DESCRIPTION OF A NEW SPECIES OF *LEPTOCHILUS* (NEOLEPTOCHILUS)
BLÜTHGEN, 1961 (HYMENOPTERA: VESPIDAE: EU MENINAE)
FROM INDIA

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Abstract: A new species, *Leptochilus* (Neoleptochilus) hassani is described from India and compared with similar already described species: *Leptochilus* (Neoleptochilus) insitius Gusenleitner, 1976 and *L. (N.)*umerolatus Gusenleitner, 2006. A checklist of the species of *Leptochilus* (Neoleptochilus) from the Indian subcontinent is also provided.

Keywords: Checklist, Eumeninae, *Leptochilus* (Neoleptochilus) hassani sp. nov., new species, subcontinent, review, Vespidae.

De Saussure (1853) described the genus *Leptochilus* for eight species; the type species *Pterochilus mauritanicus* Lepeleter, 1841, was designated by Ashmead (1902). This large widespread genus is primarily Holarctic, with a few species in the Ethiopian and Neotropical regions. Gusenleitner (1994) recorded one species from the Oriental region (western India). This genus is divided into six subgenera namely *Euleptochilus* Blüthgen, 1943, *Leptochilus* sensu stricto, *Lionotulus* Blüthgen, 1938, *Neoleptochilus* Blüthgen, 1961, *Sarochilus* Gusenleitner, 1970, and *Zendalia* Robertson, 1928. Of these, the subgenus *Neoleptochilus* Blüthgen, 1961 is recorded from the Indian subcontinent with four species including one species from India (Dover 1925; Gusenleitner 1973, 1976, 1994 & 2006). Members of this genus build their nest in pre-existing cavities in plant stems, shells, rocks, hard soil, old nest burrows of other wasps, beetle burrows in wood. In this paper a new species, namely *Leptochilus* (Neoleptochilus) hassani, is described from Maharashtra, India and compared with a similar already described species. A checklist of the species of *Leptochilus* (Neoleptochilus) from the Indian subcontinent is also provided.

Material and methods

The specimens were studied and photographed using a Leica Stereo microscope with LAS software version 3.6.0. The types of the new species described here are deposited in the ‘National Zoological Collections’ of the Zoological Survey of India, Kolkata (NZC).

*Leptochilus* (Neoleptochilus) Blüthgen, 1961

Diagnosis: Metanotum cristate; second submarginal cell of forewing with first and second abscissae of vein M forming obtuse basal angle; propodeum with...
Leptochilus (Neoleptochilus) hassani sp. nov.  
Kumar & Carpenter

Material examined
Holotype: 14803/H3, 21.ix.2012, female, Kuruli (18.717120°N & 73.846392°E; elevation 607m), Pune District, Maharashtra, India, coll. M.E. Hassan & party.
Paratype: 14804/H3, female, same data as that of holotype.

Description
Holotype female (Image 1): Body length (H+M+T1+T2) 5.66mm; forewing length 4.5mm. Body black with red, reddish-brown and pale yellowish-white to white markings. Red markings: Petiole except narrow apical transverse white band. Reddish-brown markings: Mandible except at base black, apical spot on pointed lamella of submarginal carina of propodeum and propodeal valvula. Yellowish-white to white markings: Inner side of scape, a very small spot on upper part of temple near to eye margin, a medially broadly interrupted transverse band on pronotum, outer half of tegula, a medially interrupted transverse band on scutellum at its lower half, a narrow transverse band at the apex of T1, a broad transverse band at the apex of T2, a small spot at middle of posterior apex and broad spot at lateral corners of posterior apex of S2. Legs coloured as follows: Reddish-brown except all coxa and trochanter black, distinct yellow spots on apex of outer side of fore femur, small yellow spots on base of outer side of fore tibia, small yellow spots on outer side of mid and hind tibia. Outer side of mid and hind tibia darker. Wings almost hyaline, slightly infumated at upper margins; stigma black; veins dark brown. Body with rather sparsely to moderately dense fine silvery white pubescence, minute on metasoma and more pronounced on head and mesosoma.

Head: 1.11x as wide as long in front view (Image 2); clypeus slightly convex, the extreme apex with two teeth, the area in between them rounded incised, the distance between teeth less than (0.74x) the distance between antennal toruli, maximum width of clypeus 1.50x its length medially, with coarse punctures (except sparse punctures laterally); mandibles on inner side with four teeth; frons, vertex and temple closely, strongly and uniformly punctured, diameter of punctures greater than the distance between punctures; POL 1.03x OOL (Image 3); diameter of anterior ocellus 0.45x as long as the distance between anterior ocellus and posterior ocelli; cephalic foveae absent; temple 0.81x as wide as eye in profile (measured through its ocular sinus); interocular distance 1.50x greater on vertex than at clypeus; occipital carina complete and narrowed ventrally. Antennal scrobe 1.36x farther from each other than from eyes, granulately punctured; scape 4.47x as long as F1; F1 0.94x as long as F2, 1.07x as long as wide; flagellomeres widening towards apex except last antennal article; apical antennal article 1.22x as long as its maximum width.

