *N. rothneyi* (Cameron, 1907), *N. caeruleiceps* (Cameron, 1899), *N. fuscinervis* (Cameron, 1899), *N. pilicornis* (Cameron, 1899), *N. trifoveatus* (Cameron, 1902), and *N. basilineatus* (Cameron, 1907). Of the remaining three species, one is described by Konow (1898: *N. laevis*) and two by Malaise (1944: *N. indobrimanus* and *N. speciosus*). In 1919 Enderlein described the genus *Stypoza* with *S. cyanea* as its type species but Malaise (1944) brought this genus under *Neostromboceros*. Different workers such as Konow (1901, 1908), Rohwer (1912, 1916), Enslin (1912), Enderlein (1919), Takeuchi (1929), Forsius (1925, 1931, 1933), Benson (1935), and Malaise (1944) added 28 species to this genus from the Oriental region (excluding India). Malaise (1944) was the first to compile the scattered work on this genus in the form of a key from the Oriental region.

The members of *Neostromboceros* can be identified as: front wings with 2 radial and 3 or 4 cubital cells, 1st cubital crossvein frequently obliterate; basal vein mostly subparallel to 1st recurrent vein; anal cell without crossvein; hind wings with 2 closed middle cells and always with sessile anellan cell. Frontal area somewhat roundly elevated and the frontal depression, when present, mostly surrounded by indistinct and very blunt ridges. Malar space linear to distinct. Clypeus truncate to emarginate. Antennal joint 3 equal to, shorter or mostly distinctly longer than 4; flagellum may be

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filiform, incrassinate or distinctly compressed; scape longer than pedicel. Epicnemium separated from mesopluron by fine, deep or distinct furrow. Claws with a large basal lobe and the subapical tooth may be shorter, equal or frequently longer than apical one and placed lateral to it.

In the present paper four new species from India are described and a key to the Indian species of this genus is provided.

Abbreviations used in the text are: *EL* - eye length, *IATS* - inner apical tibial spur, *ICD* - inter cenchri distance, *IDMO* - interocular distance at level of median ocellus, *ITD* - inter tegular distance, *LID* - lower interocular distance, *MB* - metabasitarsus, *OATS* - outer apical tibial spur, *OCL* - ocellooccipital line, *OOL* - oculoocellar line, *POL* - postocellar line. The terminology used in the text is after Ross (1937, 1945) and Malaise (1945). The type material of new taxa (holotypes, some paratypes) described in this paper and deposited in the Zoologisches Museum Hamburg (ZMH) has the accession number ZMH 2-1999.

## *Neostromboceros nigrisclerite* sp. n.
(Figs 1, 5, 9, 13, 17, 21, 25)

FEMALE. Colour: Body black, whitish are: extreme narrow dorsal margin of pronotum, posterior margin of propodeum, medial spot on tergites 8 and 9, trochanters and adjoining parts of coxae and femora, basal 1/3 of outer aspect of front four tibiae, entire basal 1/2 of metatibia. Wings hyaline, venation including costa, subcosta and stigma fuscous.

S t r u c t u r e: Average length 7.5 mm. Antenna subincrassate before apex, 1.6x head width, flagellum not compressed, segments 3 and 4 as 3:2. Clypeus (Fig. 1) truncate, labrum (Fig. 1) broader than long as 3:2, with rounded anterior margin; malar space linear, supraantennal pits double, not connected, deep, anterior one small. LID:IDMO:EL = 1:1.4:0.9, POL:OCL:OOL = 1:1.4:1.2. Frontal area above level of eyes, median fovea in form of shallow pit above supraclypeal area; postocellar furrow absent, inter- and circumocellar furrows distinct, lateral furrows distinct, ending just before hypothetical hind margin of head, postocellar area convex, broader than long (as 3:2), head narrowing behind eyes. Hind wing with vein *1r-m* joining *Rs* away from junction with *R+Sc*. ICD: ITD = 1:4, mesoscutellum subconvex, appendage ecarinate. Tarsal claw (Fig. 5) with subapical tooth shorter than apical one, basal lobe distinct; metabasitarsus longer than following 3 joints combined as 3:2, IATS:MB:OATS = 1:2:5:0.9. Ovipositor sheath as in Fig. 9 (lateral view) and in Fig. 13 (dorsal view). Lancet (Fig. 25) with 7 serrulae.

