

TWO NEW SPECIES AND A NEW RECORD OF *SKEATIA* CAMERON (HYMENOPTERA: ICHNEUMONIDAE) FROM KERALA, INDIA

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ABSTRACT

Two new species of *Skeatia* Cameron are described from Kerala, India. A new record of *S. doonense* Jonathan and Gupta, is also reported from Wayanad, Kerala. The affinities of the new species with the close relatives are also discussed.

KEYWORDS

Hymenoptera, Ichneumonidae, India, new record, new species, *Skeatia doonense*, *S. malabarensis* sp. nov., *S. narendrani* sp. nov.

ABBREVIATIONS

F - Female; FLORIDA - Collections of Virendra Gupta, located at the American Entomological Institute, 3005 SW 56th Avenue, Gainesville, Florida 32608, USA; FWL - Forewing length; FWW - Forewing width; HW - Head width; HL - Head length; HWL - Hindwing length; HWW - Hindwing width; M -Male; ZSIK - Zoological Survey of India, Kozhikode.

Cameron (1901) described the genus *Skeatia* with *S. nigrispina* as its type species from Borneo. Later Viereck (1914) designated the type species as *Cryptus brookeanus* Cameron, 1897 (= *S. nigrispina*). Though Townes *et al.* (1961) and Townes (1969) considered *Skeatia* as a synonym under *Goryphus* Holmgren, Jonathan & Gupta (1973) regarded it as a separate genus of the *Goryphus*-complex, and also provided description to all known species and a key to the Oriental species of *Skeatia* Cameron. *Skeatia* Cameron is comparatively a small genus, widely distributed in the Indo-Australian region. Gupta (1987) reported 23 species from the Indo-Australian Region, of which 15 species were from India. The only known species reported from Kerala is *S. mysorens* (Jonathan & Gupta, 1973; Gupta, 1987). In this paper, two new species of *Skeatia* Cameron, viz., *S. narendrani*, sp. nov. and *S. malabarensis* sp. nov., are illustrated and described from Kerala. The new species do not fit any of the keys to species of the genus or descriptions of any known species. The members were collected from dense bushes. A new record of *S. doonense* Jonathan and Gupta, previously recorded from Uttar Pradesh, is also reported from Wayanad, Kerala.

MATERIALS AND METHODS

The specimens were collected using sweep net. The dried specimens were mounted on rectangular cards. The mounted specimens were held on No. 3 Asta insect pins of size 38mm x 0.55mm. The specimens were observed and studied under Olympus microscope and the figures were drawn using M3Z Wild stereozoom microscope. Terms used in the descriptions follow Jonathan and Gupta (1973). The type specimens are deposited in the Prof. T.C. Narendran collections maintained in the Department of Zoology, University of Calicut for the time being and will be transferred eventually to the Western

Ghats Regional Station of the Zoological Survey of India, Kozhikode (ZSIK).

Skeatia doonense Jonathan & Gupta

Skeatia doonense Jonathan & Gupta, 1973. *Oriental Ins. Monogr.*, 3: 122. F. key, des. Type: F, India, Uttar Pradesh: Dehra Dun (Florida).

Material examined

1 female, 7.ii.2003, Thonikadavu, Kalpetta, Wayanad, Kerala, India (76°6'E-11°36'N), coll. T. Jobiraj, Reg.No. SK 254.

Diagnosis

Female: Body covered with short, fine, dense hairs; face dull and rugose; clypeus subpolished, with fine, sparse punctures, apical margin impressed; mandibles subpolished, close punctures at base, apex smooth, teeth subequal; malar space finely granulose, 0.5x basal width of mandible; frons below ocellar triangle rugose, with oblique striae on either side of median carina, carina extends from base of median ocellus to middle of antennal sockets, shallowly and closely punctate at sides, punctures running into striations; pronotum striate in middle, punctate in upper margin, punctures running into rugosities, pronotal collar smooth; mesopleurum strongly rugose, area below sternaulus puncto-striate, speculum sparsely punctate, interstices smooth; propodeum basad of basal carina punctate, punctures running into longitudinal striations, strongly rugose between basal carina and apical carina, reticulate between apical carina and apex, basal carina straight, basal stumps of longitudinal carina present, apical carina complete, apophyses crest-like; spiracle long, oval; areolet pentagonal, 6x as high as width of bordering veins, intercubiti slightly convergent, second intercubitus faint; nervulus basad of basal vein; nervellus intercepted below middle; hind wing with one basal and ten apical hamuli; first tergite of abdomen 2.5x as long as width at apex, longer than (about 1.36x) second tergite; ovipositor tip pointed, lower valve with weak teeth.

