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Three new species of Sphindidae (Coleoptera: Clavicornia) from India and Sri Lanka

by T. Sengupta and T. K. Pal

Abstract: Three new species, *Aspidiphorus dravida*, *A. bhuswargabasi* and *A. bhutia* are described, a key to the genera and species of Sphindidae from India and Sri Lanka is given.

The Sphindidae is a small family of Clavicornia (Cucujoidea: Polyphaga), erected by SCHAUM (1862) which comprises small beetles ranging from 1.5 to 2.3 mm. The two large genera, *Sphindus* Chevrolat and *Aspidiphorus* Latreille, were previously placed into two different families, the Sphindidae and the Aspidiphoridae. JACQUELIN DU VAL (1859–63) was first to recognize them as representatives of the same family. But SCHENKLING (1931) placed the genera *Sphindus* Chevrolat, *Odontosphindus* Le Conte, *Eurysphindus* Le Conte in Sphindidae and *Aspidiphorus* alone constituted the family Aspidiphoridae. He (loc. cit.) listed 25 species under the families Sphindidae and Aspidiphoridae. CROWSON (1955) placed them into one family, but HORION (1961), and FREUDE, HARDE and LOHSE (1967) treated them as separate families.

Finally, SENGUPTA and CROWSON (1977) redefined the family and introduced a modified classification. They subdivided the Sphindidae into four subfamilies and described two new genera. So far, two species of *Sphindus* and a single species of *Aspidiphorus* are known from India. Four new species are described in the present study. A key to the genera and species of India and Sri Lanka is given.

Key to the genera and species of sphindidae from India and Sri Lanka

1. Species elongated and subparallel, lateral margin of prothorax finely serrated. Antennal joint 8 distinctly transverse. Front coxal cavities externally clearly closed behind, tibial spurs present on all legs (Genus *Sphindus*). Margin of elytra with blackish spot, particularly in posterior half; Antennal joint 3 about double the length of joint 4 and

- about as long as joint 2, joint 8 distinctly shorter and narrower than joint 9; species densely covered with long and decumbent hairs (Fig. 1). **Sphindus semirufus** Champion
- Species somewhat globular, lateral margin of prothorax smooth, antennal joint 8 either elongated or about as broad as long, front coxal cavities widely opened outwardly, tibial spurs absent on all legs (Genus *Aspidiphorus*) 2
2. Antennal joint 4 distinctly elongated and about as long as joints 5–7 together. **Aspidiphorus asiaticus** Champion
- Antennal joint 4 short and distinctly shorter than joints 5–7 together 3
3. Species reddish brown, lateral margin of elytra uniformly curved and not sinuate, antennal joints 1–7 yellowish and club deep reddish brown. **Aspidiphorus dravida** n. sp.
- Species dark brown, lateral margin of elytra bisinuate, antennae deep brown 4
5. Antennal joints 8–10 distinctly elongated.
- Aspidiphorus bhutia** n. sp.
- Antennal joints 8–10 about as broad as long or slightly transverse. **Aspidiphorus bhuswargabasi** n. sp.

