

## SOME NEW AND LITTLE KNOWN PARASITIC HYMENOPTERA FROM INDIA.

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### INTRODUCTION.

This paper is a report of my recent studies on the Indian Parasitic Hymenoptera in the collections of the Zoological Survey of India, Indian Museum, Calcutta and the Entomological Section, Imperial Institute of Agricultural Research, Pusa. The material dealt with comprises three superfamilies: Cynipoidea, Proctotrypoidea and Chalcidoidea. The collection is particularly interesting in view of the fact that it contains several remarkable genera like *Dieucoila* Ashm., *Odonteucoila* Ashm., *Platyscelio* Kieff., etc., which have not been recorded so far from India.

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### Superfamily CYNIPOIDEA.

#### Family CYNIPIDAE.

#### Subfamily EUCOILINAE.

#### Genus *Dieucoila* Ashmead.

1903. *Dieucoila*, Ashmead, *Proc. Ent. Soc. Washington*, V, p. 222.  
1903. *Dieucoila*, Ashmead, *Psyche*, X, pp. 65, 71.  
1910. *Dieucoila*, Dalla Torre & Kieffer, *Das Tierreich*, Lief. XXIV, p. 101.  
1917. *Dieucoila*, Rohwer & Fagau, *Proc. U. S. N. Mus.*, LIII, p. 364.  
1921. *Dieucoila*, Weld, *Proc. U. S. N. Mus.*, LIX, pp. 439-441, fig. 3.

In 1903, Ashmead erected the genus *Dieucoila* with *D. subopaca* Ashm.<sup>1</sup> from South America as the type and distinguished it from the rest of the Eucoilinae genera by (among other characters) the leathery sculpture of the head and thorax. Weld, who described the type specimen in 1921, considered this sculpture as specific rather than generic. I, however, find this character constant over a series of Indian specimens, and am of opinion that Ashmead was correct in including this in his characterisation of the genus. This view is also supported by the fact that such sculpture is not met with in any of the related genera.

The genus has a wide range of distribution from the sea level to about 9,000 feet up the Himalayas in the Northern India. The new

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<sup>1</sup> Ashmead never published a description of this species.

species described below differs from the type species mainly in the laterally subcompressed abdomen.

• **Dieucoila indica**, sp. nov.

*Female*.—Length 3.5-4.25 mm. or more. Head broader than thorax, reddish brown or sometimes dark brown, finely pubescent and the surface sculpture leather-like in appearance (described as leathery sculpture by Dalla Torre and Kieffer). Eyes and ocelli dark brown. Antenna two thirds the length of body, reddish brown; third segment long; fourth segment somewhat shorter; fifth, sixth and seventh segments equal, each about three fourths the length of third; eighth segment somewhat shorter; terminal segment shorter than third and black at the tip. Thorax reddish brown, matt-surfaced, with a leathery sculpture. Hind pleura polished. Fore wings finely pubescent and ciliated. Legs reddish brown. Abdomen brownish to black, glossy. Petiole of abdomen dark reddish.

*Type series*.—Three pinned examples. Coll. H. S. Pruthi, Mussorie, 6,000 ft., U. P. viii-1933. Nos. 915-17/H3. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

I refer to this species a series of specimens received for identification from Dr. H. S. Pruthi, Imperial Entomologist: "Pusa, On weed. Coll. A. R., 21-iv-1914; Coll. D. P. Singh, 27-iii-1920; Murree, 7,500 ft., Coll. G. R. Dutt, vi-1918 and v-1920; Chapra, Coll. Mackenzie; Pusa, Coll. C. S. Misra, 21-vi-1906; Surat, Bombay, Coll. G. R. Dutt, 7-10. iii.1912." Two specimens belonging to the Zoological Survey labelled "Simla Hills, 7,000-9,000 ft., N. Annandale, 9-11.v.1909" also belong to this species.

**Genus *Odonteucoila* Ashmead.**

1903. *Odonteucoila*, Ashmead, *Proc. Ent. Soc. Washington*, V, p. 222.

1903. *Odonteucoila*, Ashmead, *Psyche*, X, p. 64, 71.

1910. *Odonteucoila*, Dalla Torre & Kieffer, *Das Tierreich*, Lief. XXIV, p. 102.

1917. *Odonteucoila*, Rohwer & Fagan, *Proc. U. S. N. Mus.*, LIII, p. 371.

1921. *Odonteucoila*, Weld, *Proc. U. S. N. Mus.*, LIX, pp. 441-442, fig. 41.

