

## **EIGHT NEW SPECIES OF *GLABRIDORSUM* TOWNES FROM INDIA AND NEPAL (HYMENOPTERA : ICHEUMONIDAE)**

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### **INTRODUCTION**

The genus *Glabridorsum* Townes belongs to the family Ichneumonidae, tribe Ishnini. This is known from Eastern Palaearctic and Indo-Papuan regions. It contains small to medium sized species measuring 4.75-8.5 mm in length. Townes (1970 : 174) and Gupta (1987 : 787) referred to this genus only one species viz., *Glabridorsum stokesii* (Cameron) from Australia.

Eight new species are described here from India and Nepal. This is the first record of this genus from India and Nepal. A key to the species from India and Nepal is provided.

### **SYSTEMATIC ACCOUNT**

#### **Genus *Glabridorsum* Townes**

1970. *Glabridorsum* Townes, *Mem. Amer. Ent. Inst.*, 12 : 174. Type-species : *Gambrus stokesii* Cameron. Original designation.

1971. *Glabridorsum* Townes : Gupta, *Mem. Amer. Ent. Inst.*, 41 : 787.

This genus can readily be distinguished by having mesoscutum polished and more or less impunctate and hairless. Clypeus rather small and strongly convex, without a median tooth.

Body slender. Thorax sometimes strongly convex in front. Clypeus 1.8x as long as wide, strongly convex and without apical median tooth, its apical margin arched or truncate. Malarspace about 0.8-1.0x as long as the basal width of mandible. Mandible with its lower tooth equal to or slightly shorter than the upper tooth. Head behind the ocellar triangle flat. Mesoscutum polished, the front 0.15 to 0.33 of its length with fine setiferous punctures, rest polished, impunctate and hairless. Notauli sharp but not deep, reaching beyond the center of mesoscutum. Propodeal spiracles round, apical carina of propodeum strongly sinuate, medially weak or absent, laterally forming crest-like apophyses. Base of hind coxa moderately deep, with a very short vertical groove descending from its attachment on antro-basal face. Base of first tergite usually with lateral tooth, its spiracle near its apical 0.43, ventro-lateral and dorso-lateral carinae complete but rather weak, and median-dorsal carinae present or absent, if present not extending beyond spiracle; second tergite weakly to moderately mat, its setiferous punctures usually weak and quite sparse, sometimes

stronger and dense. Wing venation as in figure 1a, b, except nervellus intercepted at its lower 0.25 to 0.4 and brachiella often short or absent. Ovipositor sheath about 0.7 as long as hind tibia. Ovipositor moderately stout, somewhat compressed, its tip segittate (fig. 1c).

*Length* : Female : 4.75 mm. Fore wing 4-6.5 mm. Ovipositor sheath 1-2.5 mm.

*Type-species* : *Gambrus stokesii* Cameron.

*Glabridorsum* Townes is close to *Ischnus* Gravenhorst in having first tergite moderately slender, its spiracle near apical 0.25; clypeus strongly transversely convex and propodeal spiracle less than 1.5 times as long as wide. However, it is distinguished by having mesoscutum mostly and entirely polished, impunctate and hairless.

