



Short Communication

First record of three species of Hairy Wasps (Hymenoptera: Scoliidae) from Madhya Pradesh

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Abstract

Three species of scoliidae wasps, namely, *Scolia (Discolia) fasciatopunctata dunensis* Betrem, *S. (D.) binotata binotata* Fabricius, and *S. (D.) mixta* (Fabricius) are reported here for the first time from Madhya Pradesh. An updated checklist of scoliid species from Madhya Pradesh is also provided.

Keywords: First Record, Hymenoptera, Madhya Pradesh, Scoliidae

Introduction

The family Scoliidae (Hymenoptera: Vespoidea) is a group of most primitive solitary aculeate wasps. They are commonly known as hairy wasps, having a wide distribution but predominantly found in tropical countries (Tüzün and Bağrıaçık, 2000). The family consists of about 560 species, 220 sub-species distributed among 43 genera, 28 sub-genera in two sub-families viz., Proscoliinae and Scoliinae (Osten, 2005). Seventy-nine species under 14 genera have been reported from India till date (Gupta and Jonathan, 2003; Schulten *et al*, 2011).

In this paper, we studied the scoliid specimens collected from Dumna Nature Park, Jabalpur, Madhya Pradesh. The Park is a forest area and ecotourism site located in the Jabalpur district. The park is spread in 1058 ha area and situated at an elevation of about 460 m from the mean sea level. There is no record of scoliid wasp fauna of the Dumna Nature Park till date.

Material and Methods

The present study is based on the collections from different localities of the Dumna Nature Park, Jabalpur. The insect specimens collected are preserved in the Department of Bio-science, Rani Durgavati Viswavidyalaya, Jabalpur but eventually will be transferred to the Park.

The following abbreviations used in the text for the Museums: NZC - Zoological survey of India, Kolkata, India; ZMUC - Zoologisk Museum, Koebenhavns Universitet, Denmark.

Abbreviations used for the terms: S = Abdominal sterna; T = Abdominal terga.

Results

We identified 3 species belonging to the family Scoliidae, namely, *Scolia (Discolia) fasciatopunctata dunensis* Betrem, *S. (D.) binotata binotata* Fabricius, and *S. (D.)*

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mixta (Fabricius). These are reported for the first time from Madhya Pradesh. An updated checklist of scoliid species from Madhya Pradesh is also provided.

Systematic Account

Order HYMENOPTERA
Superfamily VESPOIDEA
Family SCOLIIDAE
Subfamily SCOLIINAE
Tribe **Scoliini**
Genus **Scolia** Fabricius

- 1. *Scolia (Discolia) binotata binotata*** (Fabricius, 1804)
1804. *Scolia binotata* Fabricius, 244, ♂, Tranquebar (ZMUC).
1978. *Scolia (Discolia) binotata binotata*; Krombein, 41- 43.

Diagnosis: Female: Dorso-median area of propodeum with moderately large, deep punctures, dorso-lateral area impunctate at its inner half; T1 with prominent antero-median tubercle; S2 with weak basal tubercle.

Colour: Body black, T3 and T4 with paired, large rounded red spots. Vestiture black, except white on occiput. Wings medium to dark brown, forewing anteriorly darker with bluish reflections.

Length: 16 mm.

Material examined: INDIA: Madhya Pradesh, Jabalpur district, Dumna Nature Park, 11♀, 19.x.2015, Coll. Altat Hussain Sheikh.

Distribution: India: Andhra Pradesh, Arunachal Pradesh, Assam, Delhi, Diu, Karnataka, Kerala, Madhya Pradesh (new record), Maharashtra, Manipur, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttarakhand, Uttar Pradesh, West Bengal. *Elsewhere:* Sri Lanka.

- 2. *Scolia (Discolia) fasciatopunctata dunensis*** (Betrem, 1928)
1928. *Scolia (Scolia) dunensis* Betrem, 251, ♂, Dehra Dun, India (NZC).
1964. *Scolia (Discolia) dunensis*; Betrem & Bradley, 92.

Diagnosis: Female: Front almost impunctate with few fine punctures along ocellar area; scapulae and

mesoscutum with close to sub-contiguous punctures; scutellum with dense punctures at anterior half, posterior half almost impunctate; raised clypeal disc impunctate.

Colour: Integument and vestiture black; metasoma with faint bluish reflections; T3 with light to dark red band which may be narrow to broad, sometimes band interrupted or constricted at middle. Wings dark brown with predominant bluish reflections.

Male: Antennal flagellum not clavate towards apex.

Colour: Integument and vestiture entirely black. Wings light brown, forewing darker anteriorly, with coppery reflections.

Length: Female, 16-22 mm; Male, 11-15 mm.

Material examined: INDIA: Madhya Pradesh, Jabalpur district, Dumna Nature Park, 7♀ & 6♂, 8.x.2015, Coll. Altat Hussain Sheikh.

Distribution: India: Delhi, Himachal Pradesh, Madhya Pradesh (new record), Maharashtra, Odisha, Uttarakhand, Uttar Pradesh, West Bengal.

- 3. *Scolia (Discolia) mixta*** (Fabricius, 1798)
1798. *Tiphia mixta* Fabricius, 254, ♀, Tranquebar, India (ZMUC).
1964. *Scolia (Discolia) mixta*; Bradley, 17.

Diagnosis: Female: Dorso-median area of propodeum with mostly subcontiguous punctures, dorso-lateral area not broadly impunctate anteriorly; upper plate of metapleuron with small, close punctures at its upper third, lower two-thirds impunctate; clypeal disc impunctate in middle.

