



Additions to the knowledge of Scoliidae (Insecta: Hymenoptera) from Madhya Pradesh with an updated checklist

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Abstract

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The wasp family Scoliidae of Madhya Pradesh is studied. Four species are reported for the first time from the state. An updated checklist of Scoliidae of Madhya Pradesh is provided.

Key Words: Scoliidae, Madhya Pradesh, new record, checklist

1. Introduction

The solitary wasp family Scoliidae is a group of fossorial aculeate wasps. They are commonly known as hairy wasps or mammoth wasps. They are often predominantly black, commonly marked with yellow, orange or red. Their wings are usually dark with metallic reflections. The vestiture varies from entirely black or black mixed with white to entirely golden or reddish. Size may vary in length from 5 mm to 35 mm, rarely upto 50 mm. Sexual dimorphism often slight to moderate and even stronger in some species. They are worldwide in distribution but more predominantly found in tropical region, with about 143 genera and 560 species in 2 subfamilies: Proscoliinae and Scoliinae (van Noort & Broad, 2024). The female dig into the ground

to lay egg on the beetle larvae, usually Scarabaeoidea but rarely Curculionoidea (Gupta and Jonathan, 2003). Eighty species under 14 genera have been reported from India so far (Gupta and Jonathan, 2003; Girish Kumar and Rajmohana, 2009; Ali *et al.*, 2024). Only 7 species were so far recorded from Madhya Pradesh (Gupta and Jonathan, 2003; Sheikh *et al.*, 2017). During the present study, four more species were added to the fauna of Madhya Pradesh. An updated checklist of Scoliidae of Madhya Pradesh were also prepared.

2. Methodology

The specimens were collected from different localities of Madhya Pradesh by using insect net specially made for the purpose. They are examined under LEICA M60 stereozoom microscope and images

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captured with the camera model Canon EOS 6D. The keys and descriptions of Gupta and Jonathan (2003) is used for the identification of the species. The studied specimens are deposited in the 'National Zoological Collections' of the Western Ghat Regional Centre, Zoological Survey of India, Kozhikode, India (ZSIK).

3. Results and Discussion

1. *Megacampsomeris asiatica himalayana* (Betrem, 1928) (Fig. 1)

1928. *Campsomeris* (*Megacampsomeris*) *asiatica himalayana* Betrem, *Treubia*, 9 (suppl.), 141, female, Bhutan; Almora, Kumaon hills, India (holotype in Leiden museum).

Material examined: INDIA: Madhya Pradesh, Narmadapuram district, Pachmarhi, 1 female, 23.x.2002, coll. Y.M. Gupta, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27847.

2. *Austroscolia nudata* (Smith, 1855) (Fig. 2)

1855. *Scolia nudata* Smith, *Cat. Hym. British Mus.*, 3: 110, female, North Bengal (holotype in British museum).

Material examined: INDIA: Madhya Pradesh, Narmadapuram district, Pachmarhi, 1 male, 23.x.2002, coll. Y.M. Gupta, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27848; Raisen district, Bamhori, 1 male, 5.xii.2010, coll. S.S. Talmale & party, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27849.

3. *Scolia (Discolia) affinis* Guérin-Méneville, 1838 (Fig. 3)

1838. *Scolia affinis* Guérin-Méneville, *Voy. Coq.*: 254, female, male, Senegal (types in Paris museum).

Material examined: INDIA: Madhya Pradesh, Jabalpur district, Padaria, 1 female, 5.viii.2002, coll. M. Limje, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27850; Narmadapuram district, Pachmarhi, 1 female & 8 males, 11-

29.viii.2001, coll. Y.M. Gupta, ZSIK Regd. Nos. ZSI/WGRC/I.R.-INV. 27851-27859; Seoni district, Pench National Park, Kamajhiri, 1 male,

29.vi.2001, coll. K. Chandra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27860; Seoni district, Pench National Park, Tikari, 1 male, 2.vii.2001, coll. K. Chandra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27861.

