



A new species of *Heydenia* Förster (Hymenoptera: Chalcidoidea: Pteromalidae) from Sri Lanka, with a key to species of the Indian subcontinent

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Abstract: A new species of the pteromalid genus, *Heydenia* Förster, *H. gibsoni*, is described from Sri Lanka and a key to species of the Indian subcontinent provided.

Keywords: Chalcidoidea, *Heydenia*, Hymenoptera, key, new species, Pteromalidae, Sri Lanka.

Abbreviations: F1-F7 - Funicular segments first to seventh; OOL - Ocello-ocular distance; POL - Post-ocellar distance; SMV - Submarginal vein; MV - Marginal vein; PMV - Postmarginal vein; STV - Stigmal vein; T1-T4 - Tergites one to four of gaster.

INTRODUCTION

The pteromalid genus, *Heydenia* Förster belongs to the subfamily Cleonyminae. This genus is nearly cosmopolitan in distribution, and is represented by 19 described and many undescribed species in the world (Gibson 2003; Noyes 2007; Bouček 1988). *Heydenia* species are parasitoids of the larvae and pupae of wood boring beetles of the families Buprestidae, Cerambycidae, Curculionidae and Scolytidae and are often found on the trunks and branches of dying trees attacked by these beetles. From the Indian subcontinent the genus is represented by two species viz. *H. tuberculata* Sureshan from Karnataka and *H. indica* Narendran from Kashmir and an undescribed species from Sri Lanka (Sureshan 2000; Narendran et al. 2001; Bouček et al. 1979). In this paper one new species of *Heydenia* is described from Sri Lanka based on two specimens in the collections of the Bohart Museum of Entomology, University of California, Davis, USA, which are on loan to me by the kind courtesy of Dr. Steven Heydon. A key to the species of *Heydenia* of the Indian subcontinent is also provided here. The type specimens are deposited in the Bohart Museum of Entomology, University of California, Davis, USA.

Heydenia gibsoni sp. nov.

(Figs. 1-3)

Material examined

Holotype: Female, 23-30.viii.1999, 07°13'N & 08°57'E, Rantembe Sanctuary, Randenigala Viet., Kandy district, Central Province, Sri Lanka, coll. M.T.M. & J. Washbauer, Bohart Museum of Entomology A-1172.

Paratype: Male same data as that of holotype.

Etymology

Named in honour of Dr. Gary A.P. Gibson, Agriculture and Agri-Food Canada, Ontario, Canada for his remarkable contributions to the phylogenetics of the world Cleonyminae.

Diagnostic characters

Female: Length. 3mm (excluding ovipositor), ovipositor 1.2mm. Head and thorax metallic greenish-blue with golden brassy reflection on face, sides of thorax, mesoscutum and scutellum (completely) and head dorsally (head more darker), mainly brownish, with bluish-violet reflections on lower face; lower face and parascrobal area with silvery white setae; metanotum and propodeum bluish-violet; antennae dark brown except scape testaceous basally; mandibles blackish-brown; tegulae brown; wings hyaline, veins pale brown, one broad dark brown infumation on stigmal area and one small brown spot at parastigma and two brownish-black tuft of setae one at parastigma and other at base of MV, pubescence brown; legs yellowish-brown, tarsi whitish, coxae laterally with metallic blue reflections, prominent on fore and hind coxae; gaster blackish-brown with slight

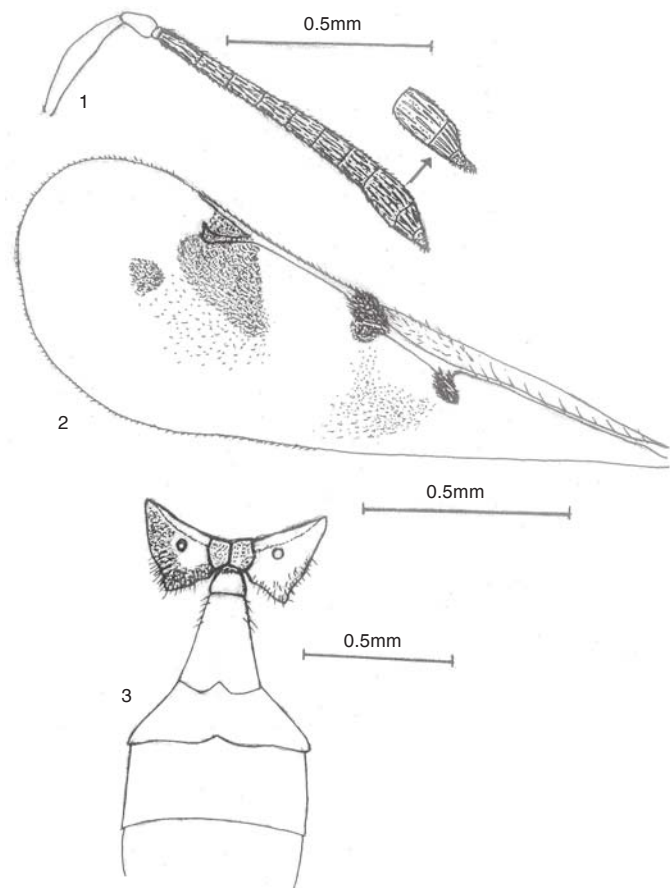
metallic bluish reflection dorsobasally, petiole and subbasal patch on T1 testaceous, ovipositor sheaths brown, ovipositor testaceous.