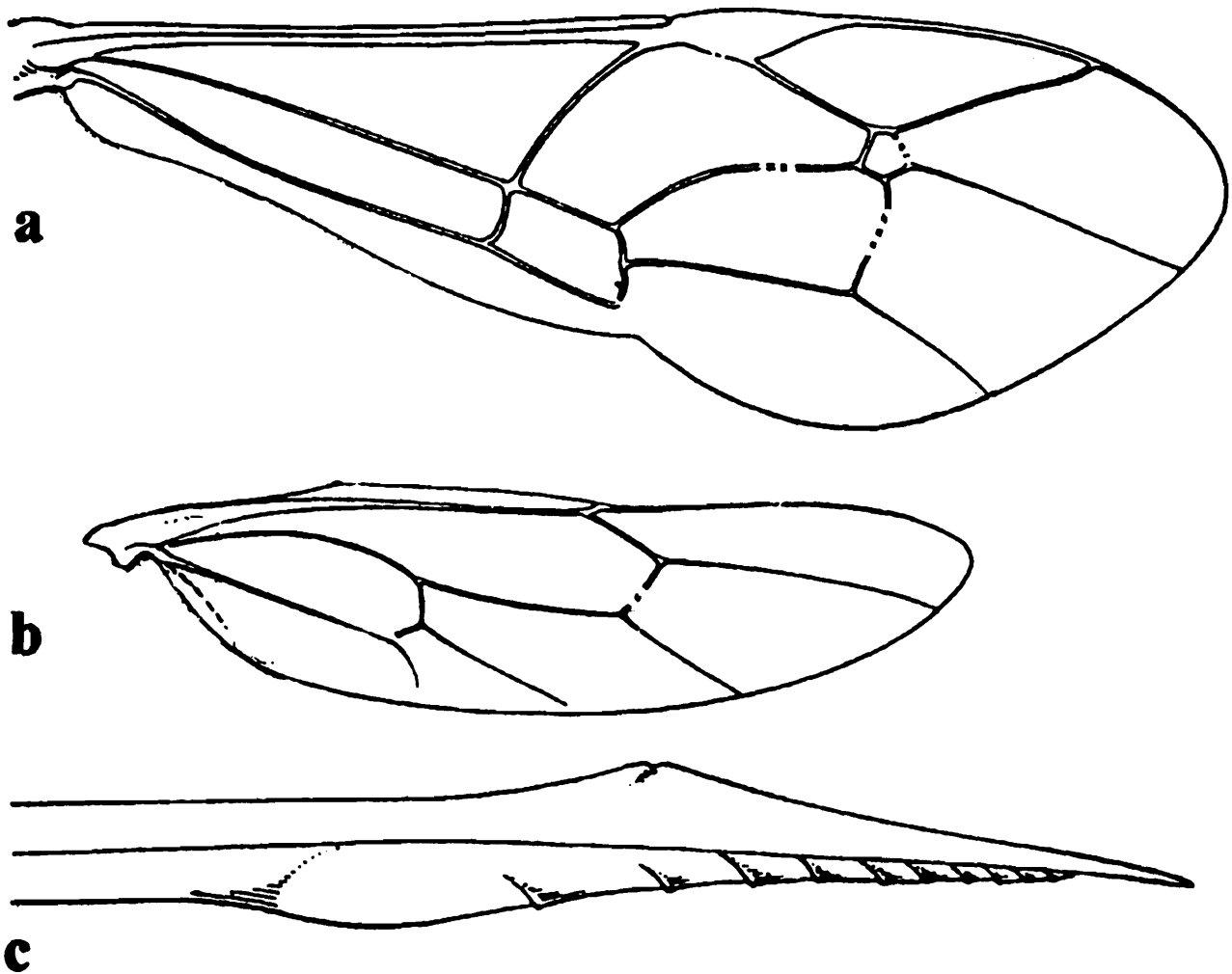


Fig. 1. *Glabridorsum* Townes : a, b, fore & wings venation; c, ovipositor tip.

Key to the species of *Glabridorsum*

1. First abdominal tergite with a lateral tooth at its base ..... 2
  - First abdominal tergite without a lateral tooth at its base ..... 3
2. First abdominal tergite with a few scattered punctures, second and third tergites densely punctate, following tergite mat and subpolished. Nervellus intercepted at its lower 0.4. Face not black along clypeal groove ..... *varibalteatum*, sp. nov.
  - All abdominal tergites impunctate and subpolished. Nervellus intercepted at its 0.25. Face along clypeal groove black ..... *punctatum*, sp. nov.
3. Body with its posterior part of mesopleurum, postscutellum, metapleurum, propodeum, first tergite and legs in general, red. Third and fourth abdominal tergites totally black and without apical bands ..... *glabrosum*, sp. nov.
  - Body largely with black and yellow marks, and without red markings ..... 4
4. Mesopleurum finely sparsely punctate ..... 5
  - Mesopleurum trans-striate or rugoso-striato-punctate ..... 6
5. Upper margin of pronotum in front of notaulus strongly swollen like a tubercle; abdominal tergites smooth and shiny. Face black along clypeal groove, all abdominal bands narrowed in the middle ..... *nepalensis*, sp. nov.
  - Upper margin of pronotum in front of notaulus not swollen; abdominal tergites mat and subpolished. Face not black along clypeal groove, abdominal bands on second and third tergites not narrowed in the middle ..... *similis*, sp. nov.
6. First and second tergites mat with sparse and shallow punctures. Mesopleurum marked yellow at subtegular ridge and also two oval marks, one below subtegular ridge and one near base of middle caxa ..... *orbitalis*, sp. nov.
  - First, second and following abdominal tergites mat and subpolished, without any punctation. Mesopleurum at subtegular ridge and a broad oblong mark in middle, and some times a small mark at speculum ..... 7
7. Speculum black. Metapleurum with moderately large punctures, tending to be rugoso-punctate ..... *semilunatum*, sp. nov.
  - Speculum with a small yellow mark. Metapleurum trans-striato-punctate. .... *simulatum*, sp. nov.

1. *Glabridorsum varibalteatum*, sp. nov.

This species is close to *G. punctatum*, sp. nov. in having lateral tooth at the base of first abdominal tergite. It is also close to *G. simulatum*, sp. nov. in having similar markings on mesopleurum. However, it can be distinguished by having face not black along clypeal groove, first abdominal tergite with a few scattered punctures, second and third tergites densely punctate and nervellus intercepted at its lower 0.4 (fig. 2a).

*Female* : Body largely shiny. Clypeus smooth with a few scattered weak punctures. Face in the middle finely trans-striate, sparsely and shallowly punctate at sides. Malarspace granulose, 0.6x the basal width of mandible. Mandible smooth, with a few weak punctures in the middle. Frons smooth and polished, median longitudinal groove not well defined. Vertex and temple smooth and polished. Pronotal scrobe all along strongly striate, its margin subpolished with sparse, moderately large and shallow punctures, pronotal collar more or less smooth, extreme upper margin of pronotum (when viewed from dorsal side) moderately strongly swollen, epomia short. Scutellum with a few sparse shallow punctures, its lateral carina confined to its base. Postscutellum smooth. Mesopleurum in the middle with coarse shallow punctures; area just below subtegular ridge anteriorly along speculum and prepectal carina closely to sparsely striate; speculum smooth and shiny. Mesosternum finely and closely punctate, mesopleural groove with short strong ridges, prepectal carina extending up to the base of subtegular ridge. Metapleurum with coarse shallow and close punctures, towards the juxtacoxal carina strongly wrinkled. Propodeum between basal carina and apex moderately strongly rugoso-wrinkled; based of basal carina with irregular or distinct punctures, and short striae along the basal carina, spiracles round and small, both the transverse carinae present, apophyses low crest-like. First tergites with distinct basal lateral tooth, tergite mat with a few scattered shallow punctures, second and third tergites densely punctate, following tergites mat and subpolished, areolet pentagonal, moderate sized, about 0.6x as high as the portion of second recurrent vein above bulla; nervulus opposite to basal vein, nervellus intercepted at its lower 0.4 (fig. 2a).