Colour: Black except following markings: mandibles at base, pronotal collar, upper margin in middle, tegula, scutellum, metascutellum, lateral carina of scutellum, subtegular ridge, two elongate triangular marks on propodeum, apical bands on first and second tergites, extreme apical margin of third tergite very faintly, apex of sixth tergite narrowly in middle, seventh and eighth tergites broadly in middle, fore coxa, fore trochanters, mid coxa basally, subbasal band on hind tibia, apical part first hind tarsal segment and second to fourth hind

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tarsal segment yellow; fourth to ninth flagellar segments white above; mid coxa apically, femora of all legs and trochanters of mid leg orange; tibiae of all legs, tarsal segments of fore and mid legs, base of first hind tarsal segment, fifth hind tarsal segment, claws and wing veins dark brown; ovipositor red; wings hyaline.

Male: Unknown.

Host: Unknown.

Biology: Unknown.

Distribution: India (Kerala, Uttar Pradesh).

Remarks: This is the first record of this species from Kerala.

***SKEATIA NARENDRANI* sp. nov.**
(Figs. 1-5)

Material examined

Holotype: 1 female, 9.x.2001, Calicut University Campus, Malappuram, Kerala, India (75°51'E-11°7'N), coll. T. Divakaran, Reg.No. SK 244.

Paratypes: 1 female, 14.v.2001, Calicut University Campus, Malappuram, Kerala, India (75°51'E-11°7'N), coll. K. Sudheer, Reg.No. SK 243; 2 females, 18.i.2002, Calicut University Campus, Malappuram, Kerala, India (75°51'E-11°7'N), coll. K. Sudheer, Reg.No. SK 245 & SK 246; 1 female, 9.x.2002, Calicut University Campus, Malappuram, Kerala, India (75°51'E-11°7'N), coll. Simi C. Nair, Reg.No. SK 247; 1 female, 29.xi.2002, Calicut University Campus, Malappuram, Kerala, India, (75°51'E-11°7'N), coll. M. Sheeba, Reg. No. SK 248; 2 females, 31.xii.2002, (near Calicut University Campus), Villooniyal, Malappuram, Kerala, India (75°51'E-11°7'N), coll. Mehaboob, Reg.No. SK 249 & SK 250; 2 females, 31.xii.2002, (near Calicut University Campus), Villooniyal, Malappuram, Kerala, India, (75°51'E-11°7'N), coll. K. Sudheer, Reg.No. SK 251 & SK 252; 1 female, 31.xii.2002, (near Calicut University Campus), Villooniyal, Malappuram, Kerala, India, (75°51'E-11°7'N), coll. Simi. C. Nair, Reg.No. SK 253.

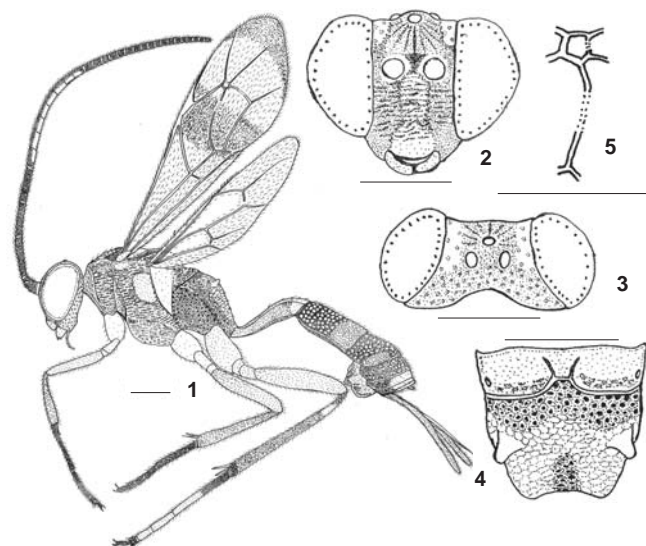
Etymology

Named after Prof. T.C. Narendran for his significant contributions to the taxonomy of insects.

Holotype:

Female: Length excluding ovipositor = 10.13mm. Body covered with fine, short hairs; hairs longer on apical slope of propodeum.

