

A NEW RECORD OF *SCOLIA (DISCOLIA) FASCIATOPUNCTATA DUNENSIS* BETREM (INSECTA: HYMENOPTERA: SCOLIIDAE) FROM THE WESTERN GHATS OF MAHARASHTRA, INDIA

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The family Scoliidae is a group of aculeate fossorial wasps with solitary habits and belongs to the superfamily Vespoidea of the order Hymenoptera. Representatives of this family are robust, their body size varying from 5–35 mm, seldom up to 50mm, and are popularly called ‘hairy wasps’ or ‘hairy flower wasps’. These insects are usually black and bear yellow, with red or white markings (spots or band). Their wings are dark brown and show metallic or blue iridescence. Males are slender than females and have longer antennae; often both sexes show variation pattern. Though cosmopolitan in distribution, they are predominantly found in tropical regions. Adult wasps are flower visitors and feed on nectar whereas their

larvae are parasitoids of ground dwelling larvae of the family Scarabaeidae. Bingham (1897) provided a consolidated account on Scoliidae fauna of the Indian subcontinent and recorded 53 species of true scoliids. Later, this insect group was pursued by Betrem (1928), Jonathan & Gupta (1999a, 1999b, 2003), Gupta & Jonathan (2003), Gupta (2007), Kumar & Kazmi (2008, 2012), Kumar (2009a, 2009b, 2010), and Bhattacharjee et al. (2010).

The members of this family can be easily distinguished from other wasps in having: wings finely membranous apically and wrinkled (i.e., striolate) longitudinally; meso- and metasternum form a flat plate overlying the bases of the middle- and hind coxae, and propodeum divided into three by two longitudinal grooves passing through both disc and declivity (Krombein 1978).

Worldwide, this family is represented by about 300 species under 35 genera and two subfamilies (Proscoliinae and Scoliinae). In India, 79 species under 13 genera in the subfamily Scoliinae have been reported till date. From Maharashtra State, the scoliid fauna is represented by 10 species under six genera (Gupta & Jonathan 2003; Kumar 2010; Kumar & Kazmi 2012).

In this communication *Scolia (Discolia) fasciatopunctata dunensis* Betrem is reported for



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|----------------|---------------|-----------------|------------|------------|-----------------------|---------------------|---------|
| DD | LC | NT | VU | EN | CR | EW | EX |

Scolia (Discolia) fasciatopunctata dunensis



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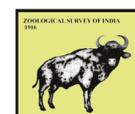
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the first time from the Western Ghats, based on the specimens collected from Pune and Kolhapur districts of Maharashtra. Before this, the subspecies was known from Delhi (I.A.R.I. Campus), Himachal Pradesh (Kangra), Odisha (Gopalpur), Uttarakhand (Dehradun, Chilla), Uttar Pradesh (Khurja), and West Bengal (Kolkata). The species *Scolia fasciatopunctata* Guerin is represented by two subspecies which can be distinguished by the key.

Methods

The scoliids were collected at different localities in Pune and Kolhapur districts of Maharashtra. Both the districts are part of the Western Ghats of Maharashtra state. All the specimens were captured by sweep net and killed by ethyl acetate and preserved as dry. Later, the specimens were relaxed, properly spread and held on entomological pins (No. 2; size: 40x0.38 mm) for further taxonomic treatment. The specimens were studied under a Lawrence & Mayo stereozoom microscope. All identified specimens were labeled, duly registered and deposited at the Western Regional Centre of the Zoological Survey of India, Pune. The nomenclature and identification is followed after Krombein (1978) and Gupta & Jonathan (2003).

Scolia (Discolia) fasciatopunctata dunensis Betrem, 1928

1928. *Scolia (Scolia) dunensis* Betrem, Treubia, 9 (suppl.): 251, (key), (des.). Male, Dehradun, India (holotype in Z.S.I., Calcutta).

1964. *Scolia (Discolia) dunensis* Betrem: Betrem & Bradley, Zool. Meded, 40: 92 (new subgeneric assignment).