Black. 7th to 16th (sometimes 6th-18th) antennal flagellar segments distinctly white. The following are brownish : Flagellum with scape, pedicle, first and second segments brownish in front. The following are yellow : Face, clypeus, except some times at sides, mandibles except the teeth, orbital mark all along the eye (fig. 2b), upper margin of pronotum, pronotal collar, a roundish mark at the apex of middle lobe of mesoscutum, postscutellum, tegula, subtegular ridge, speculum, a broad elongate-oval mark in the middle of mesopleurum, metanotum near the base of hind wing, metapleurum broadly in the middle, an inverted horse-shoe-shaped mark on propodeum, all the tergites with apical bands. Legs in general reddish-brown, except fore and middle coxae and trochanters yellow and their apical tarsal segments light to dark brown. Hind coxa with an oval yellow mark above, and sometimes a brown mark at the apex of tibia, basal 0.25-0.75 of first tarsal segment, apical 0.5 to fourth and fifth segment wholly dark brown. Wings clear hyaline. First tergite at base and ventrally reddish-brown.

*Male* : Similar to female, except more polished, slender and weakly sculptured. Face and clypeus with a few indistinct punctures, rest of head smooth and shiny. Pronotum with a few short striae in the scrobes and along the posterior margin. Mesopleurum finely and closely punctate with fine trans-striations above.

Colour pattern also similar to female except as follows; 9th to 17th flagellar segments white, mesosternum also yellow, this mark joining with the broad oval mark on mesopleurum. Metapleurum almost wholly yellow. Mark on propodeum extensive. Apical 0.75 of first tergite yellow. Hind leg with coxa broadly yellow, except apically above black. Mark on trochanteral segments, apex of femur, apical 0.3 of tibia, base of first tarsal segment and 5th segment wholly, black.

*Length* : Female, 5-8.5 mm. Fore wing 4.0-6.5 mm. Ovipositor sheath 1.3-3.5 mm. Male, 6.5 mm. Fore wing 5 mm.

*Holotype* : ♀, INDIA : UTTAR PRADESH : Gargia, 610 m, 22.iv.1967, J. K. Jonathan, No. J 219. *Allotype* : ♂, INDIA : UTTAR PRADESH : Gargia, vill. Dibri, 610 m, 13.iv.1968, D. Ram, No. 305. *Paratypes* : 64 ♀♀, 3 ♂♂. INDIA : UTTAR PRADESH : Gargia, 610 m, 28 ♀♀, 1 ♂, 20-24.iv.1967, Colls. J. K. Jonathan, M. K. Kamath, D. T. Tikar, V. K. Gupta, Colln Nos. J 215, J 217, K 173, 263; Gargia, Vill. Dibri, 1 ♀, 12.iv.1968, D. Ram, No. 304 and 1 ♀, 26-29.iv.1969, V. K. Gupta, No. 335. BIHAR : Ranchi, Namkum, 2 ♀, 5-25.x.1955, C. Tirky; 1 ♂, 21.xi.1955, V. K. Gupta; 5 ♀♀, 6-22.xii.1955, V. K. Gupta; 2 ♀♀, 13.iv. & 3.v.1956. C. Tirky; 1 ♀, 6.i.1956, C. Tirky; 2 ♀♀, 15-21.ii.1956, V. K. Gupta; 4 ♀♀, 8-26.iv.1965, Colls. V. K. Gupta and C. Tirky; 2 ♀, 2.v.1956, 1 ♀, 22.xii.1956, all by V. K. Gupta, 1 ♀, 1.iii.1957, 1 ♀, 3.iv.1957, V. K. Gupta. Torpa, 1 ♀, v.1957, C. Tirky. Kunti, 1 ♀, 3.v.1957, V. K. Gupta. Ambero-Bero, 1 ♀, 25.ii.1959, C. Tirky; Namkum, 1 ♀, 11-30.iv.1957, V. K. Gupta and C. Tirky; 2 ♀♀, 3-15.xii.1957, V. K. Gupta and C. Tirky. UTTAR PRADESH : Jeolikote in Kumaon Hills, 2660 m, 1 ♀, 19.v.1963, V. K. Gupta, No. 49. MADHYA PRADESH : Raigarh, 500 m, 1 ♀, 5.ii.1977, M. Rath, No. R 9, Ratanpur in Bilaspur Dist., 1 ♂, 2.ii.1977, P. Chand, P 7. MEGHALAYA : (Formerly Assam) : Jowai in Jaintia Hills, 1 ♀, 31.iii.1966, J. K. Jonathan, No. J 117 (Z. S. I., Calcutta). United Province, 1 ♀, 1949 m, Coll. F. Bianchi, no further data (A. E. I., Florida).