This genus, one of the most easily recognizable of the Eucoiline genera by its scutellar spine, has not been previously reported from India. It is easily separated from the closely related *Gonieucoila* Ashm. and *Acantheucoila* Ashm. by the fact that the scutellar "spine is produced on the sloping surface of the cup in front of the usual pit and not made by a prolongation of the disk of the scutellum". Ashmead never published a description of *O. chapadae* Ashm., which he designated as the genotype; but Weld described the type specimen in 1921.

***Odonteucoila kurseongensis*, sp. nov.**

*Male*.—Length 3.5 mm. Black. Head as long as thorax, black; with a longitudinal furrow between the two lateral ocelli and the eyes; frons smooth, flat, with longitudinal lines at the sides and a triangular impression between. Antenna somewhat longer than thorax, dark brown or black; third and fourth segments equal; fifth segment somewhat shorter than fourth; sixth segment equal to fifth; the following

segments shorter; terminal segment somewhat longer than third. Fore wings finely haired and ciliated; veins brown. Mesopleura glossy. Legs dark brown. Abdomen black. Scutellar spine two thirds the length of thorax.

*Type*.—One pinned example. Coll. N. Annandale, Kurseong, E. Himalayas, 23-vi-1910. No. 920/H3. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

### Superfamily PROCTORYPOIDEA.

#### Family SCELIONIDAE.

#### Subfamily TELENOMINAE.

#### *Telenomus ashmeadi* Morrill.

1907. *Telenomus ashmeadi*, Morrill, *Amer. Nat.*, XLI, p. 419.

1926. *Telenomus ashmeadi*, Kieffer, *Das Tierreich*, Lief. XLVIII, p. 48.

To this species I provisionally refer a specimen in the collections of the Zoological Survey of India, labelled: "Coll. Annandale, Paresnath, Bengal, 4,000-4,400 ft., 12-iv-1909." One antenna is missing as also a few terminal segments of the other, but all the other characters can be clearly made out. The fifth antennal segment is shorter than fourth. Hind metatarsus is not quite equal to the combined length of the following three segments of the tarsus. Length about 2 mm. instead of 1.08-1.15 mm. With additional material this specimen may have to be referred to a new species.

The species was originally recorded as parasitic on *Pentatoma ligata* and *Pentatoma sayi* in Texas, America.

#### *Telenomus sagei*, sp. nov.

This new species agrees with the European *Telenomus verticillatus* Kieff.<sup>1</sup> in most characters but the scape is much longer than the three following antennal segments combined, third segment is not shorter but longer than second in female, scutellum has a few punctae, mesonotum thickly haired, abdomen almost equal to thorax in length. Total length 1.5 mm.

*Type series*.—Several pinned examples. Coll. Major Sage, Dharamsala, W. Himalayas, 17-ix-1890. Nos. 921-22/H3. One specimen also bears a second label: "Proctotrupidae with eggs parasitized by them. From Major Sage, Dharamsala, 17-ix-90."

#### *Dissolcus indicus*, sp. nov.

This new species agrees in every respect with *Dissolcus telartus* Crawford,<sup>2</sup> except that the frons is not coarsely punctate, the eyes are almost bare, and the antennae are not yellow but dark reddish brown. The

<sup>1</sup> Kieffer, *Entomol. Meddel.*, XI, p. 342. (1917); also see Kieffer, *Das Tierreich*, Lief. XLVIII, p. 37, (1926).

<sup>2</sup> Crawford, *Proc. U. S. N. Mus.*, XLI, p. 270, (1911); also see Kieffer, *Das Tierreich*, Lief. XLVIII, p. 125, (1926).

scutellum is not corrugated but has a reticulate sculpture similar to that on the mesonotum. The species is further distinguished by its much larger size—1.5 mm. instead of 0.75 mm.

This is the first record of a *Dissolcus* Ashm. from India.

*Type*.—One pinned female. Coll. C. Paiva, Calcutta, 9-vi-1907. No. 923/H3. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

#### Subfamily SCELIONINAE.

##### *Scelio horai*, sp. nov.

This species agrees in general with *Scelio fulvipes* Först.<sup>1</sup> but differs in the smaller size, frons not having transverse striae behind the antennae but uniformly and reticulately sculptured, temple and pleura not striated or grooved and in the colour of the legs. It runs into couplet 6 of Kieffer's<sup>2</sup> key to the "Indo-Asian" species, agreeing in general with *Scelio luzonicus* and *Scelio microcerus*. From the former it is distinguished mainly by the metapleura not being striate, the hairs on the head being silvery white instead of golden brown or yellow and face being reticulate; from the latter it is distinguished by the absence of striae on the cheek. I associate the name of Dr. Sunder Lal Hora with this species.