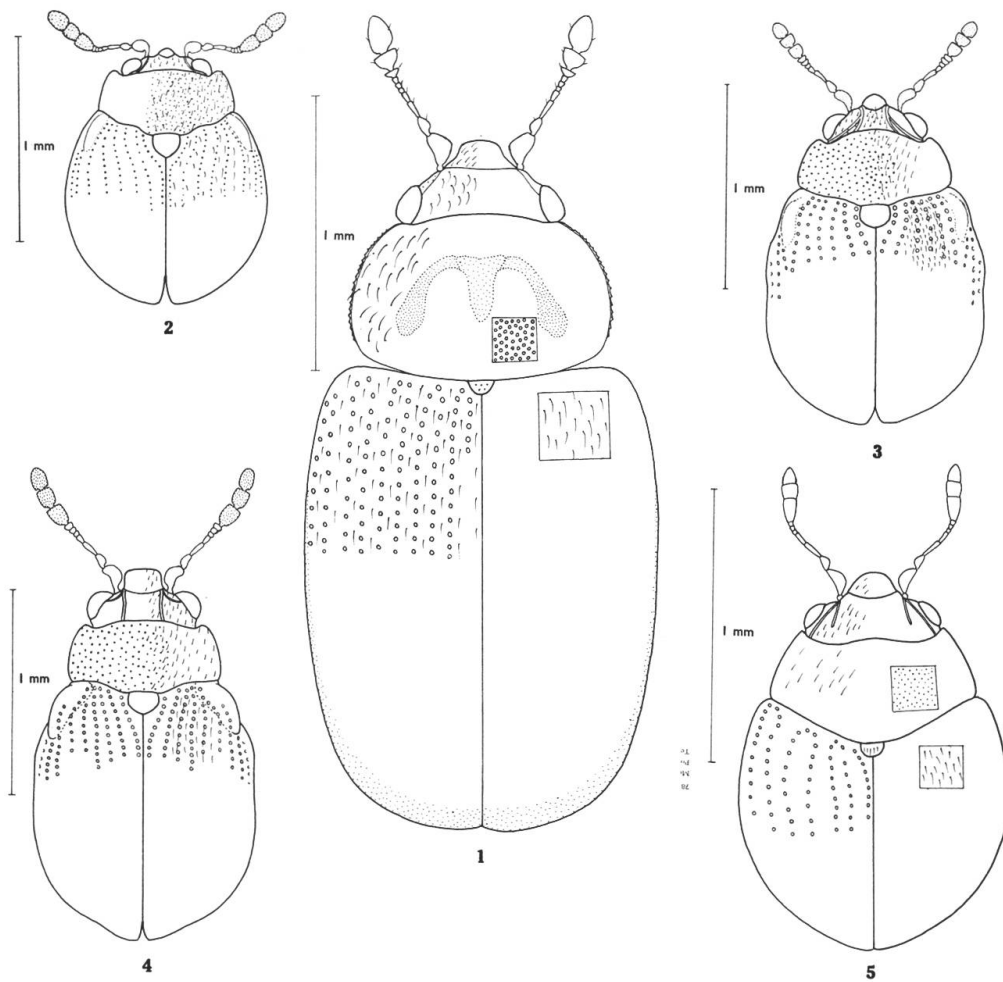
Material of *Sphindus himalayanus* Lesne has not been examined and not included in the key.

Aspidiphorus dravida n. sp.

Figs 2, 6.

General appearance (Figs 2, 6) globular, slightly oblong, markedly convex. Dorsal surface reddish brown to blackish brown. Antenna and legs light reddish brown and antennal club darker. Species uniformly covered with long yellowish recumbent hairs, moderately shiny.

Head broad, convex, projecting rather downward, narrowed in front of eyes. Eyes large, projecting and rounded, finely faceted. Fronto-clypeal suture rather angular. Interocular distance about half the width of head, interocular longitudinal grooves on vertex diverging posteriorly. Anterior margin of clypeus slightly rounded. Frons and vertex impunctate, shining and finely pubescent. Antenna rather short; scape large, elongated and curved; pedicel distinctly shorter and narrower than scape; joint 3 distinctly elongated and narrower than pedicel; joints 4–7 short, subequal and slightly longer than joint 3, joints 8 and 10 distinctly elongated and joint 9 about as broad as long.



Figs 1–5: 1. *Sphindus semirufus* Champion, type, dorsal view. 2. *Aspidiphorus dravida* n. sp., dorsal view. 3. *A. bhuswargabasi* n. sp., dorsal view. 4. *A. bhutia* n. sp., dorsal view. 5. *A. asiaticus* Champion, type, dorsal view.

Prothorax about twice as broad as long, front margin widely emarginate and narrower than posterior margin. Front angles rather broadly pointed. Lateral margins slightly curved, posterior angles obtuse. The basal margin forms an irregular arch and on either side of scutellum is distinctly sinuate. Pronotum finely margined, puncturation fine and moderately dense; width of each puncture distinctly narrower than space between puncture. Hairs on vertex and pronotum directed anteriorly.

Scutellum heart shaped, impunctate, with apex broadly pointed.

Elytra broader at base than prothorax. Basal margin emarginate to fit closely with prothorax, strongly convex, widest in posterior half. Presence of a strong and broad protuberance in interstice 7 near hum-

eral angle. Puncturation coarse and arranged in rows. Space between two successive punctures in a row narrower than width of puncture. Hairs directed posteriorly.

Measurements of holotype: Total length: 1.50 mm, width of head across eyes: 0.50 mm, length and width of prothorax: 0.38 mm and 0.72 mm, length and width of elytra: 1.09 mm and 1.04 mm.