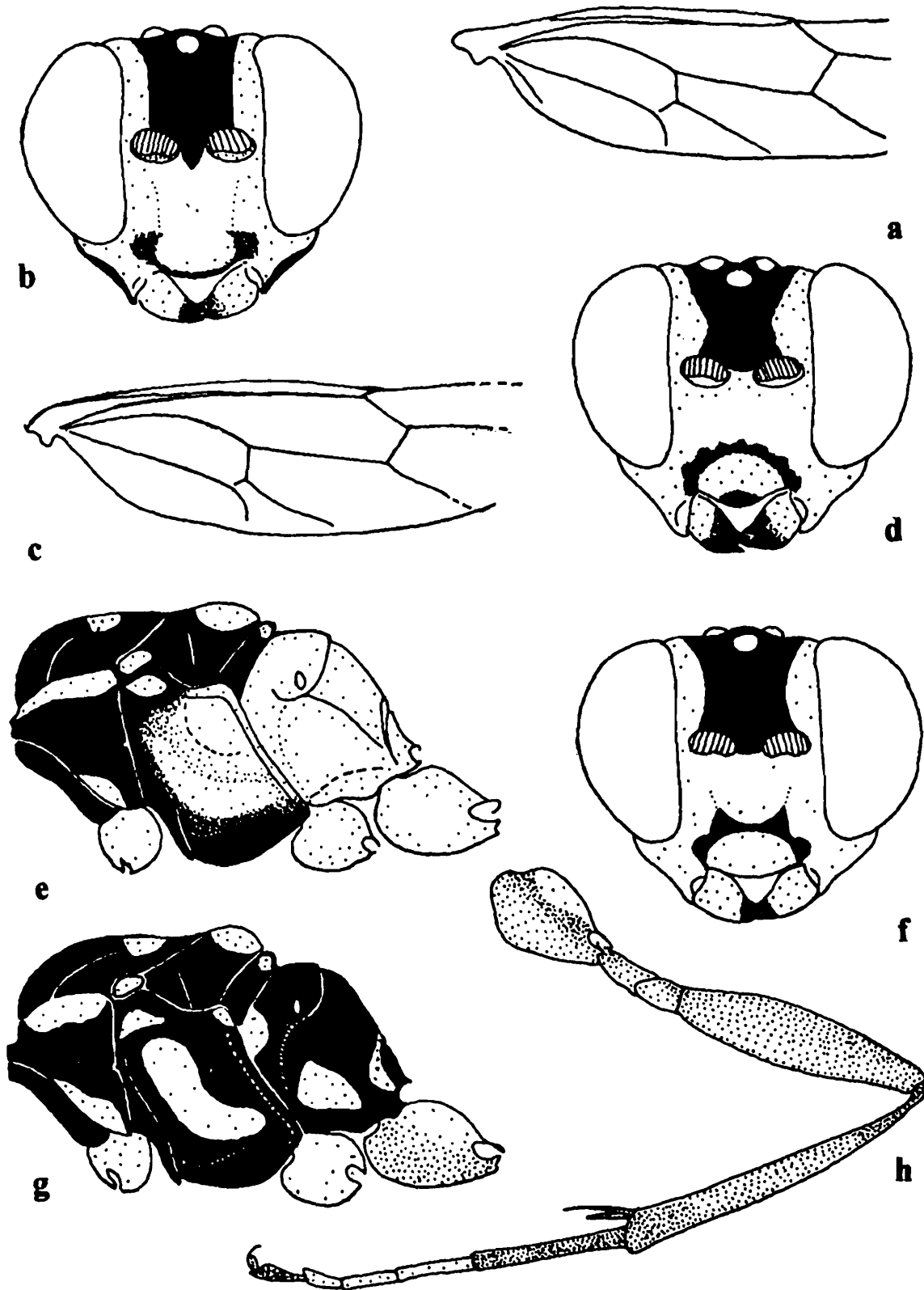
*Distribution* : India : Bihar, Madhya Pradesh, Meghalaya and Uttar Pradesh.

*Remarks* : Specimens from Jowai and Raigarh differs in having first abdominal tergite black, except the apical yellow band.

## 2. *Glabridorsum punctatum*, sp. nov.

This species is close to *G. varibalteatum*, sp. nov. in having a lateral tooth at the base of first abdominal tergite and almost similar colour pattern. However, it can be distinguished by having all the abdominal tergites impunctate and polished and nervellus intercepted at its lower 0.25 (fig. 2c). Face along clypeal groove, black.

*Female* : Body largely subpolished to shiny. Face finely and closely punctate. Clypeus sparsely punctate. Frons and vertex shiny with fine scattered punctures. Temple shiny with indistinct scattered punctured. Melarspace granulose, 0.66x the basal width of mandible. Mandible distinctly punctate. Pronotum in the middle and in the scrobes coarsely and closely striate, its upper margin coarsely and shallowly punctate, pronotal collar weakly punctate, epomia short, upper margin of pronotum not swollen. Scutellum with moderately large and sparse punctures, lateral carina confined to its base. Postscutellum with moderately close punctures. Mesopleurum and mesosternum coarsely and closely punctate, mesopleurum in the upper half with transverse striations, striae strong below subtegular ridge and along the speculum, speculum smooth and shiny. Metapleurum coarsely and closely punctate, wrinkled towards metapleural fold, juxtacoxal carina present. Propodeum between basal carina and apex moderately strongly wrinkled, basad of basal carina punctate, both the transverse carinae strongly present, apical carina sinuate, laterally forming weak crests-like apophyses, all the tergites mat and subpolished, first to third tergites with scattered setiferous punctures. Nervulus opposite to basal vein. Nervellus intercepted at its basal 0.25 (fig. 2c).



**Fig. 2.** *Glabridorsum varibalteatum* : a, hind wing showing venation; b, front view of head showing colour pattern. *Glabridorsum punctatum* : c, hind wing showing venation; d, front view of head showing colour pattern. *Glabridorsum glabrosum* : colour pattern : e, side view of thorax. *Glabridorsum nepalensis* : colour pattern : f, front view of head; g, side view of thorax; h, hind leg.

Black. 6th to 12th flagellar segments white. Clypeus apically in the middle, face along the clypeal groove and sometimes also two longitudinal line, dark brown to black (fig. 2d). Mark on speculum small, hind coxa red or reddish-brown, with an oval yellowish mark above and a dark brown area just below oval yellow mark; mark on propodeum also narrow like a sinuate band, rest of the colour similar to *G. simulatum*, sp. nov. and *G. varibalteatum*, sp. nov.

*Male* : Unknown.

*Length* : Female, 6-8.5 mm. Fore wing 4.75-6.5 mm. Ovipositor sheath about 1.5-2 mm.