Head: HW = 2.39mm and HL = 0.67mm in dorsal view (Fig. 3); HW = 2.39mm and HL = 1.6mm in front view (Fig. 2); face strongly rugose; rugulose in middle; clypeus convex, with evenly scattered punctures, apical margin impressed; malar space granulate, 0.5x (Fig. 1) basal width of mandible; mandibles punctate at base, apex smooth; frons rugose, minutely punctate at sides, a median longitudinal carina extending from median ocellus to middle of antennal sockets; antennal scrobes separated by a V-shaped ridge; vertex and temple subpolished, minutely punctate; antenna with 32



Figures 1-5. *Skeatia narendrani* sp. nov. (Female)
1 - Body profile; 2 - Head - front view; 3 - Head - dorsal view;
4 - Propodeum; 5 - Areolet. Scale = 1mm

segments; scape 1.4x as long as wide, 1.4x as long as pedicel; pedicel 0.29x as long as first flagellar segment; first flagellar segment 5.7x as long as wide, 1.1x as long as second flagellar segment, 4.9x as long as last flagellar segment; second flagellar segment 1.03x as long as third flagellar segment.

Thorax: 6x as wide as head length in dorsal view, 3.12x as long as width between tegulae; pronotum subpolished, striate in middle, striae irregular, finely and obliquely striate above at upper margin; mesoscutum acicula-punctate at sides, distinctly punctate in middle of each lobe; scutellum and metascutellum smooth and shiny, obscurely punctate; lateral carina of scutellum confined to base; mesopleurum strongly rugose, tending to be reticulate, speculum smooth and shiny, area below sternaulus finely striate, ventrally punctate; prepectal carina extending to base of subtegular ridge; metapleurum reticulate, juxtacoxal carina present; propodeum (Fig. 4) reticulo-wrinkled, basad of basal carina striato-punctate, striae irregular and punctures much shallow, below apophyses at sides somewhat trans-striate, basal carina straight, basal stumps of longitudinal carinae present, apical carina absent in middle, apophyses moderately large; spiracles roundish oval; FWL = 7.06mm; FWW = 2.28mm; HWL = 4.94mm; HWW = 1.28mm; areolet (Fig. 5) pentagonal, 4x as high as width of bordering veins; nervulus slightly basad of basal vein; nervellus intercepted below middle; intercubitus parallel; second intercubitus faint; hind wing with one basal and six apical hamuli.

Abdomen: First tergite 2.43x as long as its apical width, 1.21x as long as second tergite; first tergite smooth and shiny, minutely and shallowly punctate apico-laterally; second and third tergites densely punctate; fourth tergite with shallow, dense punctures; fifth and following tergites smooth and subpolished; length of ovipositor = 3.17mm; tip of ovipositor pointed, lower valve of ovipositor with weak teeth.

Colour: Black except following markings: face with an

elongate mark (Fig. 183), clypeus, mandible except at apex, orbital stripes on frons, a narrow line at upper margin of pronotum, scutellum, metascutellum, tegula, subtegular ridge, hind margin of metanotum, base of hind wing, elongate lateral marks on propodeum, apical bands on first and second abdominal tergites, band on third tergite interrupted in middle, bands on fifth and sixth tergites incomplete at sides, bands on seventh and eighth very broad in middle, fore and mid coxae and fore and mid trochanters yellow; hind coxa and fore femur orange; fore tibia, hind trochanters, mid and hind femora and base of first abdominal tergite dark orange; mid and hind tibiae except subbasal band on hind tibia, apical half of first hind tarsal segment and second to fourth hind tarsal segments yellowish brown; tarsal segments of fore and mid legs except fifth tarsal segments brown; fifth tarsal segments and claws of all legs, basal half of first hind tarsal segment, extreme apex of hind tibia, wing veins and ovipositor sheath dark brown; ovipositor red; apical part of fourth to basal part of eleventh flagellar segments white above; hind tibia with a subbasal white band; wings clear hyaline except fore wing with fuscous bands in middle and at apex (Fig. 1).

Male: Unknown.

Host: Unknown.

Biology: Unknown.

Discussion

This new species is similar to *S. mysorens* Jonathan & Gupta in having a median V-shaped ridge between antennal scrobes, apical slope of propodeum with two yellow elongate marks and similar sculptures on mesonotum, mesopleurum and propodeum. However, *Skeatia narendrani* sp. nov. differs from *S. mysorens* Jonathan & Gupta in the following features: (i) Fore wing with fuscous bands in middle and apex in *S. narendrani* sp. nov. (In *S. mysorens* fore wing clear hyaline.); (ii) Apical carina of propodeum absent in middle in *S. narendrani* sp. nov. (In *S. mysorens* apical carina of propodeum present.); (iii) In *S. narendrani* sp. nov. malar space about 0.5x basal width of mandible (Malar space more than 1x (1.16x) basal width of mandible in *S. mysorens*.); and (iv) Hind tibia with a subbasal white band in *S. narendrani* sp. nov. (In *S. mysorens* hind tibia without subbasal white band.).