Colour: Integument reddish brown and yellow. Head almost entirely bright yellow, following ferruginous: mandibles; scapus; antennal flagellum except at flagellum apically; frontal area; streak behind posterior ocelli extended between upper eye orbits; gena and temple partly. Mesosoma predominantly ferruginous, following bright yellow: pronotum entirely; scutellum; metanotum except sometimes being ferruginous. Metasoma ferruginous with broad yellow bands on T2-T4, that on T2 and T3 covering almost entire dorsal surface, that on

T4 very broad but usually interrupted in middle. Vestiture almost entirely reddish except for apical fringes on T2–T6, having fiery tinge. Wings yellowish hyaline, forewing with well defined dark apical mark.

Length: 17 mm.

Material examined: INDIA: Madhya Pradesh, Jabalpur district, Dumna Nature Park, 5♀, 16.xi.2015, Coll. Altaf Hussain Sheikh.

Distribution: India: Karnataka, Gujarat, Madhya Pradesh (new record), Tamil Nadu.

PLATE 1



1. *Scolia (D.) binotata binotata* Fabricius Female



2. *Scolia (D.) fasciatopunctata dunensis* Betrem Female



3. *Scolia (D.) fasciatopunctata dunensis* Betrem Male



3. *Scolia (D.) mixta* (Fabricius) Female

Checklist of Scoliidae of Madhya Pradesh

- (1). *Campsomeriella (Campsomeriella) collaris collaris* (Fabricius, 1775) - India: Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Bihar, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Lakshadweep, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttarakhand, Uttar Pradesh, West Bengal. *Elsewhere:* Nepal; Sri Lanka.
- (2). *Megacampsomeris reticulata* (Cameron, 1892) - India: Andhra Pradesh, Delhi, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu.

- (3). *Scolia (Discolia) affinis* Guerin, 1838 - India: Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Odisha, Pondicherry, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal. *Elsewhere:* Bangladesh, Myanmar, Nepal, Pakistan.
- (4). *Scolia (Discolia) binotata binotata* Fabricius, 1804 - India: Andhra Pradesh, Arunachal Pradesh, Assam, Delhi, Diu, Karnataka, Kerala, Madhya Pradesh (new record), Maharashtra, Manipur, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttarakhand, Uttar Pradesh, West Bengal). *Elsewhere:* Sri Lanka.

- (5). *Scolia (Discolia) cruenta* Klug, 1805 -India: Bihar, Chhattisgarh, Delhi, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.
- (6). *Scolia (Discolia) fasciatopunctata dunensis* Betrem, 1928 - India: Delhi, Himachal Pradesh, Madhya Pradesh (new record), Maharashtra, Odisha, Uttarakhand, Uttar Pradesh, West Bengal.
- (7). *Scolia (Discolia) mixta* (Fabricius, 1798) - India: Karnataka, Gujarat, Madhya Pradesh (new record), Tamil Nadu.

Summary

Three species of scoliid wasps, namely, *Scolia (Discolia) fasciatopunctata dunensis* Betrem, *S. (D.) binotata binotata* Fabricius, and *S. (D.) mixta* (Fabricius) are reported here for the first time from Madhya Pradesh. All

these three species were collected from Dumna Nature Park, Jabalpur. An updated checklist of scoliid species from Madhya Pradesh is also provided.

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References

- Betrem, J. G., 1928. Monographie der Indo-Australischen Scoliiden mit zoogeographischen Betrachtungen. *Treubia*, **9** (suppl.): 1-388, 5 plates.
- Betrem, J. G. and Bradley, J. C., 1964. Annotations on the genera *Triscolia*, *Megascolia* and *Scolia* (Hymenoptera: Scoliidae) (Second Part). *Zool. Meded.*, **40**: 89-96.
- Bradley, J. C., 1964. The Fabrician types of Scoliidae (Hymenoptera), with notes and an appendix by J. G. Betrem. *Spolia zool. Mus. Haun.*, **21**: 1-38.
- Fabricius, J.C. 1798. *Supplementum Entomologiae Systematicae*: 572 pages. Hafniae. (Proft and Storch).
- Fabricius, J. C., 1804. Systema Piezatorum Secundum, Ordines, Genera, Species, Adiectis Synonymis, Locis, Observationibus, Descriptionibus. *Brunschweig*, XIV+[15]-[440]+[1]-30pp.
- Gupta, S. K. and Jonathan, J. K., 2003. Fauna of India and the adjacent countries, Hymenoptera: Scoliidae, 1-277 (Published by the Director, Zoological Survey of India, Kolkata).
- Krombein, K. V., 1978. Biosystematic studies of Ceylonese wasps, II: A monograph of the Scoliidae (Hymenoptera: Scoliidae). *Smithsonian Contr. Zoology*, **238**: 1-56.
- Osten, T., 2005. Checkliste der Dolchwespen der Welt (Insecta: Hymenoptera, Scoliidae), 62. *Ber. Naturforsch. Ges. Augsb.*: 1-62.
- Schulten, G. G. M., Feijen, H. R. and Feijen, C., 2011. The genus *Bellimeris* Betrem (Hymenoptera: Scoliidae, Campsomerinae). *Zool. Meded.*, **85**: 887-903.
- Tüzün, A. and Bağrıaçık, N., 2000. Some Faunistic Records on The Scoliidae (Insecta: Hymenoptera) Species in Balıkesir, İzmir, Manisa and Muğla Provinces. *Selçuk University Journal of Science*, **17**: 1-13.