

Studies on Indian Mymaridae II.

(Hymenoptera: Chalcidoidea)

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(With 6 figures)

MANI, in his catalogue of Indian Chalcidoidea (1938) recorded only six genera under the family *Mymaridae*. Since then very little work has been done in this country on this small parasitic group. Recently, SUBBA RAO & KAUR (1959) published the descriptions of several new species under the genus *Lymaenon* HAL. and a species of *Neurotes* ENOCK. The present paper deals with 3 new species belonging to the genera *Polynema* HALIDAY and *Maidliella* SOYKA. This is the first record of these genera from India. The types have been deposited in the „National Pusa Collection“, Indian Agricultural Research Institute, New Delhi.

Polynema bagicha n. sp.

Female. Head, thorax and abdomen yellow. Antennae except club, legs except pretarsi and the apical portion of the hind femora which is infuscated, slightly lighter in shade. Club and ridge of the vertex dark brown. Pretarsi and sheaths of ovipositor brownish. Eyes deep red, petiole pale white.

Head a little longer than wide. Vertex ridged, the ridge extending in front to the lower half of the inner eye border. Eyes almost of the length of genal space. A number of bristles scattered throughout, more so in the region of vertex and frons. Ocelli lie in an obtuse triangle; interocular space twice the interocellar and about three times the frontocellar; the latter twice that of the ocelocular. Antenna long and slender, measuring to about 0.9 mm. in length, slightly pubescent; radicle almost negligible; scape from its lateral aspect as broad as pedicel and about two and a half times as long as wide; F_1 to F_5 slender, F_6 slightly broader, club slightly less than four times longer its own breadth. The relative lengths of its segments from scape onwards as below:

11, 8, 12, 23, 21, 15, 11, 10, 23.

Club with two or more sensillae; last funicular segment with one (Fig. 6).

Thorax as wide as head, narrow anteriorly, broader posteriorly; almost of the length of abdomen. Bristles scattered throughout the prothorax and along anterior border of mesoscutum, the latter as long as scutellum. Parapsidal furrows arising cephalad from well-marked depressions. Cepha-

lic pair of setigerous spots on scutellum as far apart as the furrow at the apex; caudal pair closer together. Spiracular sulci present.

Petiole slightly longer than the hind coxae. Abdomen conicovate. Ovipositor shortly but evidently exerted.

Forewings hyaline, narrow and spoon-shaped; the curvature slightly more marked on cephalic than on caudal margin; with two prominent fus-