Types: Holotype ♂ and 1 paratype ♀. India: Tamil Nadu, Palni H., sKodaikanal, 2200 m, 12.XI.1972, Besuchet, Löbl, Mussard. 1 paratype ♀. India: Tamil Nadu, Anaimalai H., Aliyar Dam, 17.XI.1972, Besuchet, Löbl, Mussard. 1 paratype ♀. Sri Lanka, Uva, Wellawaya, 300 m, 25.I.1970, Mussard, Besuchet, Löbl. (Holotype and 1 paratype in Muséum d'Histoire Naturelle, Genève, 2 paratypes in Zoological Survey of India, Calcutta.)

This is a distinct species. It can be recognized by its deep brown colour with yellowish antennal joints 1 to 7 and deep reddish brown club, and by the lateral margin of elytra which is uniformly curved.

Distribution: India: Tamil Nadu; Sri Lanka

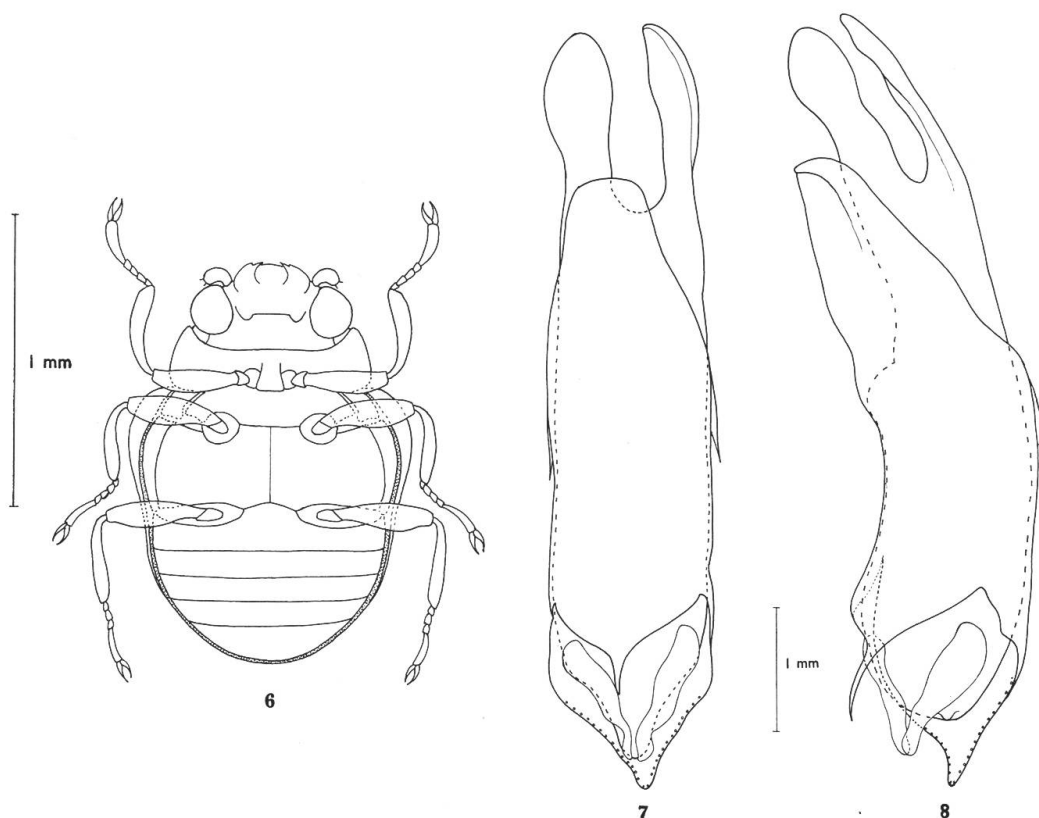
***Aspidiphorus bhuswargabasi* n. sp.**

Figs 3, 7, 8.

General appearance (Fig.3) subglobular, slightly oblong, markedly convex. Dorsal surface blackish brown, legs slightly paler. Antenna except scape and club yellowish. Species covered with short setae, moderately shiny.

Head broad, projecting slightly downward, convex, narrowed in front of eyes. Eyes large, projecting and rounded, moderately coarsely faceted. Fronto-clypeal suture distinctly angular. Interocular distance about three-fourths of width of head. Interocular longitudinal grooves almost parallel; an additional groove arises from each longitudinal groove and runs transversely below the eyes. Anterior margin of clypeus rounded. Frons and vertex impunctate, shiny, pubescence projected anteriorly. Antenna rather short; scape large, elongated and curved; pedicel shorter and narrower than scape; joint 3 distinctly elongated and narrower than pedicel; joints 4–7 short, subequal and altogether slightly longer than joint 3; joints 8 and 10 almost as broad as long, joint 9 transverse, antennal scape and club blackish, remaining part yellowish.