S c u l p t u r e: Head and thorax impunctate except a row of deep, isolated punctation on posterior border of mesoscutellum. Abdomen almost impunctate.

P u b e s c e n c e: Silvery, 0.5x scape length.

MALE. Average length 6.5 mm. Similar to female except pronotum entirely black. Genitalia: penis valve see Fig. 17, gonoforceps see Fig. 21.

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MATERIAL EXAMINED: H o l o t y p e: ♀, West Bengal, Mirik, 1600 m, 11.5.1993, coll. M. S. Saini. Deposited at the Zoologisches Museum Hamburg (ZMH).

P a r a t y p e s: 3 ♀, 4 ♂, with same data as holotype; Sikkim, Singtam, 1100 m, 4.5.1995, coll. V. Vasu, 2 ♀, ♂; Mangan, 1300 m, 6.5.1990, coll. M. S. Saini, ♂; Namdi, 1500 m, 18.5.1993, coll. V. Vasu, ♂; West Bengal, Darjeeling, 2200 m, 26.5.1989, coll. M. S. Saini, ♂; Uttar Pradesh, Mandal, 2300 m, 15.6.1987, coll. M. S. Saini, 4 ♂. One male in ZMH; the remaining paratypes are housed at the Division of Entomology, Pusa National Collections, Indian Agricultural Research Institute, New Delhi, India.

ETYMOLOGY: Species is named after its black parapterum.

I n d i v i d u a l  v a r i a t i o n s: all specimens alike.

D i s t r i b u t i o n: India (West Bengal, Sikkim, Uttar Pradesh).

DISCUSSION: In distribution, over all field activities, population density and harbouring plants, *N. nigrisclerite* can be easily grouped with *N. fuscinervis*, *N. indobirmanus* and *N. basilineatus*. However, on the basis of some significant characters such as: parapterum black; antennal segments 3 and 4 as 3:2; median fovea in form of a shallow pit above supraclypeal area; postocellar area broader than long as 3:2 and posterior margin of propodeum whitish, it can be distinguished from all Oriental species of this genus, since this species fails to run smoothly in Malaise´s 1944 key to the species of this genus.

## *Neostromboceros aspersus* sp. n.
(Figs 2, 6, 10, 14, 18, 22, 26)

FEMALE. Colour: Body black, whitish are: labrum, dorsal margin of pronotum, tergite 9 except lateral angles; basal 2/3 of outer aspect of all tibiae. Wing hyaline, subinfumated, venation including costa, subcosta and stigma fuscous.

S t r u c t u r e: Average length 11 mm. Antenna incrassate in middle, 1.8x of head width, flagellum not compressed, segment 3 and 4 as 4:3. Clypeus (Fig. 2) truncate, labrum (Fig. 2) broader than long, with roundly pointed anterior margin, malar space linear, supraantennal pits double, not confluenting, anterior one small and shallow, posterior broad and deep. LID:IDMO:EL = 1:1.2:1, POL:OCL:OOL = 1:1.6:1.4. Frontal area at level of eyes, median fovea in form of shallow pit above supraclypeal area and in form of deep pit anterior to median ocellus, postocellar furrow absent, inter- and circumocellar furrows distinct, lateral furrows distinct, excurved, not reaching hypothetical hind margin of head, postocellar area as long as broad, head narrowing behind eyes. Hind wing with vein *1r-m* joining *Rs* away from junction with *r+Sc*. ICD:ITD = 1:4, mesoscutellum subconvex, appendage ecarinate. Tarsal claw (Fig. 6) with subapical tooth shorter than apical one, base lobe broad, distinct; metabasitarsus longer than following 3 joints combined as 5:4, IATS:MB:OATS = 1:2.4:0.9. Ovipositor sheath as in Fig. 10 (lateral view) and in Fig. 14 (dorsal view). Lancet (Fig. 26) with 7 serrulae.

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S c u l p t u r e: Head, except moderately and shallowly punctate postocellar area, rugose with dense, large deep, confluenting punctation. Mesonotum with dense, fine, shallow punctation; mesoscutellum with dense, isolated, deep, pit-like punctation on posterior slope, appendage impunctate; mesepisternum with dense, large, shallow punctation, intervening space with fine, shallow punctation; mesosternum with scattered, shallow punctation. Abdomen without punctation.