Material examined: Two females (Ent. 6/196), Adarwadi, Tamhini Ghat, two males (Ent.6/197), Dongarwadi, Tamhini Ghat (Mulshi), 12.x.2012; one Female (Ent.6/202) and one male (Ent.6/203), Pune University Campus, Pune (Haveli), 14.x.2012; two females (Ent.6/206), Dimbhe Budruk, one female (Ent.6/277), Ahupe Village, one male (Ent.6/278), near bridge on road to Dimbhe Dam, (Ambegaon), 20.iv.2012; one female, on Button grass flowers, Bhor (Bhor), 6.xi.2012, (Ent.6/214); one female (Ent.6/220) and one male (Ent.6/221), Donaje Village, at the base of Sinhagad fort (Haveli), 23.xi.2012; one female, Chikhalgaon (Rajgurunagar), 15.vi.2012, (Ent.6/228); one female (Ent.6/243), Pawana-nagar (Mawal), 18.vii.2012; one female (Ent.6/298), Pabal (Shirur), 15.iv.2013, all collections by Manoj Jadhav from Pune District; two females (Ent.6/238), Shivaji University Campus, Kolhapur (Karveer), Kolhapur District, 14.i.2013, collection by Yogesh Koli (Table 1).

Distribution: Delhi, Himachal Pradesh, Maharashtra (Pune & Kolhapur), Odisha, Uttarakhand, Uttar Pradesh and West Bengal.

A distribution map (Fig. 1) for *S. (Discolia) fasciatopunctata dunensis* in India is provided based on the published records and present collection made from the Pune and Kolhapur districts of Maharashtra. The latitudinal distribution of this subspecies lies in the range of 16°N–32°N latitude while its altitudinal range varies from 12–1172 m.

Diagnosis: Female (Image 1): Integument and vestiture black, abdomen with faint blue reflecting surface, third tergite with light to dark red band which may be narrow to broad, sometimes the band is

Table 1. Details of collection locations of *S. (Discolia) fasciatopunctata dunensis* in Maharashtra, India.

| Locality | Taluk | District | Latitude | Longitude | Altitude (m) |
|-------------------------------------|--------------|----------|----------|-----------|--------------|
| Adarwadi (Tamhini Ghat) | Mulshi | Pune | 18.427°N | 73.402°E | 519.99 |
| Dongarwadi (Tamhini Ghat) | Mulshi | Pune | 18.433°N | 73.401°E | 545.29 |
| University of Pune campus, Pune | Haveli | Pune | 18.553°N | 73.823°E | 583.39 |
| Dimbhe Budruk | Ambegaon | Pune | 19.087°N | 73.746°E | 696.47 |
| Near Dimbhe dam | Ambegaon | Pune | 19.089°N | 73.743°E | 662.59 |
| Ahupe | Ambegaon | Pune | 19.205°N | 73.584°E | 234.69 |
| Bhor | Bhor | Pune | 18.152°N | 73.840°E | 604.11 |
| Donaje village near Sinhagad fort | Haveli | Pune | 18.362°N | 73.767°E | 1172.57 |
| Chikhalgaon | Rajgurunagar | Pune | 18.572°N | 73.558°E | 587.96 |
| Near Pawna dam | Mawal | Pune | 18.646°N | 73.454°E | 624.23 |
| Pabal | Shirur | Pune | 18.825°N | 74.056°E | 664.73 |
| Shivaji University campus, Kolhapur | Karveer | Kolhapur | 16.677°N | 74.257°E | 607.16 |