*Holotype* : ♀, INDIA : HIMACHAL PRADESH : Ahla, 2286 m, 16.x.1971, Girish Chandra, Colln. No. J. D. 138. *Paratypes*: 2 ♀ ♀ INDIA : HIMACHAL PRADESH : Dalhousia, 2133 m, 1 ♀, 6.x.1971, Giridh Chandra, Colln. No. J. D. 206. Manali, 1828 m, 1 ♀, 18.v.1970, A. K. Gulati, No. K 215 (Z. S. I., Calcutta).

*Distribution* : India : Himachal Pradesh.

### 3. *Glabridorsum glabrosum*, sp. nov.

This species is readily distinguished by having largely smooth and polished body; posterior half of mesopleurum, postscutellum, metapleurum, first tergite and legs in general, red (fig. 2e); third and fourth abdominal tergites totally black and without usual apical bands.

*Female* : Body largely shiny. Face, clypeus, frons and vertex smooth and polished, without any sculpture. Malar space 0.8 the basal width of mandibles. Pronotal groove and its posterior margin with a few striations, rest smooth and shiny; epomia moderately long. Scutellum and postscutellum smooth and shiny. Mesopleurum in the middle finely striate, along prepectal carina near sternaulus striato-punctate, speculum smooth and polished, prepectal carina extending (1.0) almost up to the base of subtegular ridge. Propodeum between basal carina and apex moderately strongly rugose, basad of basal carina mat and subpolished; its spiracle round and small, both the carinae present except apical carina broadly interrupted in the middle and laterally forming distinct crest-like apophyses. First tergite without distinct basal lateral tooth, tergite largely smooth and shiny, second and third tergite mat and subpolished, following tergites smooth and shiny. Areolet in fore wing moderately large, pentagonal, about as high as the portion of second recurrent vein above bulla; nervulus opposite to basal vein, nervellus intercepted at its basal 0.4.

Black. 8th to 11th antennal segments white above. The following are whitish-yellow : orbit all along the eye margin, clypeus, except its apical margin, extreme base of mandible, pronotal collar in its lower half, upper margin of pronotum, an oval mark on middle lobe of mesoscutum, scutellum, tegula, mesopleurum with its subtegular ridge, an oblong longish mark in middle, fore coxa wholly, its first trochanteral segment, an irregular mark on middle coxa above, apices of second and fifth to eighth abdominal tergites, and second to fourth hind tarsal segments. The following are red : posterior half of mesopleurum, postscutellum, metapleurum, propodeum, first tergite, middle and hind coxae (fig. 2e). Legs in general red, except as stated above and their tibiae and tarsi reddish-brown and hind first and fifth tarsal segments, dark brown.

*Male* : Unknown

*Length* : Female 6.5 mm. Fore wing 5.5 mm. Ovipositor sheath 1.5 mm.

*Holotype* : ♀, INDIA : TAMIL NADU : Kodaikanal 1958 m, J. K. Jonathan, No. J 193 (Z. S. I., Calcutta).

*Distribution* : Tamil Nadu.

#### 4. *Glabridorsum nepalensis*, sp. nov.

This species is close to *G. similis*, sp. nov., but can be recognised by having upper margin of pronotum in front of notaulus strongly swollen like a tubercle, abdominal tergites smooth and shiny. Face black along clypeal groove, all abdominal apical bands narrowed in the middle.

*Female* : Clypeus with weak, fine scattered punctures. Face along the clypeal groove with fine and closely placed punctures. Malarspace mat, 1.0x the basal width of mandible. Pronotum almost smooth and polished, epomia short, upper margin of pronotum in front of notaulus strongly swollen like a tubercle. Mesopleurum with fine and sparse punctures, speculum smooth, area in front of speculum with a few short weak ridges, prepectal carina extending up to the base of subtegular ridge, notauli moderately deep and not interrupted by short ridges. Scutellum and postscutellum smooth and shiny, lateral carina of scutellum confined to its base. Metapleurum below juxtacoxal carina closely punctate, above juxtacoxal carina with scattered shallow punctures. Propodeum largely smooth, except for a few punctures between apical and basal carinae and area near spiracles, basal carina sinuate, apophyses weak crest-like, spiracle small round. First tergite without basal lateral tooth, tergite short and thick, smooth and shiny, without distinct punctures; following tergites smooth and shiny. Nervulus opposite to basal vein, nervulus intercepted at its lower 0.33.

Black. 8th to 12th flagellar segments white, scape in front brown. The following are yellow : Face, clypeus and orbits broadly along the eye margin, except face along the clypeal groove (fig. 2f), pronotal collar, upper margin of pronotum, an oval mark on the middle lobe of mesoscutum, tegula, subtegular ridge, elongate-oval mark on mesopleurum, scutellum, postscutellum, near base of hind wing, metapleurum broadly, a ring shaped mark on propodeum (fig. 2g), apices of all the tergites, band narrow in the middle, broad at sides; fore and middle coxae and their first trochanteral segment. Legs in general brownish-yellow. Hind coxa with an oval yellow mark above, its first trochanteral segment, apex of tibia, first and fifth tarsal segments, dark brown, its second to fourth tarsal segments white (fig. 2h). Wings clear hyaline.

*Male* : Unknown.

*Length* : Female, 4.75 mm. Fore wing 4.25. Ovipositor sheath about 1 mm.

*Holotype* : Female and *Paratype* female, NEPAL : Phulchowki, 2400 m, 3-6.x.1970, Tek Chand, No. 359-368. (Z. S. I., Calcutta).

*Distribution* : Nepal.



### 5. *Glabridorsum similis*, sp. nov.

Essentially similar to *G. nepalensis*, sp. nov. in sculpture and colour, except as follows :

*Female* : Face and clypeus minutely and sparsely punctate. Pronotum above not strongly swollen like a tubercle. Mesopleurum sparsely and minutely punctate anteriorly. Metapleurum and area basad of basal carina of propodeum densely and shallowly punctate. Abdominal tergites mat and subpolished.