P u b e s c e n c e: Silvery, 0.6x scape length.

MALE. Average length 8.5 mm. Similar to female. Genitalia: penis valve see Fig. 18, gonoforceps see Fig. 22.

MATERIAL EXAMINED. H o l o t y p e (♀), Himachal Pradesh, Kalatop, 2400 m, 21.7.1982, coll. M. S. Saini. Deposited at the Zoologisches Museum Hamburg.

P a r a t y p e s: 38 ♀, 22 ♂ with same data as holotype; Himachal Pradesh, Shoja, 2700 m, ♀, 7 ♂, 24.6.1990, coll. M. S. Saini; Uttar Pradesh, Mandal, 2300 m, 6 ♀, 8 ♂, 15.6.1983, coll. M. S. Saini; ♀, 2 ♂, 16.6.1994, coll. V. Vasu; Ranikhet, 2000 m, ♀, ♂, 1.9.1987, coll. M. S. Saini; Baskot, 2000 m, 6 ♀, 20.6.1992, coll. V. Vasu; Chopta 2800 m, 5 ♂, 25.6.1992, coll. V. Vasu; Gobindghat, 2000 m, ♀, ♂, 25.7.1992, coll. V. Vasu; Sikkim, Gangtok, 1600 m, 2 ♀, 7 ♂, 12.5.1983, Mangan, 1300 m, 2 ♀, 5 ♂, 12.5.1990, coll. M. S. Saini; Namchi, 1500 m, 2 ♂, 18.5.1993, coll. V. Vasu; Singhik, 1400 m, ♂, 8.5.1995, coll. M. S. Saini; Nagaland, Pfutsero, 2100 m, ♀, 19.5.1993, coll. V. Vasu; Akuiuto, 1500 m, ♀, 11.5.1994, coll. M. S. Saini; Manipur, Ukhrul, 1700 m, ♂, 15.6.1994, coll. V. Vasu; Meghalaya, Smit, ♂, 3.5.1994, coll. V. Vasu; West Bengal, Pashok, 1800 m, 2 ♀, 6.5.1990, coll. M. S. Saini. One female and two males in ZMH; the remaining paratypes are housed at the Division of Entomology, Pusa National Collections, Indian Agricultural Institute, New Delhi, India.

ETYMOLOGY: Species is named after the sculpture of head.

I n d i v i d u a l v a r i a t i o n s: Metatibia with basal 1/3 - 2/3 of anterior aspect whitish, labrum high with yellowish.

D i s t r i b u t i o n: India (Himachal Pradesh, Uttar Pradesh, Sikkim, West Bengal, Meghalaya, Manipur, Nagaland).

DISCUSSION: *N. aspersus* sp. n. ist somewhat allied to *N. rothneyi*, because of punctate head and whitish yellow labrum. However, the extent of punctation of head which is entirely punctate in *N. aspersus* but only on the frontal area in the allied one, differs these taxa. Some of the other specific characters of *N. aspersus* include the dorsal margin of pronotum, tergite 9 except lateral angles and the basal 2/3 of outer aspect of all tibiae whitish; antennal segments 3 and 4 as 4:3, malar space linear, postocellar area almost quadrate and the lateral furrows excurved (bulging in the middle). These characters in combination are sufficient to keep this species apart from rest of the Oriental species described in this genus.

This species is widely distributed throughout the medium hill ranges of Himalaya (1000-1500 m) and remains active during premonsoon and monsoon months. Road side vegetation of ferns harbours this species, whereas, deep and dark gorges are

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completely devoid of it. There is every possibility of its availability during postmonsoon months also particularly in the Eastern states of India where there is no problem of snowfall.

*Neostromboceros nigrifemur* sp. n.
(Figs 3, 7, 11, 15, 19, 23, 27)

FEMALE. Colour: Body black with bluish-green tinge on head and on thorax, whitish are: labrum, pronotal dorsal margin, outer anterior half tegula, parapterum, extreme posterior margins of propodeum and tergites 2-3, 7-9, broad medial spot on tergite 9, extreme posterior margins of sternites 2-5; all trochanters and adjoining parts of coxae and femora, apices of all femora, outer aspect of protibia, basal 1/2 and complete outer aspect of mesotibia, basal 2/3 and outer aspect of metatibia. Wings hyaline, venation including costa, subcosta and stigma fuscous.