*Female*.—Length 4 mm. Black. Head sparsely clothed with short, stiff, silvery white hairs, frons umbilicately punctate, occiput reticulately sculptured, cheek without fan-shaped striae, carinae or grooves but with a coarse and reticulate sculpture. Mandibles dark brown. Antennae black. Thorax reticulately sculptured, without parapsidal furrows. Propleura reticulately sculptured. Mesopleura umbilicately punctate, its femoral groove minutely punctate. Coxae black, rest of legs dark reddish brown. Fore wings smoky brownish; stigmal vein moderately long, scarcely dilated apically but thickened basally. Abdomen linear-fusiform, longitudinally striated both dorsally and ventrally, much longer than the rest of body.

*Type*.—One pinned female with one of its antennae on a slide. Coll. S. L. Hora, Chakradharpur, at light, 24-iii-1935. No. 924/H3. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

##### *Scelio paivai*, sp. nov.

This species is easily distinguished from *S. horai* by the longitudinal striations on the frons, fan-shaped sculpture on the cheek, the almost smooth occiput, the dark reddish brown colour of legs, slightly dilated stigmal vein and the oblong-ovate abdomen. This species also agrees in the fan-shaped sculpture of cheek with *S. vulgaris* in Kieffer's key (*loc. cit.*) to the Palearctic species but differs in the colour of the leg, sculpture of head and other characters.

<sup>1</sup> Förster, *Hymen. Stud.*, II, p. 105, (1856); also see Kieffer, *Das Tierreich*, Lief. XLVIII, p. 317, (1926).

<sup>2</sup> Kieffer, *Das Tierreich*, Lief. XLVIII, p. 310, (1926).

*Female*.—Length about 4 mm. Black. Head black, with long, silvery white hairs; face longitudinally striated, cheek with a fan-shaped striation; occiput almost smooth or with a few faint punctations. Antennae dark brown. Thorax reticulately sculptured, parapsidal furrows absent. Pleurae sculptured like the rest of thorax. All legs including coxae dark reddish brown. Fore wings brown, stigmal vein slightly dilated at the tip. Abdomen oblong-ovate, very dark brown, longitudinally striate and with golden brown hairs towards the apex.

*Type*.—One pinned female. Coll. C. Paiva, on Board ship 10 miles off Coconada, Madras Presidency, 15-iv-1908. No. 925/H3. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

***Scelio calcuttaensis*, sp. nov.**

This species is easily distinguished from both *S. horai* and *S. paivai* by the umbilicate punctation of the head, the vertical carina of cheek coarse umbilicate punctation of thorax, transverse striations of the femoral furrow of the mesopleura and oblong abdomen. This species agrees in sculpture of the cheek with *S. longiventris* Kieff.<sup>1</sup> but differs in the umbilicate punctation of head and thorax, in which respects it resembles *S. vulgaris* Kieff. (*loc. cit.*).

*Female*.—Length about 3.5 mm. Black. Head black, sparsely clothed with short, brown hairs, regularly umbilicately punctate; cheek reticulate in front, with a vertical carina. Antenna very dark reddish brown. Thorax coarsely umbilicately punctate, parapsidal furrows absent. Propleura umbilicately punctate; mesopleura coarsely so, with its femoral groove finely transversely striate; metapleura umbilicately punctate. Fore wings brown, stigmal vein short. Legs including the coxae reddish brown. Abdomen black, oblong, much longer than the rest of the body, longitudinally striate.

*Type*.—One pinned female. Mus. coll., Calcutta, 13-ix-1907. No. 926/H3. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

***Platyscelio punctatus* Kieffer.**

1913. *Platyscelio punctatus*, Kieffer, *Insecta*, III, p. 21.

1926. *Platyscelio punctatus*, Kieffer, *Das Tierreich*, Lief. XLVIII, p. 555.

I refer to this species one female in the Collections of the Zoological Survey, labelled: "J. Caunter, Puri, Orissa, 4-7.xii.1908." It agrees in every respect with Kieffer's description of the species in *Das Tierreich*, except that the cubital nerve is wholly obsolete. The species was originally described by Kieffer from Los Banos, Luzon, Mount Makiling, Philippine Islands. This is the first record of a species of the remarkable genus *Platyscelio* Kieff. from India as well as from outside the Philippines and Australia. The specimen is mounted in canada balsam on a slide.