Black. Face without black mark along the clypeal groove. Apical band on second and third tergites not narrowed in the middle.

*Male* : Unknown.

*Length* : Female, 6 mm. Fore wing 5 mm. Ovipositor sheath 1.5 mm.

*Holotype* : ♀, INDIA : WEST BENGAL : Rangiroon in Darjeeling Hills, 1758 m, 27.v.1966, J. K. Jonathan, No. J. 159 (Z. S. I., Calcutta). *Paratype* : 2 ♀♀ MEGHALAYA (Formerly Assam) : Cherrapunji in Khasi Hills, 1272 m, 1 ♀, 4.iv.1966, D. T. Tikar, No. T 168. UTTAR PRADESH : Mussoorie, 1 ♀, 13.ix.1965, J. K. Jonathan No. J 69 (Z. S. I., Calcutta).

*Distribution* : India : Meghalaya, Uttar pradesh and West Bengal.

### 6. *Glabridorsum orbitalis*, sp. nov.

This species is close to *G. semilunatum*, sp. nov. and *G. simulatum*, sp. nov. in having mesopleurum trans-rugoso-striate. However, it can be easily distinguished by having first and second tergites mat with sparse and shallow punctures, mesopleurum with two yellow oval marks.

*Female* : Body largely subpolished to shiny. Face and clypeus with small, sparse and shallow punctures, except face above with a few trans-striations and apical 0.3 of clypeus smooth and shiny. Mandible with fine and sparse punctures. Malarspace granulose, 1.0x as long as basal width of mandible. Frons smooth and polished, with a shallow median vertical groove. Vertex smooth and shiny. Temple shiny sparsely and shallowly punctate. Pronotum largely trans-striate, its upper margin shiny, sparsely and shallowly punctate, pronotal collar with indistinct punctures, and weak fine aciculations, epomia short, upper margin of pronotum opposite to notaulus moderately strongly swollen. Scutellum sparsely and shallowly punctate, lateral carinae extending at its basal 0.25. Postscutellum smooth and subpolished. Mesopleurum below subteglar ridge trans-striate, further below rugoso-striato-punctate, mesosternum shiny with small and sparse punctures, speculum smooth and polished, prepectal carina extending 0.8 the height of mesopleurum. Metapleurum finely trans-striate, juxtacoxal carina present. Propodeum between basal carina and apex largely finely obliquely wrinkled, towards the apex tending to be rugose, basad of basal carina with undefined sparse punctures, near spiracles rough, both the tranverse carinae moderately strong and complete, apophyses crest-like. First tergite mat and subpolished with a few scattered shallow punctures, at base without lateral tooth. Second tergite mat with sparse and shallow setiferous punctures, following tergites mat and subpolished. Nervulus in fore wing opposite to basal vein, nervellus intercepted at its lower 0.4.