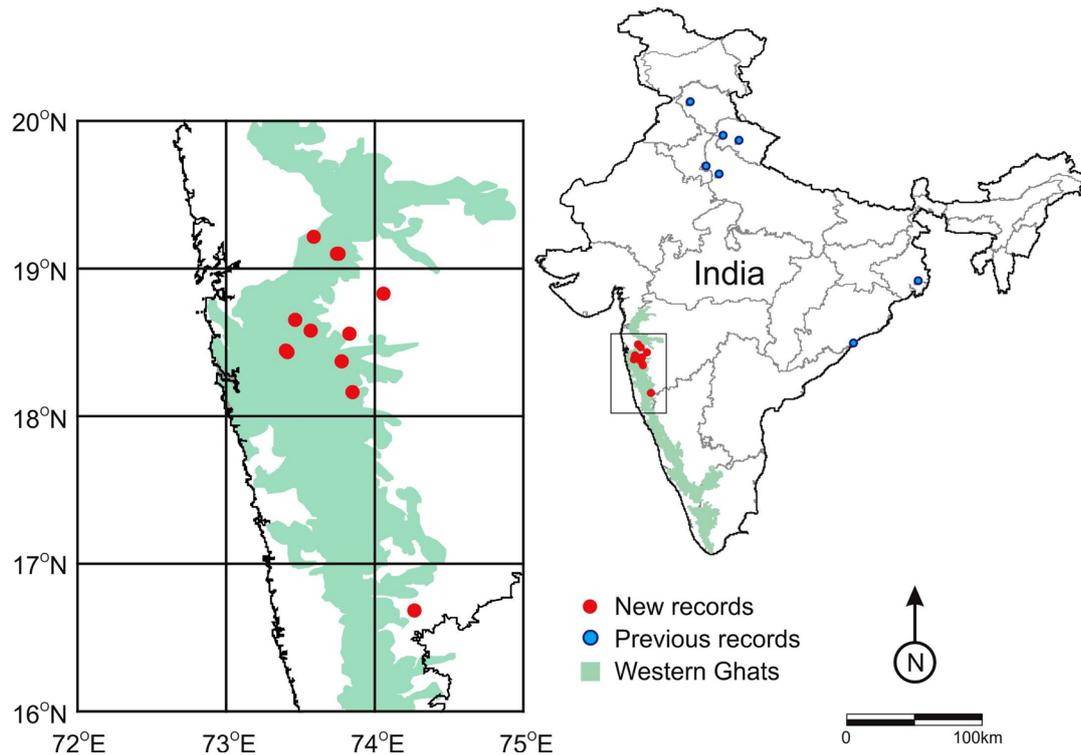


Figure 1. Map depicting distributional records of *S. (Discolia) fasciatopunctata dunensis* in India.



Image 1. *S. (Discolia) fasciatopunctata dunensis*: a female in life



Image 2. *S. (Discolia) fasciatopunctata dunensis*: A male mounted on pin

interrupted or constricted in the middle. Wings dark brown, with predominant blue reflections in white light. Length- 16–22 mm.

Male (Image 2): Integument and vestiture black, abdomen entirely black with faint bluish to golden reflections. Wings light brown, anteriorly darker, with coppery to purplish reflections. Length 12–15 mm.

Discussion

Scolia (Discolia) fasciatopunctata dunensis is reported for the first time from the Western Ghats. The present record extends its known geographical range significantly southwards from Delhi, Himachal Pradesh, Uttarakhand, Uttar Pradesh and westwards from Odisha, and West Bengal. New areas need to be explored to find the occurrence of this subspecies in India. Records of food plants and description of habitats of the subspecies

Key to the subspecies of *fasciatopunctata* Betrem

Female

- i. The third tergite usually with a broad red band and the fourth with a narrow band which is usually interrupted in the middle *fasciatopunctata fasciatopunctata*
The third tergite with a broad to narrow red band and the fourth tergite black (Image 1) *fasciatopunctata dunensis*

Male

- ii. The third tergite with a broad red band or paired lateral spots; Wings dark brown with purple to golden reflections
..... *fasciatopunctata fasciatopunctata*
All tergites are entirely black; wings light brown; rosaceous in appearance with coppery reflection (Image 2)
..... *fasciatopunctata dunensis*

will be important to understand its ecology.

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