

Additions to the knowledge of the genus *Hylomesa* Krombein (Hymenoptera: Thynnidae: Myzininae) from India

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Abstract. The species, *Hylomesa anomala* Krombein, 1982 is newly reported from India. *Hylomesa longiceps* (Turner, 1918) is new district records from Arunachal Pradesh and Kerala. A map showing the distribution of the newly reported species and illustrations of species are also provided here. Diagnostic features of *Hylomesa anomala* Krombein and *Hylomesa longiceps* (Turner, 1918) are also provided. A key to species from the Indian subcontinent modified from Krombein, 1968 & 1982 is also provided.

Key words: Thynnid wasp, Kerala, ectoparasitoid.

Introduction

The family Thynnidae comprises a diverse group of solitary wasps commonly known as thynnid wasps or flower wasps. The recent molecular phylogenetic studies suggests that the subfamily Myzininae belongs to the family Thynnidae (Pilgrim *et al.*, 2008; Debevec *et al.*, 2012). The members of this family are well known for their ecological role as parasitoids of cerambycid beetle larvae and for their distinct sexual dimorphism (Kimsey, 1991; Ramoutar & Legrand, 2007). The genus *Hylomesa* Krombein, 1968 belongs to the subfamily Myzininae is represented by only 3 species from India (Krombein, 1968, 1982; Tsuneki, 1986; Bartalucci, 2004; Hanima & Girish Kumar, 2020). This genus is characterised by the following features: relatively long head, two-toothed mandibles and the convex anterior surface of mesopleuron. In the present paper, the species *Hylomesa anomala* Krombein, 1982 is newly reported from India. A key to species from the Indian subcontinent is also provided.

Material and methods

The specimen was collected from a rotten wood at Chethalayam forest of the Wayanad Wildlife Sanctuary of Keralam (India). The specimen were examined under LEICA® M205A stereomicroscopes and imaged using LEICA® DFC 450 digital cameras attached. Measurements were obtained using Leica® LAS (Leica Application Suite V3.80) microsystems and the final illustrations were post-processed for contrast and brightness using Adobe® Photoshop CS5 (ver. 12.0) software. The studied specimen is deposited at ZSIK.

The terms used for morphology followed Krombein (1982).

The following abbreviations were used for the morphological characters in the text:

LOL — Lateral Ocellar Length (distance between anterior ocellus and posterior ocellus); **OOL** — Ocello Ocular Length (distance between anterior ocellus and eye); **POL** — Posterior Ocellar Length (distance between the two posterior ocelli).

The following abbreviations have been used for depositories:

NHMUK — The Natural History Museum, London, UK; **USNM** — National Museum of Natural History, Washington, D.C., USA; **ZSIK** — Zoological Survey of India, Western Ghat Regional Centre, Kozhikode, India.

Results

Taxonomic Accounts

Order: Hymenoptera Linnaeus, 1758

Superfamily: Vespoidea Latreille, 1802

Family: Thynnidae Leach, 1815

Subfamily: Myzininae Rohwer, 1916

Genus: *Hylomesa* Krombein, 1968

Hylomesa anomala Krombein, 1982

(Figures. 1–9)

Hylomesa anomala Krombein, 1982: 82–84. Holotype male, Sri Lanka: Thawalantenne, Kandy District (USNM).

Material examined. India: Keralam, Wayanad district, Chethalayam (11°44'23.63" N, 76°14'21.3" E, Alt. 936 m), 1 female, 17.ii.2025, Coll. M. Jafer Palot & Party, ZSIK Regd. No. ZSI/WGRC/I.R.-INV.29609.

Diagnosis. Female. Pronotum without ridge anteriorly, anterior two-thirds with coarse, confluent punctures, more separated at sides, posterior third with scattered small punctures (Fig. 4); upper half of front with very few scattered punctures behind ocelli, lower half of front with moderately spaced punctures (Fig. 2); OOL $2.3 \times$ POL and $2.8 \times$ LOL (Fig. 2); mesoscutum with coarse punctures, separated anteriorly by about the diameter of a puncture and contiguous posteriorly (Fig. 4); scutellum with more separated punctures (Fig. 4); mesopleural disk with coarse, contiguous punctures anteriorly, separated punctures posteriorly (Fig. 7); dorsal

surface of propodeum adjacent to median cuneate space with small punctures, large, contiguous along posterior margin (Fig. 4); posterior surface of propodeum with confluent punctures; fore wing with dark infumations (Fig. 6); disk of first tergum not ridged anteriorly (Fig. 9); gastral tergites with small, separated punctures (Fig. 8).

Colour. Black except head (apical part of mandible black), scape, pedicel and first flagellar segment reddish.

Size. 12 mm.

Distribution. India (**new record**): Kerala; Sri Lanka (Krombein, 1982).

Additional species examined in the present study

1. *Hylomesa longiceps* (Turner, 1918)

(Figures 10–19)

Elis (Mesa) tricolor longiceps Turner, 1918: 87. Type female, Assam, Dibrugarh (NHMUK).

Material examined. India: **Arunachal Pradesh**, West Siang district, Kambang (28°14'21" N, 94°39'25" E, Alt. 318 m), 1 female, 14.x.1988, Coll. S.K. Tandon & Party, ZSIK Regd. No. ZSI/WGRC/I.R.-INV.29609. **Keralam**, Kannur district, Kannapuram (11°58'04"N & 75°19'08"E, Alt. 7 m), 1 male, 27.v.2018, Coll. C. Chareh, ZSIK Regd. No. ZSI/WGRC/I.R.-INV.25707.