Mesosoma (Image 4): Anterior face of pronotum uniformly sculptured in front and distinctly slanting; pronotal carina absent on dorsal side, present on the lateral margin of pronotum; posterior face and lateral sides of pronotum, mesoscutum and scutellum strongly and closely punctate, diameter of punctures greater than the distance between punctures; median length of mesoscutum 0.93x its maximum width; metanotum cristate, without tubercles, vertical portion with few scattered punctures; mesopleuron closely punctured except large area of epicnemium and posterior margin smooth; epicnemial carina absent; upper metapleuron transversely striated, lower metapleuron with few weak transverse striations and sparse punctures. Propodeum (Image 6) vertical, medially incrassate, closely and strongly punctured except lateral sides towards metapleuron impunctate; submarginal carina projecting as a small rounded lobe above propodeal valvula. Tegula punctured, not evenly rounded posteriorly, emarginate adjoining parategula and surpassing apex of latter; axillary fossa oval, not slit-like. Midtibia with one spur. Forewing (Image 5) with pterostigma 5.83x prestigma, second submarginal cell not petiolate, basally more or less truncate, first and second recurrent veins both received in submarginal cell II.

Mesosoma (Images 7 & 8): T1 without transverse carina, with large punctures, diameter of punctures greater than the distance between punctures, transverse yellow apical band smooth, maximum width of T1 1.2x its median length in dorsal view; T1 0.63x narrower than T2; T2 as long as wide in dorsal view; T2 and S2 with distinct but less strong punctures, the diameter of most of the punctures greater than interspaces.

Male: Unknown.
Variation: In paratype, a narrow white mark at posterior end of S2 which is broader towards lateral corners.

Etymology
The species is named after Dr. M.E. Hassan, Scientist-D & Officer-in-charge of Hemiptera Section, Zoological Survey of India, Kolkata who collected the type specimens.

Remarks
This new species comes close to *Leptochilus (Neoleptochilus) insitivus* Gusenleitner, 1976, described from Pakistan and recorded from India, in many
characters. But it distinctly differs from \textit{L. (N.) insitivus} in having: (1) tegulae punctured (in \textit{L. (N.) insitivus} tegulae without punctures, shiny); (2) clypeus entirely black (in \textit{L. (N.) insitivus} clypeus yellow with anterior margin bright orange colour); (3) scape black except the yellow underside (in \textit{L. (N.) insitivus} scape bright orange except the yellow underside); (4) pronotum black except medially interrupted broad yellow transverse band (in \textit{L. (N.) insitivus} pronotum bright orange except the broad yellow transverse band); and (5) parategula, metanotum and upper part of mesopleuron without yellow markings (in \textit{L. (N.) insitivus} parategula, metanotum and upper part of mesopleuron with yellow markings).

It also is similar to \textit{Leptochilus (Neoleptochilus) umerolatus} Gusenleitner, 2006, described from Pakistan in many characters. But it distinctly differs from \textit{L. (N.) umerolatus} in having: (1) forewing radial cell dark (in \textit{L. (N.) umerolatus} forewing radial cell not dark); (2) diameter of punctures of frons, vertex and temple, in average, greater than the distance between punctures (in \textit{L. (N.) umerolatus} diameter of punctures of frons, vertex and temple, in average, less than the distance between punctures); (3) mesopleuron without white spot (in \textit{L. (N.) umerolatus} mesopleuron with white spot); (4) petiote red except narrow apical transverse white band (in \textit{L. (N.) umerolatus} base of petiote black); and (5) pronotum and propodeum differ in appearance.

Checklist of the species of \textit{Leptochilus (Neoleptochilus)} (Blüthgen, 1961) from the Indian subcontinent
1. \textit{Leptochilus (Neoleptochilus) hassani} Girish Kumar & Carpenter sp. nov.—India (Maharashtra: Kuruli in Pune District).
2. \textit{Leptochilus (Neoleptochilus) hina} (Dover, 1925)—Pakistan (Pishin, Quetta).
3. \textit{Leptochilus (Neoleptochilus) insitivus} Gusenleitner, 1976—India (Maharashtra: Mahabaleshwar), Pakistan (Karachi).
4. \textit{Leptochilus (Neoleptochilus) mirificus} Gusenleitner, 2006—Pakistan (Karachi).
5. \textit{Leptochilus (Neoleptochilus) umerolatus} Gusenleitner, 2006—Pakistan (Chiltan National Park, 20km southwestern Quetta).

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Key to species of *Leptochilus* (*Neoleptochilus*) (Blüthgen, 1961) from the Indian subcontinent (based on females)

1. Clypeus entirely black ........................................................................................................................................................................... 2
   - Clypeus not entirely black ................................................................................................................................................................. 4
2. Scutellum with yellow mark ................................................................................................................................................................... 3
   - Scutellum without yellow mark ......................................................................................................................................................... umerolatus Gusenleitner, 2006
3. T1 with basal half black and apical half yellow ................................................................................................................................. hina (Dover, 1925)
   - T1 red except narrow apical transverse white band ........................................................................................................................ hassani sp. nov. Girish Kumar & Carpenter
4. Propodeum black; upper part of scape bright orange ....................................................................................................................... insitivus Gusenleitner, 1976
   - Propodeum red; upper part of scape black ........................................................................................................................................ mirificus Gusenleitner, 2006

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