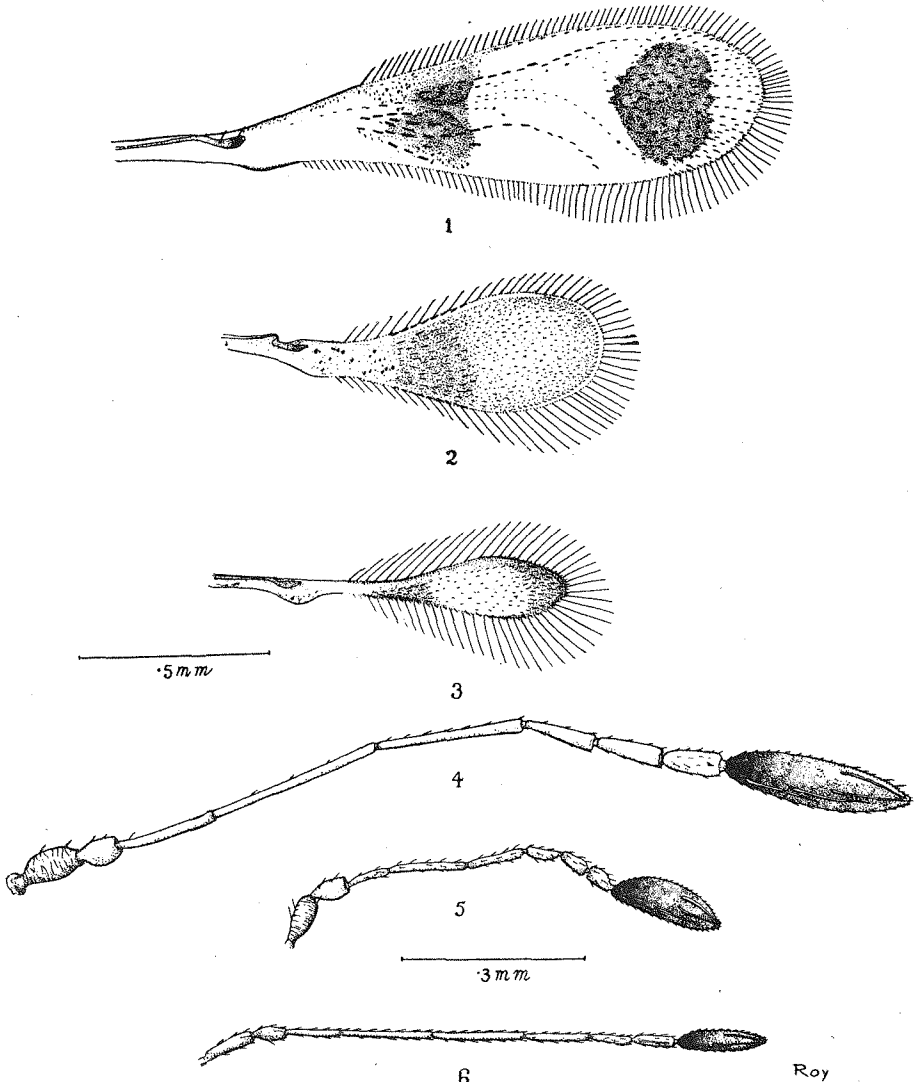


Fig. 1. Fore wing of *Maidliella orientalis* n. sp., ♀ — Fig. 2. Fore wing of *Maidliella incognita*, n. sp., ♀ — Fig. 3. Fore wing of *Polynema bagicha* n. sp., ♀ — Fig. 4. Antenna of *M. orientalis* n. sp., ♀ — Fig. 5. Antenna of *M. incognita* n. sp., ♀ — Fig. 6. Antenna of *P. bagicha* n. sp., ♀

cous spots, one disto cephalic, the other almost in the middle from where the surface hairs start. Discal cilia in about 13 rows across the widest portion of the blade. The lower margin just opposite to the marginal vein being curved markedly. Marginal fringe long, the longest cilia being a little over the greatest wing width. Length almost six and a half times the greatest width (Fig. 3).

Legs long and slender. Hind tarsus about equal in length to its tibia as well as to the combined length of its femur plus trochanters; metatarsus as long as the rest of the segments combined.

Length: 1.08 mm.

Male: Head and thorax brownish yellow. Vertex, distal two or three segments of abdomen, distal half of the hind femora as well as that of the antenna and pretarsi brown. Petiole pale white. The rest yellow.

Head wider than long. Eyes more than the length of the genal space. Ocelli lie in an obtuse triangle; anterior ocellus slightly bigger than the other two. Interocellar space almost thrice the frontocellar and about half the interocular space. Antennae situated near the mid-inner border of the eyes; sockets thrice their own diameter apart; scape thick and short, slightly more than one and a half times as long as wide, a little less than one and a half times the length of pedicel; pedicel short, almost as long as wide; the following segments almost equal to one another.

Thorax, wings, legs and petiole as in female. Abdomen less than the length of thorax, a little longer than wide, widest in the middle and gradually tapering both ways.

Length: varies from 0.96 to 0.99 mm.

Described from three females and 2 males. All on slides.

Coll.: R. B. KAUR; 17. 8. 1957.

Locality: Delhi; Sweeping lucerne and mulberry.

Holotype: ♀ Delhi, 17. 8. 1957, R. B. KAUR leg.

Maidliella orientalis n. sp.

Female: Body honey yellow; head slightly darker in shade. Club, pretarsi, ridge of the vertex, exserted portion of the ovipositor and its sheath brown. Hind femur and tibia infuscated on their apical borders.

Head slightly wider than long, with minute scattered bristles, more so in the region of vertex and frons. Eyes small. Cheeks more than the length of eyes. Ocelli lie in an obtuse triangle; interocular space almost twice the frontocellar and five times the ocelocular. Antenna less than the length of the body; scape thick, short and asperated, a little over one and a half times as long as thick; pedicel almost twice longer than broad. The relative lengths of the antennal segments as below:

7, 6, 11, 19, 17, 8.5, 8, 6.5, 20.

Funicular segments slender, F_1 about ten times as long as broad, F_1 to F_3 of equal thickness, from F_4 to F_6 there is a gradual increase in thickness, F_6 about four times longer than wide; club with four longitudinal sensillae (Fig. 4).

Thorax elongate oval, narrow anteriorly. Prothorax conical as usual and with five bristles on each side arranged one below the other, four almost equidistant, fifth far below. Mesoscutum longer than scutellum, with a pair of bristles in its anterior portion. Parapsidal furrows complete. Cephalic pair of bristles on scutellum as far apart as the furrow at the apex. Spiracular sulci prominent.

Petiole almost of the length of the caudal coxae. Abdomen longer than thorax, conical apically; the first tergite widest at its base but gradually tapers anteriorly. Ovipositor exerted to about 0.18 mm.