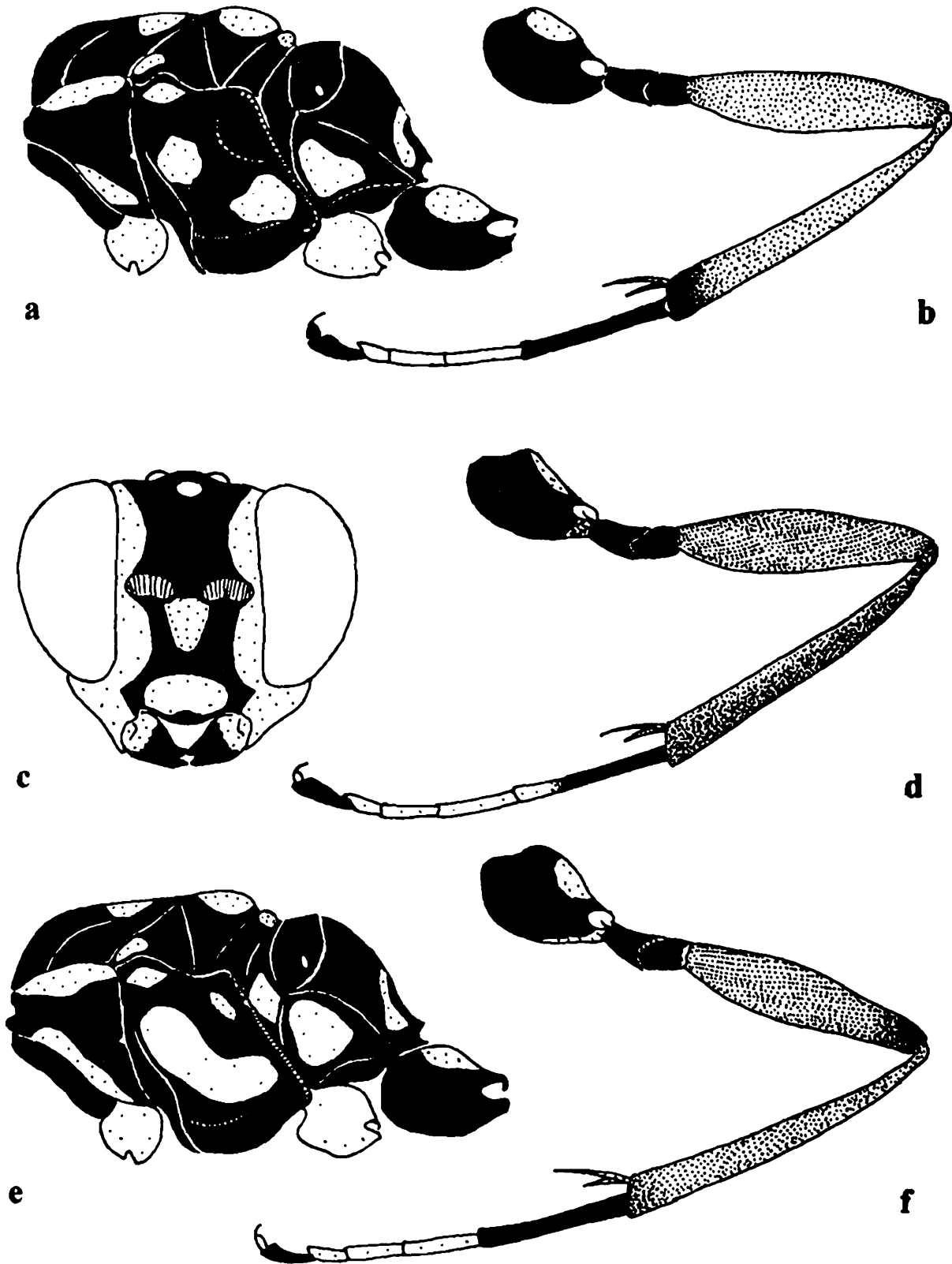


Fig. 3. Colour pattern : *Glabridorsum orbitalis* : a, side view of thorax; b, hind leg. *Glabridorsum semilunatum* : c, front view of head; d, hind leg. *Glabridorsum simulatum* : e, side view of thorax; f, hind leg.

**Black.** 8th and 9th antennal flagellar segments distinctly white. The following are yellow : Face with a small to large squarish mark in the middle, clypeus except along the margin, base of mandible, face, frons, vertex, temple and malarspace broadly, orbit all along the eye margin, upper margin of pronotum, pronotal collar below, middle lobe of mesoscutum at base, scutellum, postscutellum, subtegmental ridge, an oval mark in front of speculum and another above the base of middle coxa on mesopleurum, a broad mark at the base of hind wing, a roundish mark at the base of metapleurum, a bow-shaped mark (all along the apical carina) on propodeum (fig. 3a), apices of all the tergites, fore and middle coxae (except at base, black) and an oval mark on hind coxa. All the trochanters largely black, except fore trochanter narrowly yellow (fig. 3b); rest of all the legs reddish, except fore and middle tarsi tending to be darker (brown), apex of hind tibia, first and fifth segments of its tarsus wholly blackish; its 2-4 segments pure white. Wings clear hyaline.

*Male* : Unknown.

*Length* : Female, 8 mm. Fore wing 7 mm. Ovipositor sheath 2 mm.

*Holotype* : ♀, INDIA : HIMACHAL PRADESH : Narkanda, 2571 m, in Shimla Hills, 13.x.1971, D. Ram No. 381, *Paratype* : 10 ♀♀ INDIA : HIMACHAL PRADESH : Narkanda, 2571 m, in Shimla Hills, 2 ♀♀, 2-5.x.1962, V. K. Gupta, Nos. 26, 30; 1 ♀, 5-6.x.1966, J. K. Jonathan, No. J 176; 1 ♀, 12.x.1971, D. Ram, No. 379. Dhenkund, 2743 m, nr. Dalhuosie, 1 ♀, 12.x.1971, Tulsi Ram, No. JD 222; Ahla, 2286 m, nr. Dalhousie, 1 ♀, 3.x.1971, Tulsi Ram, No. JD 198; Chini Bunglow, 1457 m, nr. Shimla, 1 ♀, 11.x.1962, V. K. Gupta, No. 40; Kalatop, 2488 m, 1 ♀, 13.x.1971, Girish Chandra, No. JD 223. UTTAR PRADESH : Dwali in Kumaon Hills, 2743 m, 2 ♀, 8.x.1973, Colls. V. K. Gupta, K. Ghorpade, Nos. 585, A 15 (Z. S. I., Calcutta).

*Distribution* : Himachal Pradesh and Uttar Pradesh.

### 7. *Glabridorsum semilunatum*, sp. nov.

This species is close to *G. simulatum*, sp. nov. in having abdominal tergites without punctations and mesopleurum with broad oblong mark in the middle. However, it can be recognised by having its metapleurum with moderately large punctures, area tending to be rugoso-punctate.

**Female:** Face in the middle punctate, punctures shallow, their interspaces more than their own diameter, at sides mat and subpolished. Clypeus largely smooth and subpolished, except for a few scattered shallow punctures. Frons, vertex and temple smooth and shiny. Malarspace granulose, 1.0x the basal width of mandible. Mandibles coarsely punctate. Pronotum with 7-8 strong transverse striations in the scrobes, its upper margin and collar smooth and shiny, epomia short and weak, upper margin normal. Scutellum and postscutellum smooth and shiny lateral carina more or less confined to its base. Mesopleurum moderately strongly transversely rugoso-punctate, area below subtegmental ridge and in front of speculum smooth, mesosternum closely punctate, prepectal carina extending more or less up to the base of subtegmental ridge. Metapleurum with moderately large punctures, punctures towards the metapleural carina dense tending to be rugoso-punctate, juxtacoxal carina present. Propodeum between basal carina and apex finally wrinkled, basal of basal carina sparsely punctate, both the transverse carinae strong and sinuate, apophyses like weak lateral

crests. First tergite without distinct lateral tooth, all the tergites mat and subpolished. Nervulus more or less opposite to basal vein, nervellus intercepted at its lower 0.33.