<sup>1</sup> Kieffer, *Ann. Soc. Sci. Bruxelles*, XXXII, p. 135, (1908), also see *Das Tierreich* XLVIII, p. 316, (1926).

## Superfamily CHALCIDOIDEA.

## Family CHALCIDIDAE.

## Subfamily LEUCOSPIDINAE.

**Polistomorpha paivai**, sp. nov.

This new species agrees in general with *P. indica* Mani,<sup>1</sup> the only other species known so far from India, but differs in the following characters: There are two transverse carinae on pronotum parallel to its hind margin, which is also carinate. Hind femur with 8 teeth, the last one being compound and tridentate. There is a single yellow, transverse band on pronotum along the anterior carina. Hind femur has a single irregularly-shaped yellow marking outside at the base, not extending to apex. There are only two transverse yellow bands on the dorsum of abdomen.

*Male*.—Length about 6.5 mm. (the specimen is pinned in such a manner as to make the measurement of the length difficult). Head coarsely punctate; frons densely clothed with silvery white villous hairs. Eyes dark brown, pubescent. Thorax closely umbilicately punctate. Anterior carina of pronotum short, not quite reaching the ends of the transverse yellow band, at the posterior margin of which it is situated. Posterior carina somewhat longer than the anterior carina but not reaching down to the sides of the pronotum. The posterior edge of pronotum is carinate in the middle but not at the sides. Scutellum sculptured like the rest of thorax. Propodeum with median and lateral carinae. Fore wings smoky, with a purplish iridescence.

Hind coxa densely and finely punctate, with a carinate upper edge. Hind femur umbilicately punctate and with long pilose setae, octadentate beneath; first tooth large, sharply pointed; second tooth small; third somewhat longer; fourth, fifth and sixth teeth much larger; seventh somewhat smaller; eighth tooth compound, tridentate. Abdomen deeply umbilicately punctate.

General colour of body mostly black. Hind coxae at apex, rest of all legs very dark reddish brown. There are yellow spots or markings on: scape below; a transverse band on the anterior carina on pronotum; front knee; middle tibia beneath; hind coxa above at base; hind femur outside at base, slightly continued above to basal half; apical three fourths above of hind tibia; on the dorsum of abdomen two transverse bands, the anterior short, posterior long, broken in the median line, broader at sides.

*Type*.—One pinned male. Coll. C. Paiva, Katihar, Purneah District, 4-viii-1907. No. 928/H3. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

**Epexochlaenoides pyriformis** Weld.

1921. *Epexochlaenoides pyriformis*, Weld, *Proc. U. S. N. Mus.*, LXI, pp. 35-37.

I refer to this species a series of females in the collections of the Entomological Section, Imperial Institute of Agricultural Research, Pusa labelled: Coll. Fletcher, Pusa, Parasitic on *Rhynchium*;

<sup>1</sup> Mani, *Rec. Ind. Mus.*, XXXVII, p. 243, fig. 1, (1935).

3 females, Coll. Fletcher, Dobad, Bombay, 16-vii-1917; 2 females, Coll. G. M. C., Parasitic on *Rhynchium nitidum*, Pusa, x-1908. The species was originally described from Pusa and Bombay is a new record for the species.

***Leucospis indiensis* Weld.**

1921. *Leucospis indiensis*, Weld, *Proc. U. S. N. Mus.*, LXI, p. 20.

This species was originally described by Weld from one female collected by Dr. Ramakrishna Ayyar at Coimbatore, South India. This is the first record of the species from Northern India. There is one specimen in the collections of the Zoological Survey with the label: Kankondigee, 24 Parganas, Sunderbans, Coll. Jenkins, 15-xi-1909. This differs from Ramakrishna Ayyar's specimen in the bands on pronotum being yellow and the markings on hind femur pale yellow instead of white.

***Leucospis bengalensis* Weld.**

1921. *Leucospis bengalensis*, Weld, *Proc. U. S. N. Mus.*, LXI, p. 32.

This species was described by Weld from females only collected by Dr. Ramakrishna Ayyar at Pusa. The length of some females is as much as 12 mm. In a series of specimens of this species in the collections of the Entomological Section, Imperial Institute of Agricultural Research, Pusa, I found one male, which is described below.