Forewings almost four times as long as wide, narrow proximad, gradually and evenly expanded distad, apex smoothly rounded. Marginal vein short. Two fuscous fascia present, one almost in the middle, second in the mid apical half, the latter comparatively larger. The arrangement of surface hairs quite irregular, more concentrated in the apical half; prominent brown bristles present in the first fascia, arranged in horizontal rows out of which two such rows extend to the second fascia (the exact arrangement is shown in Fig. 1). Cilia on the caudal margin longer, the longest being less than half the greatest wing width. Hind wing less than the length of the forewing.

Legs long; tarsi longer than their respective tibiae by about 0.13 mm. Hind legs the longest; its tarsus longer than the mid tarsus; tibia more than the combined length of its femur plus trochanter; hind coxae very long, almost of the length of mid femur. Fore femur equal to the length of hind femur. Mid femur the shortest.

Length: 1.86 mm.

Male: Exactly similar to female except in antennae. Antennae with basal two or three segments yellow, the rest brownish scape and pedicel almost of equal lengths, each about one and a half times as long as wide; the following segments of almost equal lengths.

Length: About 1.82 mm.

Described from a single female and a single male, mounted on slides.

Coll.: R. B. KAUR, 17. 5. 1957.

Locality: Delhi, sweeping lucerne and mulberry.

Holotype: ♀ Delhi, 17. 5. 1957, R. B. KAUR leg.

Maidliella incognita n. sp.

Female: Body yellow. Antennal club, pretarsi and ovipositor sheath brown. Midtibiae, hind tibiae and hind femur infuscated. The rest of the legs and petiole paler in shade.

Head as in *M. orientalis*. Antennae less than half the length of the body; scape asperated, twice longer than broad; pedicel almost twice as long as broad; F₁ to F₃ slender, F₄ to F₆ clearly broader; club almost four times longer than broad. The relative lengths of the antennal segments as below:

11, 9, 10, 18, 14, 8, 7.5, 7, 27.

Thorax similar to that of *M. orientalis*, except the number and arrangement of bristles which are more numerous (16 to 18) and scattered throughout the region of prothorax. Scutum with ten such bristles arranged along the anterior margin (Fig. 2).

Petiole of same or slightly less than the length of the caudal coxae. Abdomen like that of *M. orientalis* except the length of ovipositor which is exerted to 0.09 mm.

Forewings three and a half times as long as broad. Only one fuscous fascia in about its middle having about 12 rows of strong brown bristles. The proximal half of the wing i. e. up to the fascia is clear; the rest hyaline. Marginal fringe half the greatest wing width. Hind wing shorter.

Legs normal. Hind tarsus equal in length to its tibia but longer than the combined length of its femur plus trochanters. Mid tarsus almost of the length of hind tarsus but longer than its own tibia.

Length: 1.5 mm.

Described from a single female on slide.

Coll.: R. B. KAUR; 14. 6. 1957.

Locality: Delhi; Sweeping lucerne and mulberry.

Type: ♀, Delhi, 14. 6. 1957, R. B. KAUR leg.

Key to the Indian species of *Maidliella* SOYKA

Females:

1. Antennae more than half the length of the body. Forewings with two fuscous fascia; the longest marginal cilia less than half the greatest wing width
 *M. orientalis* n. sp.
- Antennae less than half the length of the body. Forewings with one fuscous fascia in about its middle. The longest marginal cilia half the greatest wing width
 *M. incognita* n. sp.

Acknowledgement

We are grateful to Dr. O. BAKKENDORF, Specialist, *Microhymenoptera*, Denmark, for his kind suggestions.

Summary

The present paper deals with 3 new species, belonging to the genera *Polynema* HALIDAY and *Maidliella* SOYKA, the first record of these genera from India.

Zusammenfassung

In der vorliegenden Arbeit werden 3 neue Arten der bisher aus Indien unbekanntem Gattungen *Polynema* HALIDAY und *Maidliella* SOYKA beschrieben.

Резюме

В настоящей работе описываются 3 новых вида, известных до сих пор из Индии родов *Polynema* HALIDAY и *Maidliella* SOYKA.

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Untersuchungen über die qualitative und quantitative Zusammensetzung der Arthropodenfauna in den Kiefernkronen

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(Mit 4 Textfiguren)

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Vorbemerkung

Die vorliegende Arbeit wurde im Rahmen einer größeren Untersuchung über die Beziehungen der Heteropteren zu *Pinus silvestris* durchgeführt und bezieht sich als eine „Inventaraufnahme“ auf den Lebensraum „Kiefernwald“, der als forstliches Kunstprodukt einen großen wirtschaftlichen Wert besitzt und durch seine Einheitlichkeit als Phytoassoziation die Untersuchung und Auswertung vereinfacht. Neben der typischen Artenkombination dieses Biotops interessierte ein Einblick in die quantitative und qualitative Zusammensetzung der Arthropodenfauna. Unsere Kenntnisse über diesen Tierverein sind noch recht mangelhaft, abgesehen von der Bionomie einiger Großschädlinge.