S t r u c t u r e: Average length 8.5 mm. Antenna incrassate in middle, 1.7x head width, flagellum with apical 5 segments compressed, segments 3 and 4 as 5:3. Clypeus (Fig. 3) almost truncate, labrum (Fig. 3) broader than long (as 3:2) with rounded anterior margin, malar space linear, supraantennal pits double, shallowly confluenting, deep, anterior smaller. LID:IDMO:EL = 1:1.3:1. POL:OCL:OOL = 1:1.5:1. Frontal area at level of eyes, median fovea in form of deep pits above supraclypeal area and outher just anterior to median ocellus, postocellar furrow absent, inter- and circumocellar furrows distinct, lateral furrow distinct, almost parallel, ending well before hypothetical hind margin of head; postocellar area convex, as long as broad, head almost parallel, ending well before hypothetical hind margin of head, postocellar area convex, as long as broad, head almost parallel behind eyes. Hind wing with vein *1r-m* joining *Rs* away from junction with *R+Sc*. ICD:ITD = 1:3.5, mesoscutellum subconvex, appendage ecarinate. Tarsal claw (Fig. 7) with subapical tooth almost equal to apical one, basal lobe distinct, metabasitarsus longer than following 3 joints combined as 4:3, IATS:MB:OATS = 1:2.3:0.9. Ovipositor sheath as in Fig. 11 (lateral view) and in Fig. 5 (dorsal view). Lancet (Fig. 27) with 6 serrulae.

S c u l p t u r e: Head and thorax impunctate except mesoscutellar posterior border that bears a row of deep distinct punctation. Abdomen, except polished propodeum and shallowly, scatteredly punctated tergites 2-3, with dense, fine punctation.

P u b e s c e n c e: Silvery, 0,4x scape length.

MALE. Average length 7 mm. Similar to female, but blackish parts of legs in female, are fusco-ferruginous in male. Genitalia: penis valve see Fig. 19, gonoforceps see Fig. 23.

MATERIAL EXAMINED. H o l o t y p e (♀), Nagaland, Tuli, 900 m, 9.5.1994, coll. M. S. Saini. Deposited at the Zoologisches Museum Hamburg.

P a r a t y p e s: ♀, ♂, with same data as holotype; Himachal Pradesh, Kalatop, 2400 m, 9 ♀, 2 ♂; 26.7.1982, coll. M. S. Saini; West Bengal, Darjeeling, 2200 m, ♀, ♂, 7.5.1983, coll. M. S.

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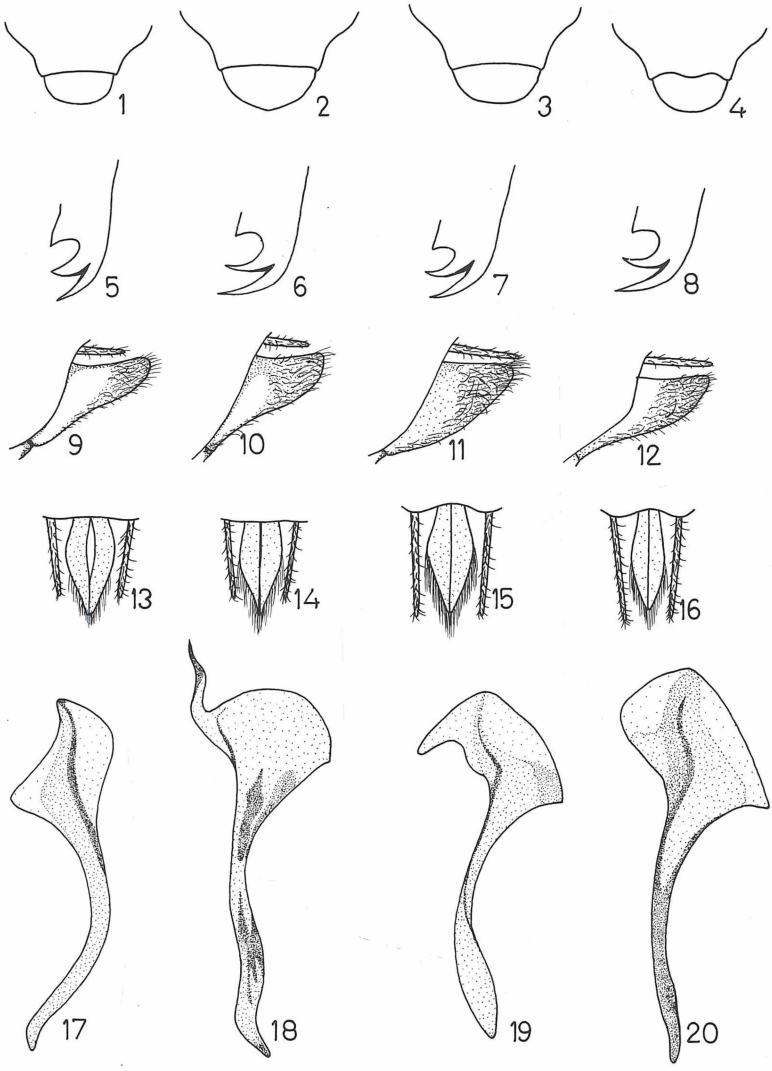