Prothorax about twice as broad as long. Front margin widely emarginate and narrower than posterior margin. Front angles blunt. Lateral margins feebly rounded. Posterior angles bluntly obtuse. The basal margin forms an irregular arch and is distinctly sinuate on either side of



Figs 6–8: 6. *Aspidiphorus dravida* n.sp., ventral view. 7. Aedeagus of *A. bhuswargabasi* n.sp., dorsal view. 8. Idem, lateral view.

scutellum . Lateral sides of pronotum slightly explanate. Punctuation on pronotum fine and moderately dense; width of each puncture distinctly narrower than space between punctures. Setae projected anteriorly.

Scutellum transversely triangular with apex almost rounded and surface impunctate.

Elytra broader at base than prothorax. Basal margin emarginate fitting closely with prothorax, strongly convex, widest near middle. Presence of a strong and broad protuberance in interstice 7 near humeral angle. Punctuation coarse and arranged in rows; space between successive punctures in a row about as wide as the width of punctures. Setae projected posteriorly.

Aedeagus (Figs 7, 8) bifurcate at end. Tegmen forming a ring with large cap on dorsal face.

Measurements: Total length: 1.85 mm, width of head across eyes: 0.58 mm, length and width of prothorax: 0.38 mm and 0.77 mm, length and width of elytra: 1.13 mm and 1.03 mm.

Holotype ♂. India: Kashmir, Gulmarg. Tanmarga, 2300–2650 m, 3. VII. 1970, W. Wittmer (NHM-Basel).

This species is closely related to *A. dravida* n. sp. and can be distinguished by its lateral margin of elytra bisinuate, by the deep brown antennae and by the antennal joint 8 which is about as broad as long.

Distribution: India, Kashmir.

***Aspidiphorus bhutia* n. sp.**

Fig. 4.

General appearance (Fig. 4) subglobular, slightly oblong, markedly convex, dorsal surface blackish brown, legs slightly paler, antenna except club paler. Species shiny and covered with moderately long setae.

Head broad, projecting slightly downward, convex, narrowed in front of eyes. Eyes large, projecting and rounded, moderately coarsely faceted. Fronto-clypeal suture arcuate, interocular distance slightly less than three-fourths of the width of head. Interocular longitudinal grooves almost parallel, an additional groove above antennal insertion runs laterally towards eye. Anterior margin of clypeus rounded. Frons and vertex impunctate, shiny, pubescence projected anteriorly. Antenna rather short; scape large elongated and curved; pedicel shorter and narrower than scape; joint 3 distinctly elongated and narrower than pedicel; joints 4–7 short, subequal and altogether slightly longer than joint 3; joints 8–10 more or less elongated. Antennal scape to joint 7 reddish brown and club deep brown.

Prothorax about twice as broad as long, front margin widely emarginate and narrower than posterior margin. Front angles broadly blunt. Lateral margins feebly rounded, posterior angles bluntly obtuse. The basal margin forms an irregular arch and is distinctly sinuate on either side of scutellum, pronotum finely margined. Puncturation fine and moderately dense; width of each puncture distinctly narrower than space between punctures. Setae projected anteriorly.

Scutellum transversely triangular with apex broadly pointed and surface impunctate.

Elytra broader at base than prothorax. Basal margin emarginate to fit closely with prothorax, strongly convex, widest in posterior half. Presence of a strong and broad protuberance between interstices 7 and 8 near humeral angle. Puncturation moderately coarse and arranged in rows; space between successive punctures in a row about as wide as width of punctures. Pubescence projected posteriorly.

Measurements: Total length: 1.87 mm, width of head across eyes: 0.60 mm, length and width of prothorax: 0.36 and 0.80 mm, length and width of elytra: 1.45 mm and 1.18 mm.

Holotype ♀. Bhutan, Gogona, 3100 m, 10.–12.VI.1972 (NHM-Basel).

This species is closely related to *A. asiaticus* Champion and can be distinguished by its antennal joints 8–10 almost equal in length, by the joint 4 which is shorter than joints 5–7 together and by the scutellum, pronotum and elytra which are uniformly coloured.

Distribution: Bhutan.

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