S. narendrani sp. nov. closely resembles *S. maculifrons* Jonathan and Gupta in having lateral carina of scutellum black, frons rugose with oblique striae and similar sculptures on propodeum. However, *S. narendrani* sp. nov. differs from *S. maculifrons* Jonathan and Gupta in the following features: (i) Fore wing with fuscous bands in middle and apex in *S. narendrani* sp. nov. (Fore wing without fuscous band in *S. maculifrons*.); (ii) Hind tibia with a subbasal white band in *S. narendrani* sp. nov. (In *S. maculifrons* hind tibia without a subbasal white band.); (iii) Metapleurum reticulate in *S. narendrani* sp. nov. (In *S. maculifrons* metapleurum finely wrinkled.); and (iv) Fourth abdominal tergite completely black, fifth and sixth tergites with yellow apical bands incomplete at sides in *S. narendrani* sp. nov. (Fourth, fifth and sixth tergites completely black in *S. maculifrons*.).

SKEATIA MALABARENSIS sp. nov. (Figs. 6-10)

Material examined

Holotype: Female, 30.i.2003, Nilambur forests, Malappuram, Kerala, India (76°13'E-11°16'N), coll. T. Divakaran, Reg. No. SK257.

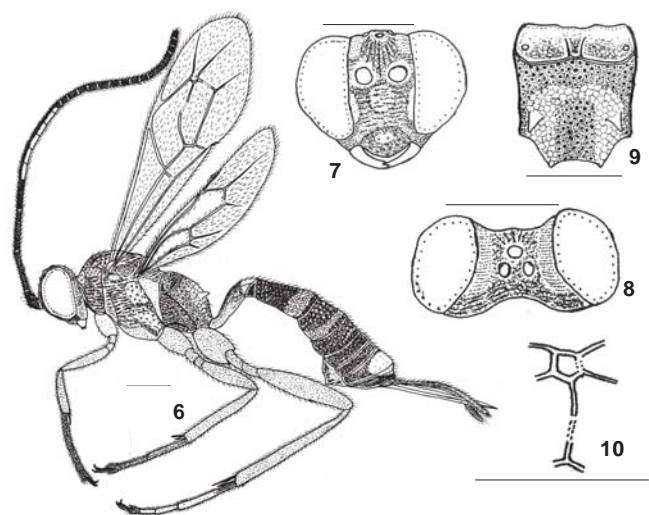
Paratypes: 1 female, 25.viii. 2001, Thrissur, Kerala, India, (76°13'E-10°31'N), coll. R. Ushakumari, Reg.No. SK 256; 1 female, 4.xi.1996, Ottapalam, Palghat, Kerala, India (76°22'E-10°47'N), coll. Sudha Reg.No. SK 255.

Etymology

Named after the area of collection (Malabar area of Kerala state).

Female: Length = 9.14mm (excluding ovipositor). Body covered with short, white hairs.

Head: In dorsal view HW = 1.89mm; HL = 0.58 (Fig. 8); in front view HW = 1.89mm; HL = 1.39 (Fig. 7); face with weak rugosities, near eye margin smooth; clypeus largely smooth, with sparse, scattered punctures, apical margin impressed; mandibles with minute punctures, apex smooth, teeth subequal; malar space granulose, 0.25x basal width of mandible; frons with oblique rugosities below ocellar triangle, median longitudinal carina extending from median ocellus to middle of antennal scrobes, largely smooth near eye margin with fine, indistinct striations; vertex with fine, distinct striations; temple with minute, sparse punctures; interocellar distance 0.67x ocellular distance, 2x distance between median ocellus and lateral ocellus; antenna (Fig. 6) with 28 segments; scape 1.45x as long as wide, 2x as long as pedicel; pedicel 0.24x as long as first flagellar segment; first flagellar segment 8.5x as long as wide, 1.03 as long as second flagellar segment, 4.25x as long as last flagellar segment; second flagellar segment 1.32x as long as third flagellar segment.