**Figs 1-20.** Clypeus and labrum (Figs 1-4): **1** - *Neostromboceros nigrisclerite* sp. n., **2** - *N. aspersus* sp. n., **3** - *N. nigrifemur* sp. n., **4** - *N. distinctus* sp. n.; tarsal claw (Figs 5-8): **5** - *N. nigrisclerite* sp. n., **6** - *N. aspersus* sp. n., **7** - *N. nigrifemur* sp. n., **8** - *N. distinctus* sp. n.; lateral view of ovipositor sheath (Figs 9-12): **9** - *N. nigrisclerite* sp. n., **10** - *N. aspersus* sp. n., **11** - *N. nigrifemur* sp. n., **12** - *N. distinctus* sp. n.; dorsal view of ovipositor sheath (Figs 13-14): **13** - *N. nigrisclerite* sp. n., **14** - *N. aspersus* sp. n., **15** - *N. nigrifemur* sp. n., **16** - *N. distinctus* sp. n.; penis valve (Figs 17-20): **17** - *N. nigrisclerite* sp. n., **18** - *N. aspersus* sp. n., **19** - *N. nigrifemur* sp. n., **20** - *N. distinctus* sp. n.

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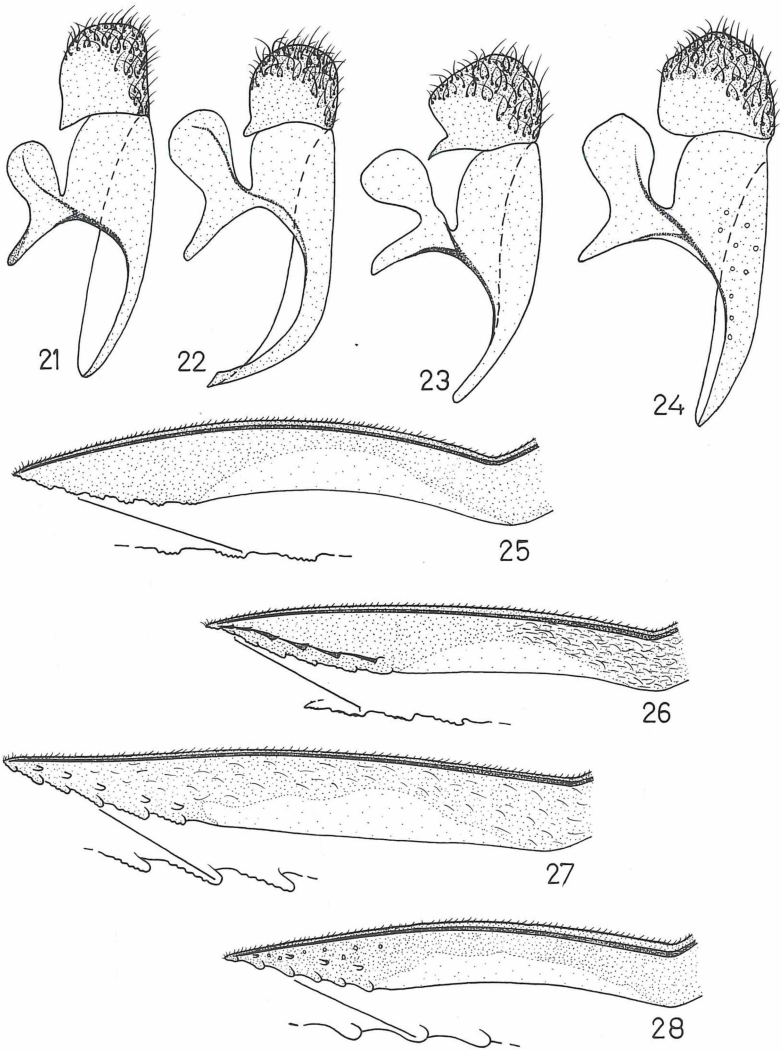