Diagnosis. Male. Pronotal disk anteriorly with a single strong transverse ridge, behind with transverse wrinkles, anterior two-thirds with coarse punctures, more separated at sides, posterior third with scattered small punctures (Fig. 13); upper half of front of with very few scattered punctures behind ocelli, lower half of front with coarse, adjacent punctures (Fig. 11); mesoscutum and scutellum with coarse, confluent punctures (Fig. 13); mesopleural disk with large, coarse, contiguous punctures (Fig. 16); dorsal surface of propodeum adjacent to median cuneate space with elongated, irregular punctures (Fig. 13); fore wing with dark infumations on apical half and hyaline basal half (Fig. 15); disk of first tergum ridged anteriorly (Fig. 19); gastral tergites with small punctures (Fig. 17); sternal segments 5 and 6 with tuft of setae apically (Fig. 18).

Colour. Black except head (apical part of mandible black), scape, pedicel and first four flagellar segment reddish.

Size. 11.6 mm.

Distribution. India: Arunachal Pradesh (**new record**), Assam, Keralam (**new record**). *Elsewhere*: Myanmar; Malaysia; Philippines; Sri Lanka (Hanima & Girish Kumar, 2020).



Figures 1-9. *Hylomesa anomala* Krombein, female, 1. Habitus, lateral view; 2. Clypeus; 3. Mesosoma, dorsal view; 4. Antennae; 5. Wing; 6. Mesosoma, lateral view; 7. Metasoma, dorsal view; 8. Metasomal segment 1 absence of anterior carina.



Figures 10-19. *Hylomesa longiceps* (Turner, 1918), male, 10. Habitus, lateral view; 11. Head, frontal view; 12. Clypeus; 13. Mesosoma, dorsal view; 14. Antennae; 15. Wing; 16. Mesosoma, lateral view; 17. Metasoma, dorsal view; 18. Metasoma, lateral view; 19. Metasomal segment 1 with anterior carina.

Key to the species of *Hylomesa* from the Indian subcontinent (modified from Krombein, 1968 & 1982)

(The females are unknown in *H. crassepunctata* and *H. dimidiaticornis*)

1. Females; metasoma with six visible segments; antenna apparently only 11-segmented because of the nearly entirely recessed pedicel. 2
- Males; metasoma with seven visible segments; antenna apparently only 12-segmented because of the recessed pedicel. 3
2. Inferior margin of hind femur sharply right-angled near apex; upper half of front with widely separated punctures, vertex with very few scattered punctures behind ocelli. ***Hylomesa anomala* Krombein, 1982**
- Inferior margin of hind femur obtusely angulate in middle; front mostly contiguously to subcontiguously punctate, vertex with subcontiguous punctures immediately behind ocelli, mostly impunctate posteriorly.
..... ***Hylomesa longiceps* (Turner, 1918)**
3. Intermediate flagellar segments with length and width subequal; ocellocular and ocelloccipital distances subequal; pronotal disk anteriorly with one weak, transverse ridge; head and pronotum red.
..... ***Hylomesa crassepunctata* (Turner, 1914)**
- Intermediate flagellar segments with length 1.2–1.5 × the width; ocellocular distance 0.6–0.7 × the ocelloccipital distance; pronotal disk anteriorly either with a single strong ridge or with three weak ridges; head usually red and pronotum always black. 4
4. Sternum 5 and 6 each with the posterior area clothed with dense, short, velvety vestitures; pronotal disk anteriorly with three weak transverse ridges.
..... ***Hylomesa dimidiaticornis* (Bingham, 1896)**
- None of sterna with velvety vestitures; pronotal disk anteriorly with a single strong transverse ridge. 5
5. Sternum 2 to 4 with scattered suberect discal setae, fifth and sixth with patch of dense setae posteriorly. ***Hylomesa longiceps* (Turner, 1918)**
- Sternum 2 to 5 with scattered suberect discal setae, sixth with a patch of dense suberect longer hair on posterior two-thirds.
..... ***Hylomesa anomala* Krombein, 1982**

Discussion

The species *Hylomesa anomala* was originally described by Krombein in 1982 from Sri Lanka and there was no report of this species from India until this study. In the present study, this species is newly recorded from India. The species *Hylomesa longiceps* (Turner, 1918) is a widely distributed species reported from Sri Lanka, India, Myanmar, Malaysia, and Philippines. In India, it is recorded from Assam. In the present study, this species is also reported from Keralam and Arunachal Pradesh. With the present study on the genus *Hylomesa* from India, there are a total of 4 species of *Hylomesa* recorded from India: *H. anomala*

Krombein, 1982, *H. crassepunctata* (Turner, 1914), *H. dimidiaticornis* (Bingham, 1896), and *H. longiceps* (Turner, 1918).

Acknowledgments

The authors are grateful to Dr. Dhriti Banerjee, Director, Zoological Survey of India, Kolkata, and Dr. V.D. Hegde, Scientist-F & Officer-in-Charge, Western Ghat Regional Centre, Zoological Survey of India, Kozhikode, for providing facilities and encouragements. The authors thank Dr. M. Jafer Palot & Party (especially Mr. T.K. Viswanath, Senior Research Fellow) of Western Ghat Regional Centre, Zoological Survey of India, Kozhikode, for collecting the rarely occurring specimen. SA acknowledges the authorities of University of Calicut for Ph.D. Registration. The authors are also thanking the officials of the Forest Department for issuing the necessary permission to visit various localities and collect the samples from Wayanad Wildlife Sanctuary.

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Received: 10-05-2026

Accepted: 10-07-2026

Published: 25-07-2026