Head: Densely reticulate on lower face almost up to $\frac{3}{4}$ area; rest of face finely reticulate upto ocelli, vertex and rest of head moderately reticulate except on area below lateral margin of eye shiny which extends up to vertex. Malar grooves distinct. Head in front view slightly wider than long (1.03x); eye length 1.53x width (in profile); malar space length 0.5x eye length (in profile); gena posteriorly not carinate; toruli separated by a distance 0.6x that of distance of it from mouth margin; both mandible with three teeth. In dorsal view head width 1.5x length, temple narrow, about 0.2x eye length, vertex 0.4x head width; ocelli in an equilateral triangle; POL 2x OOL. Antennae (Fig. 1) inserted below middle of face and slightly below lower margin of eyes, formula 11173; scape expanded towards tip, curved, just short of reaching front ocellus, length 0.84x eye length; pedicel shorter than F1; anellus transverse; pedicellus plus flagellum 1.32x head width; relative lengths of pedicel 4, F1 5.5, F2 5, F3 5, F4 4.5, F5 4, F6 3, F7 3; funicular segments gradually decreasing in length and slightly widening towards tip; club acuminate, almost as long as 3 preceding segments combined, each funicular segments with two rows of long sensillae, area of micropilosity restricted to the last segment of club.

Thorax: Reticulate punctate, pubescence less dense, lateral panel of pronotum shiny on lower and upper halves. Pronotum transverse, collar horizontal with lateral panel bent about 90° in relation to dorsal surface. Mesoscutum width 1.52x median length, notauli almost complete. Scutellum convex, reticulation closer, evenly curved posteriorly down to dorsellum without marginal rim, medially as long as mesoscutum; axilla reticulate, moderately advanced, axillular carina indicated, axillula almost shiny; scutoscutellar sulcus with a tuft of white setae, frenal line indicated laterally; dorsellum broad, shiny, extending slightly over scutellum. Propodeum (Fig. 3) medially 1.81x as broad as long with distinct median carina and plicae which enclose a well defined hexagonal area, posterior margin deeply emarginated, almost shiny centrally and finely reticulate laterally; spiracles round, away from hind margin of metanotum by a distance more than its diameter, post spiracular sulcus not indicated, callus and hind margin of propodeum with translucent setae. Prepectus broad, triangular, striate reticulate with dense setae, anterior margin longer than tegula. Mesopleuron densely reticulate except for a small smooth area below wings. Metapleuron reticulate. Mesopleuron and metapleuron with dense silvery white hairs on the lower half. Forewing (Fig. 2) length 2.7x width, membrane with reduced discal ciliation, almost bare basally, marginal fringe very small, PMV distinctly shorter than MV and slightly longer than STV. Relative lengths: SMV 38, MV 15.5, PMV 6.5, STV 4.5. Fore femora moderately enlarged with a row of spines on the ventral margin, fore tibia with a row of spines in the ventral and apical margins.

Gaster: (Fig.3) Petiole distinct, wider than long, widened posteriorly, gaster (including petiole and excluding ovipositor) 1.1x as long as thorax, T1 constricted in the form of a basal stalk, posterior margin of T1 and T2 distinctly incised in the middle, T3 onwards finely reticulate, hypopygium reaching hind margin of T4.

Male: Length: 2.2mm. Closely resembles female but differs



Figures 1-3. *Heydenia gibsoni* sp. nov. (Female)
1 - antenna; 2 - forewing; 3 - propodeum and basal part of gaster dorsal view



Image 1. *Heydenia gibsoni* sp. nov. (Female)

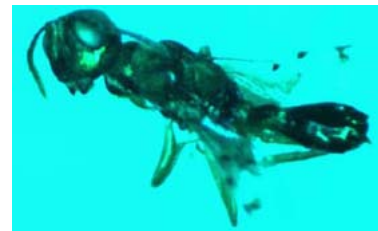


Image 2. *Heydenia gibsoni* sp. nov. (Male)

as follows: legs including coxae brownish-yellow with a small metallic blue patch laterally only on hind coxae, antennae with pubescence denser, gaster shorter, forewing with infumation below STV small and no infumation below base of MV.

Remarks: Among the Indian species, the new species resembles *H.indica* Narendran in general morphology especially in the nature of antenna, forewing, fore femur etc.,

Key to *Heydenia* species of Indian subcontinent

1. Propodeum with a 'Y' shaped median carina with an anteriorly curved sharp tooth, axillae smooth and shiny, India: Karnataka ***H. tuberculata* Sureshan**
- Propodeum different, without tooth or tubercle on the median carina; axillae reticulate.....**2**
2. Ovipositor sheath a little over 0.65x length of hind tibia (in side view), gaster subsessile, petiole very short, India: Kashmir ***H. indica* Narendran**
- Ovipositor sheath long, 1.56x as long as hind tibia, gaster with distinct petiole Sri Lanka***H. gibsoni* sp. nov.**

but differs in having gaster with a distinct petiole, long ovipositor sheaths (1.56x as long as hind tibia in side view), T1 and T2 distinctly incised in the posterior margin, forewing with longer marginal vein (2.3x PMV) with small brown infumation below base of MV, and different propodeum (in *H. indica* gaster subsessile with very short petiole, ovipositor sheaths a little over 0.65x hind tibia (in side view), T1 and T2 very slightly sinuate along posterior margin, forewing with MV a little less than 2x PMV and without any infumation below base of MV and different propodeum). In having a longer ovipositor (longer than the hind tibia) it also resembles *H. trinodis* Bouček and *H. burgeoni* (Risbec). However, both these species differ from the new species in general morphology. The new species fits into the couplet 3 of the key to Indo-Australian species of *Heydenia* by Narendran *et al.* 2001 but can be segregated from other species of the key *H. indica* (Narendran), *H. longicollis* (Cameron) and *H. cristatipennis* (Girault) in having a long ovipositor sheath, length 1.4x as long as hind tibia in dorsal view and petiole clearly visible from dorsal side which is widened posteriorly and width 1.5x length.

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