**Figs 21-28.** Gonoforceps (Figs 21-28): **21** - *Neostromboceros nigrisclerite* sp. n., **22** - *N. aspersus* sp. n., **23** - *N. nigrifemur* sp. n., 24 - *N. distinctus* sp. n.; lancet (Figs 25-28): **25** - *Neostromboceros nigrisclerite* sp. n., **26** - *N. aspersus* sp. n., **27** - *N. nigrifemur* sp. n., **28** - *N. distinctus* sp. n.

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Saini; ♂, 12.9.1993, coll. V. Vasu; Paskok, 2000 m, ♀, ♂, 9.5.1983, coll. M. S. Saini; Ranipool, 1800 m, 2 ♀, 3 ♂, 11.5.1983, coll. M. S. Saini; Meghalaya, Jowai, 1400 m, 2 ♀, 20.4.1983, coll. M. S. Saini; Smit, 1500 m, ♂, 20.5.1989, coll. M. S. Saini; Nongpoh, 900 m, ♀, ♂, 28.4.1994, coll. V. Vasu; Cheerapunji, 2 ♀, 29.4.1994, coll. V. Vasu; Riat, 1450 m, 2 ♀, 2.5.1994, coll. V. Vasu; Bedapani, 1100 m, 3 ♀, ♂, 2.5.1994, coll. V. Vasu; Arunachal Pradesh, Dirang, 1500 m, 6 ♀, 7 ♂, 19.9.1991, coll. V. Vasu; Hapoli, 1500 m, 2 ♀, 17.5.1992, coll. V. Vasu; Lazu, 2200 m, ♂, 5.5.1994, coll. M. S. Saini; Sikkim, Gangtok, 1600 m, 2 ♀, 2 ♂, 7.5.1986, coll. M. S. Saini; Namchi, 1500 m, 2 ♀, 15.5.1993, coll. V. Vasu; 7 ♀, 26 ♂, 16.9.1993, coll. M. S. Saini, ♀, 5 ♂, 16.9.1983, 2 ♀, 18 ♂, 17.9.1993, coll. M. S. Saini, ♀, 7 ♂, 17.9.1993, coll. T. P. Singh; Assam, Jatinga, 900 m, 3 ♂, 18.5.1994, coll. M. S. Saini. One female and two males in ZMH; the remaining paratypes are housed at the Division of Entomology, Pusa National Collections, Indian Agricultural Research Institute, New Delhi, India.

ETYMOLOGY: Species is named after its black metafemur.

Individual variations: all specimens alike.

Distribution: India (Himachal Pradesh, Uttar Pradesh, West Bengal, Sikkim, Meghalaya, Arunachal Pradesh, Nagaland, Assam).

DISCUSSION: It is a widely distributed species available during premonsoon and postmonsoon seasons. Starting from an altitude of only 900 m it goes up to 2500 m and at the same time tolerates a wide fluctation in temperature and humidity. Ferns act as its harbouring as well as host plants. It has been seen that in the areas where ferns are absent this species also does not occur. On the basis of some key characters, *N. nigrifemur* can be differentiated from similar species *N. distinctus* (see below). While running in Malaise's 1944 key to the Oriental species, it allies to *N. trifoveatus* and *N. indobirmanus*. The colour pattern of legs is sufficient to separate the new species from these already described allied taxa.

## *Neostromboceros distinctus* sp. n.
(Figs 4, 8, 12, 16, 20, 24, 28)

FEMALE. Colour: body black, whitish are: labrum, pronotal dorsal margin, parapterum, posterior margin of propodeum, all trochanters and adjoining parts of coxae and femora, basal 2/3 of outer aspect of front four tibiae, basal 1/2 of metatibia. Wings hyaline, venation, including costa, subcosta and stigma, fuscous.