Black. 7th to 11th flagellar segments white. The following are yellow : Clypeus, except along the margin, face with an elongate triangular mark, base of mandibles, orbital mark encircling the eye (fig. 3c), pronotal collar, upper margin of pronotum, an oval mark on the middle lobe of mesoscutum, scutellum, tegula, subtegular ridge, and elongate curved mark on mesopleurum, a mark near the base of hind wing, a large triangular mark on metapleurum, a broad semilunar mark on propodeum, apices of all the tergites, fore and middle coxae, yellow. Legs in general reddish-brown; except first fore and middle trochanteral segments yellow with small to broad black marks. Fore and middle tarsi clouded with dark brown; hind coxa and trochanter black, except coxa above with an oval mark and narrowly at apex yellow, its tibia broadly at apex and along the upper margin, basal 0.7 of first tarsal segment and fifth segment wholly dark brown to black, rest of hind tarsus, white (fig. 3d). Wing clear hyaline.

*Male* : Essentially similar to female except as follows : Body more slender. Pronotum largely smooth and shiny, without distinct striations. Mesopleurum largely finely transversely striato-punctate. Metapleurum finely trans-rugoso-punctate. Propodeum with more strong and oblique wrinkles.

Black : 10th to 16th flagellar segments white. Scape in front yellow. Fore and middle first trochanteral segments without black marks; rest of the colour as in female.

*Length* : Female, 8 mm. Fore wing 7.2 mm. Ovipositor sheath 1.75 mm. Male, 7.2 mm. Fore wing 6.5 mm.

*Holotype* : ♀, INDIA : HIMACHAL PRADESH : Kalatop, 3438 m, 4.x.1971, Girish Chandra, No. JD 200. *Allotype* : ♂, INDIA : JAMMU & KASHMIR : Gulmarg, 2430 m, 21.vi.1966, V. K. Gupta, No. 206. *Paratype* : 6♂♂, 1♀ INDIA : HIMACHAL PRADESH : Dalhousie, 2132 m, 1♀, 3.x.1971, A. K. Gulati, No. JD 197. JAMMU & KASHMIR : Gulmarg, 2430 m, 5♂♂, 17-22.vi.1966, Colls. V. K. Gupta, M. K. Kamath, D. Ram, Colls Nos. 205-208 & K 121; Rahla nr. Manali, 2743, 1♂, 7.vi.1970, M. Gupta, No. M 27 (Z. S. I., Calcutta).

*Distribution* : India : Jammu & Kashmir and Himachal Pradesh.

### 8. *Glavidorsum simulatum*, sp. nov.

This species shows affinities with *G. semilunatum*, sp. nov. and *G. punctatum*, sp. nov. It can be distinguished by the absence of lateral tooth at the base of first tergite, metapleurum trans-striato-punctate and speculum on mesopleurum with a small yellow mark (fig. 3e).

*Female* : Body largely shiny. Face and clypeus smooth, except for a few scattered setiferous punctures. Frons, vertex and temple smooth and polished. Malarspace granulose, 1.0x the basal width of mandible. Pronotum almost smooth and shiny, without distinct striae in the scrobes and without punctures on collar and upper margin, upper margin not swollen. Mesopleurum transversely rugoso-punctate, striate below subtegular ridge and along speculum, speculum smooth, mesosternum shallowly punctate, prepectal carina extending up to the base of subtegular ridge. Scutellum and

postscutellum smooth. Metapleurum transversely striato-punctate, juxtacoxal carina present. Propodeum between basal and apical carinae weakly obliquely wrinkled, apical of apical carina with weak sparse punctures and rugosities; basal of basal carina minutely and sparsely punctate, both the carinae moderately strong, apical carina strongly sinuate, laterally forming weak crest-like apophyses. First tergite without basal lateral tooth, tergite smooth, following tergites mat and subpolished. Nervellus intercepted at its basal 0.33.

Colour similar to *G. punctatum*, except hind coxa black, with an oval mark above and extreme apex below, yellow (fig. 3e, f).

*Male* : Essentially similar to female, except more slender and polished. Face and clypeus somewhat closely and shallowly punctate. Mesopleurum and mesosternum minutely and sparsely punctate, finely striate along the speculum. Metapleurum with moderate sized close punctures.

Colour similar to female, except 10th to 13th flagellar segments and scape in front, yellow. Hind leg with coxa above and apically broadly, yellow, its first trochanteral segment black; second segment, femur and tibia reddish-brown, except for a mark on second trochanteral segment, femur at apex, tibia at apex and along the upper margin, black; first and fifth tarsal segments, black, and second to fourth segments white.

*Length* : Female, 6.5 mm. Fore wing 5 mm. Ovipositor sheath 1.5 mm. Male, 6 mm. Fore wing 4.5 mm.

*Holotype* : ♀ and *allotype*, ♂, INDIA : WEST BENGAL : Darjeeling, Botanical Garden, 1943 m, 4-8.v.1966, Colls. D. T. Tikar & V. K. Gupta, Colln No. T 239 & 168. *Paratypes* : 2 ♀♀, 2 ♂♂. INDIA : UTTAR PRADESH : Phata in Garhwal Hills, 1430 m, 1 ♀, 12.v.1967, J. K. Jonathan, No. J 221; Bhyundar in Garhwal Hills, 2286 m, 1 ♂, 31.v.1965, T. M. Prasad, No. P 8; Harsil, 2550 m, 1 ♀, 10.vi.1977, G. Singh, No. 77.3.6. HIMACHAL PRADESH : Khajjiar, 1800 m, 1 ♂, 28.vi.1965, T. M. Prasad, No. P 19 (Z. S. I., Calcutta).

*Distribution* : India : Himachal Pradesh, Uttar Pradesh and West Bengal.

## SUMMARY

This paper deals with eight new species of *Glabridorsum* Townes viz., *G. varibalteatum*, *G. punctatum*, *G. glabrosum*, *G. nepalensis*, *G. similis*, *G. orbitalis*, *G. semilunatum* and *G. simulatum* from India and Nepal.

This genus has been recorded from Japan and Indo-Papuan area. This is the first record of this genus from India and Nepal.

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