The male resembles the female in general but differs in the following respects: Wings brownish, the purplish iridescence slight. Scape with yellowish white marking beneath, nearly the whole of its length. Hind coxa without spots on the upper basal corner. A narrow transverse yellowish band at basal third of sixth tergite. Two long napiform markings laterally at basal two thirds on the sixth tergite.

The sixth tergite is the longest and covers over three fourths the dorsum of abdomen. Third funicular segment somewhat longer than fourth. Pronotum not rugoso-punctate.

*Allotype*.—One pinned male. Coll. Howlett, Pusa, 4-iv-1911.

***Leucospis bengalensis* var. *mackenziei*, nov.**

Differs from the typical *L. bengalensis* in the following characters:

Length 9.5 mm. The marking on pronotum relatively longer in some specimens. Propodeum without median keel or lateral carinae. Hind femur with 11 teeth, the basal tooth broad and blunt; second and third teeth minute; fourth to seventh teeth large; eighth to eleventh coalescent, rather small.

*Type*.—One pinned female. Coll. Mackenzie, Chapra.

*Paratypes*.—Two females on pin.

***Leucospis assamensis*, sp. nov.**

This new species agrees with *L. meenakshiae* Mani<sup>1</sup> in all essential characters, except for the following:

Length 10 mm. All spots and markings on body wholly gamboge yellow. Pedicel of antenna somewhat less than half the length of first funicular segment, fourth funicular segment not shorter than but equal to third funicular segment. Hind femur more closely and finely punctate

<sup>1</sup> Mani, *Rec. Ind. Mus.*, XXXVII, pp. 244-246, fig. 2, (1935).

than hind coxa; third tooth on hind femur stouter than second. The spot on frons between the eyes and antennal fovea relatively larger and contiguous with the eye and foveal borders. Anterior band on pronotum not perceptibly dilated at ends. There are no suborbicular spots on either side of mid-dorsum of mesonotum. Mesopleura unspotted. There is sometimes a minute, subelliptic spot on either side subapically on abdomen. Metanotum either entire or with very minute teeth.

*Type*.—One pinned female. Coll. S. E. Peal, Sibsagar, Assam. No. 930/H3. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

*Paratype*.—One pinned female. In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

#### Subfamily CHALCIDINAE.

#### *Spilochalcis fletcheri*, sp. nov.

This new species is erected for a specimen in the collections of the Entomological Section, Imperial Institute of Agricultural Research, Pusa. It is readily separated from *S. indica* Mani<sup>1</sup> by the brick red colour of the spots and markings on body, reticulo-punctate median segment without short, stout, blunt processes above the point of attachment of petiole of abdomen and the hind coxa being equal in length to the hind femur.

Length 5 mm. Moderately clothed with silvery white setae. Antenna about half the length of body, black above, reddish brown below and just at the tip. Second funicular segment relatively long. Both the middle and lateral lobes of mesonotum umbilicately punctate. Scutellum with a broad median groove. Median segment largely reticulo-punctate, without short, stout, blunt processes above the point of attachment of the petiole of abdomen. Hind coxa at least equal in length to hind femur. Petiole of abdomen relatively somewhat shorter.

Body black, spotted or marked brick red as below: Scape beneath. Frons from below the level of the median carinate spine between the antennal foveae. Mandibles. Orbit margined dorso-laterally. Two short, narrow, transverse bands one on either side, towards the anterior margin of pronotum. Two oval, nearly longitudinal, short bands inside of and just touching the parapsidal furrows towards anterior margin of mesonotum. Suborbicular spots at the antero-lateral outer corner of the lateral lobes of mesonotum. Two subtriangular spots at the postero-lateral angles of scutellum. Fore coxa reddish brown, rest of fore legs yellowish brown except for the black outer sides of femur and tibia. Mid legs yellowish to dark yellowish brown. Hind coxa black, unspotted. Hind femur on the outer side with one large, ovate spot basally beneath; narrow, short, longitudinal stripe subbasally above; sub-orbicular, small spot apically above; and an irregular large spot beneath subapically, not touching the row of teeth. Hind tibia wholly dark testaceous. Wings cloudy antero-apically and antero-medially.

*Type*.—One pinned female. "Coll. Fletcher, Shillong, 5,000 ft. September 1917, on rose, parasitic on *Tenthred.*"

<sup>1</sup> Mani, *Rec. Ind. Mus.*, XXXVII., pp. 252, 253, fig. 6, (1935).