Structure: Average length 8 mm. Antenna incrassate in middle, 1.7x of head width; flagellum distinctly compressed, segments 3 and 4 as 5:4. Clypeus (Fig. 4) shallowly arcuately incised, labrum (Fig. 4) broader than long (as 3:2) with rounded anterior margin; malar space linear, supraantennal pits double, shallowly confluenting, anterior one minute. LID:IDMO:EL = 1:1.1:1, POL:OCL:OOL = 1:1.1:1.3. Frontal area at level of eyes, median fovea in form of distinct transverse pit above supraclypeal area, postocellar furrow shallow, inter- and circumocellar furrows distinct; lateral furrow distinct, excurved, shallowly reaching hypothetical hind margin of head, postocellar area as long as broad, head narrowing behind eyes. Hind wing with vein *1r-m* joining *Rs* away from junction with *r+Sc*. ICD:ITD = 1:4, mesoscutellum subconvex,

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appendage ecarinate. Tarsal claw (Fig. 8) with subapical tooth shorter than apical one, basal lobe distinct; metabasitarsus longer than following 3 joints combined (as 4:3), IATS:MB:OATS = 1:2.4:0.9. Ovipositor sheath as in Fig. 12 (lateral view) and in Fig. 16 (dorsal view). Lancet (Fig. 28) with 6 serrulae.

S c u l p t u r e: Head and thorax impunctate except posterior border of mesoscutellum that bears a row of deep isolated punctation. Abdomen almost impunctate.

P u b e s c e n c e: Silvery, 0.5x scape length.

MALE. Average length 7.5 mm. Similar to female. Genitalia: penis valve see Fig. 20, gonoforceps see Fig. 24.

MATERIAL EXAMINED. H o l o t y p e (♀). Sikkim, Phodong, 1600 m, 7.5.1995, coll. M. S. Saini. Deposited at the Zoologisches Museum Hamburg.

P a r a t y p e s: 2 ♀, ♂, with same data as holotype; Sikkim, Gangtok, 1500 m, 3 ♀, 2 ♂, 12.5.1983, coll. M. S. Saini; Singhok, 1500 m, 3 ♀, 2 ♂, 15.5.1983, coll. M. S. Saini; Mangan, 1300 m, 8 ♀, 12.5.1990, coll. M. S. Saini; Singtam, 1800 m, ♀, 9.5.1995, coll. M. S. Saini; Rangrag, 1400 m, 2 ♀, ♂, 9.5.1995; Uttar Pradesh, Mandal, 2400 m, 6 ♀, 5 ♂, 15.6.1983, coll. M. S. Saini; Ranikhet, 1900 m, 2 ♀, 2 ♂, 1.9.1987, coll. M. S. Saini; Himachal Pradesh, Kalatop, 2400 m, 5 ♀, 5 ♂, 26.7.1983, coll. M. S. Saini; West Bengal, Pashok, 2000 m, 3 ♀, ♂, 5.5.1984, coll. M. S. Saini; Arunachal Pradesh, Bomdila, 2500 m, ♀, 9.5.1992, coll. V. Vasu; Tissa, 900 m, 2 ♀, 2 ♂, 7.5.1994, coll. V. Vasu; Nagaland, Zunheboto, 1874 m, ♀, 18.9.1992, coll. V. Vasu; Chuchuyimlang, 900 m, 2 ♀, 4 ♂, 9.5.1994, coll. M. S. Saini; Meghalaya, Smit, 1500 m, 2 ♀, 23.5.1989, coll. M. S. Saini; Cherrapunji, 1450 m, ♂, 26.5.1989, coll. M. S. Saini; Elephant Falls (Shillong), 1500 m, ♂, 29.4.1994, coll. V. Vasu; Riat, 1400 m, ♂, 2.5.1994, coll. V. Vasu; Assam, Kajiranga, 600 m, ♀, ♂, 3.5.1994, coll. V. Vasu. One female and two males in ZMH; the remaining paratypes are housed at the Division of Entomology, Pusa National Collections, Indian Agricultural Research Institute, New Delhi, India.

ETYMOLOGY: Species name refers to distinct or isolated supraantennal pits.

I n d i v i d u a l v a r i a t i o n: all speciemens alike.