Figures 6-10. *Skeatia malabarensis* sp. nov. (Female)
6 - Body profile; 7 - Head (front view); 8 - Head (dorsal view); 9 - Propodeum; 10 - Areolet. Scale = 1mm

Thorax: 5.24x as wide as head width in dorsal view, 2.68x as long as width between tegulae; pronotum rugose (Fig. 6) in middle, upper margin with close punctures, punctures running into striations, pronotal collar smooth with minute punctures; mesoscutum finely punctate, punctures running into indistinct striations; notauli sharp and distinct, extending beyond mid length of mesoscutum; prepectal carina extending 0.7x height of mesopleurum; scutellum and metascutellum largely smooth, with evenly distributed shallow punctures; lateral carina of scutellum confined to base; mesopleurum distinctly rugose, speculum and area beneath sternaulus largely smooth, with minute, sparse punctures; sternaulus distinct, extending to base of mid coxa; metapleurum reticulate, juxtacoxal carina present; propodeum (Fig. 9) largely reticulate, basad of basal carina rugoso-punctate, extreme base smooth, basal stumps of longitudinal carina present, basal carina straight, slight upcurved in middle, apical carina absent in middle, apophyses long, crest-like; spiracles oval; FWL = 6.4mm; HWL = 4.7mm; FWW = 1.94mm; HWW = 1.1mm; areolet (Fig. 10) pentagonal, 4x as high as width of bordering veins, intercubiti parallel, second intercubitus faint; nervulus distinctly basad of basal vein; nervellus intercepted below middle; hind wing with one basal and seven apical hamuli.

Abdomen: First tergite 2.18x as long as width at apex, 1.0x as long as second tergite, largely smooth and shiny, with fine, close, shallow punctures at apex; second and third tergites with close, distinct punctures; fourth and remaining tergites with shallow, close punctures; length of ovipositor = 2.8mm; ovipositor cylindrical, lower valve with very weak teeth, tip pointed.

Colour: Black except following markings: face in middle, orbital stripes on face and frons, base of clypeus, a round patch near mandibular base, pronotal collar, upper margin of pronotum, subtegular ridge, an elongate patch above mid coxa, hind margin of metanotum, a patch at apex of middle lobe of mesoscutum, scutellum, metascutellum, an inverted horse-shoe shaped mark on propodeum, a line on posterior side of metapleurum, apical band on first to third tergites, band on fourth tergite in middle only, seventh and eighth tergites dorsally, fore coxa, fore trochanters, apical 0.75 of first, second and third hind tarsal segments yellow; tegula, mid and hind coxae, mid and hind trochanters, femora and tibiae of all legs and extreme base of first abdominal segment orange; tarsal segments of fore and mid legs except fifth segments, basal 0.25 of first and fourth hind tarsal segment yellowish-brown; fifth tarsal segments and claws of all legs, ovipositor sheath, base of mandibles and wing veins dark brown; ovipositor red; apical third, fourth to eighth and base of ninth flagellar segments white above; wings clear hyaline, slightly fuscous at apex.

Male: Unknown.

Host: Unknown.

Biology: Unknown.

Distribution: India (Kerala).

DISCUSSION

Skeatia malabarensis sp. nov. closely resembles *S. melanostoma* (Cameron) in having (i) an inverted horse-shoe shaped mark on propodeum; and (ii) lateral carina of scutellum and propodeum largely black. However *S. malabarensis* sp. nov. differs from *S. melanostoma* in the following features: (i) Fore wing without fuscous bands (In *S. melanostoma* fore wing with fuscous bands in middle and at apex.); (ii) Mesopleurum distinctly rugose, speculum and area below sternaulus largely smooth with sparse, minute punctures (In *S. melanostoma* mesopleurum largely minutely and sparsely punctate.); (iii) Face with weak rugosities (In *S. melanostoma* face with moderately strong punctures, punctures running into striations.); and (iv) First tergite almost as long as second tergite (First tergite longer than (1.2x or more) second tergite in *S. melanostoma*.).

S. malabarensis sp. nov. is also similar to *S. elegantula* (Brulle) in having (i) first tergite almost as long as second tergite; (ii) propodeum with an inverted horse-shoe shaped mark; and (iii) similar sculptures on pronotum and propodeum. However, *S. malabarensis* sp. nov. differs from *S. elegantula* (Brulle) in the following features: (i) Fore wing clear hyaline, without fuscous bands (Fore wing with fuscous bands in middle and at apex in *S. elegantula*.); (ii) Vertex with fine, distinct striations (In *S. elegantula* vertex smooth and shiny.); (iii) Hind leg largely orange except basal 0.25 of first and fourth tarsal segment yellowish-brown; apical 0.75 of first, second and third tarsal segments yellow; fifth tarsal segment and claws dark brown (In *S. elegantula* hind leg more or less black.); and (iv) Areolet about 4x as high as width of bordering veins (In *S. elegantula* areolet 5x as high as width of bordering veins.).

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