D i s t r i b u t i o n: India (Himachal Pradesh, Uttar Pradesh, West Bengal, Sikkim, Arunachal Pradesh, Nagaland, Assam, Meghalaya).

DISCUSSION: In Malaise's 1944 key, *N. distinctus* is allied to *N. caeruliceps*, but the following combination of characters helps in maintaining their independent identities, i.e. subapical tooth of tarsal claw equal to apical one in *caeruliceps* (subapical tooth of tarsal claw distinctly shorter than apical one in *distinctus*), mesoscutellum is impunctate in *caeruliceps* (mesoscutellum with deep, distinct punctures along its posterior border in *distinctus*). The characters separating *N. distinctus* and *N. nigrifemur* are presented below in a key to the Indian species.

*N. distinctus* is a widely distributed and abundantly available species on southern slopes of the Himalayas. During premonsoon season there is hardly any high altitude niche which is without this species. Sometimes its population is so high that in a single sweep of net 4-5 individuals can be collected. Ferns are its harbouring plants.

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## Key to the Indian species of *Neostromboceros* Rohwer

**1.** Abdomen with at least the middle tergites almost entirely fulvous or whitish . . . **2**

- Abdomen entirely black . . . . . **3**

**2.** Antennal segment 3 longer than 4; clypeus scape and pedicel black . . . . . *N. pilicornis*

- Antennal segment 3 shorter than 4; clypeus scape more or less and pedicel whitish . . . . . *N. speciosus*

**3.** Both clypeus and labrum brownish to black . . . . . ***N. nigrisclerite* sp. n.**

- At least either of these partly or entirely whitish . . . . . **4**

**4.** Frontal area coarsely rugose with subopaque lustre . . . . . **5**

- Frontal area smooth and shining or with only hardly conspicuous setigerous punctures . . . . . **6**

**5.** Lateral furrows diverging posteriorly, basal 2/3 of metatibia entirely whitish . . . . . *N. rothneyi*

- Lateral furrows excurved (bulging in the middle), basal 2/3 of outer aspect of metatibia whitish . . . . . ***N. aspersus* sp. n.**

**6.** Postocellar area distinctly longer than broad in the female, sometimes subquadrate in the male . . . . . **7**

- Postocellar area quadrate or broader than long . . . . . **8**

**7.** The brim of each antennal socket strongly raised into an acute carina above as high as the diameter of an ocellus, and these two carinas separated by a semicircular inter-antennal incision; postocellar area longer than broad as 3:2; lateral furrows reduced to a punctiform pit behind each ocellus and almost imperceptibly fine and faintly curved seams from these pits to hind margin of head . . . . . *N. basilineatus*

- The minutely raised brim of antennal sockets with a narrow furrow along its base; postocellar area longer than broad as 5:4; lateral furrows reaching to hind margin of head . . . . . *N. fuscinervis*

**8.** Antenna distinctly compressed in both sexes, and more or less distinctly triangular in cross-section; in male apex of each flagellar joint, except the last one, with a rather distinct hair brush on median side; general black colour with distinct bluish tinge . . . . . **9**

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- Antenna not or hardly compressed; in cross-section more or less rounded; flagellar joints without hair brushes; coal black, almost without any blue tinge . . . . . **10**

**9.** Inner margins of eyes distinctly converging downwards; clypeus impunctate; black dot on extreme apex of tibiae present if not otherwise stated . . . . . *N. laevis*

- Inner margins of eyes subparallel; clypeus distinctly punctured; apical half of tibiae black . . . . . *N. caeruleiceps*

**10.** Metafemur black . . . . . **11**

- Metafemur whitish . . . . . **12**

**11.** Clypeus truncate, postocellar furrow absent, lateral furrows parallel, subapical tooth of tarsal claw almost equal to apical one . . . . . ***N. nigrifemur* sp. n.**

- Clypeus arcuately incised, postocellar furrow present, lateral furrows excurved, subapical tooth of tarsal claw shorter than apical one . . . . . ***N. distinctus* sp. n.**

**12.** Head, thorax and abdomen entirely black; only legs with pale markings; postocellar area as long as broad . . . . . *N. trifoveatus*

- White are: at least, if not otherwise stated: labrum, pronotal margin and parapterum; postocellar area broader than long . . . . . *N. indobirmanus*

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