29.vi.2001, coll. K. Chandra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27860; Seoni district, Pench National Park, Tikari, 1 male, 2.vii.2001, coll. K. Chandra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27861.

29.vi.2001, coll. K. Chandra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27860; Seoni district, Pench National Park, Tikari, 1 male, 2.vii.2001, coll. K. Chandra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27861.

29.vi.2001, coll. K. Chandra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27860; Seoni district, Pench National Park, Tikari, 1 male, 2.vii.2001, coll. K. Chandra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27861.

4. *Scolia (Discolia) bilunata* de Saussure, 1858 (Figs. 4 & 5)

1858. *Scolia (Lacosi) bilunata* Saussure, *Ann. Soc. Ent. France*, (3)6: 212, male, Nepal (types in Berlin museum).

Material examined: INDIA: Madhya Pradesh, Narmadapuram district, Pachmarhi, 5 females & 1 male, 18-29.viii.2001, coll. Y.M. Gupta, ZSIK Regd. Nos. ZSI/WGRC/I.R.-INV. 27862-27867; Narmadapuram district, Pachmarhi, 1 female, 13.ix.2001, coll. S.K. Mishra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27868.

18-29.viii.2001, coll. Y.M. Gupta, ZSIK Regd. Nos. ZSI/WGRC/I.R.-INV. 27862-27867; Narmadapuram district, Pachmarhi, 1 female, 13.ix.2001, coll. S.K. Mishra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27868.

18-29.viii.2001, coll. Y.M. Gupta, ZSIK Regd. Nos. ZSI/WGRC/I.R.-INV. 27862-27867; Narmadapuram district, Pachmarhi, 1 female, 13.ix.2001, coll. S.K. Mishra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27868.

18-29.viii.2001, coll. Y.M. Gupta, ZSIK Regd. Nos. ZSI/WGRC/I.R.-INV. 27862-27867; Narmadapuram district, Pachmarhi, 1 female, 13.ix.2001, coll. S.K. Mishra, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27868.

5. *Scolia (Discolia) picteti* de Saussure, 1855 (Fig. 6)

1855. *Scolia (Lacosi) picteti* Saussure, *Mem. Soc. Phys. Hist. nat. Geneve*, 14: 42, female, Indes Orientales (holotype in Geneva museum).

Material examined: INDIA: Madhya Pradesh, Narmadapuram district, Pachmarhi, 1 female, 29.viii.2001, coll. Y.M. Gupta, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27869.

29.viii.2001, coll. Y.M. Gupta, ZSIK Regd. No. ZSI/WGRC/I.R.-INV. 27869.

Updated checklist of Scoliidae from Madhya Pradesh

Class Insecta
Order Hymenoptera
Superfamily Vespoidea
Family Scoliidae
Subfamily Scoliinae
Tribe Campsomerini
Genus *Campsomeriella* Betrem, 1941
Subgenus *Campsomeriella* Betrem, 1941



1. *Campsomeriella* (*Campsomeriella*) *collaris* (Fabricius, 1775)

(a). *Campsomeriella* (*Campsomeriella*) *collaris collaris* (Fabricius, 1775) – India (Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, 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*: Bhutan; Nepal; Sri Lanka.

Genus *Megacampsomeris* Betrem, 1928

2. *Megacampsomeris asiatica* (de Saussure)

(a). *Megacampsomeris asiatica himalayana* (Betrem, 1928) – India (Himachal Pradesh, Madhya Pradesh (**new record**), Meghalaya, Sikkim, Uttarakhand). *Elsewhere*: Bhutan; Nepal.

3. *Megacampsomeris reticulata* (Cameron, 1892) – India (Andhra Pradesh, Delhi, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu).

Tribe Scoliini

Genus *Austroscolia* Betrem, 1927

4. *Austroscolia nudata* (Smith, 1855) – India (Assam, Himachal Pradesh, Karnataka, Madhya Pradesh (**new record**), Odisha, Rajasthan, Tamil Nadu, Uttarakhand, West Bengal). *Elsewhere*: Bangladesh, Myanmar, Nepal.

Genus *Scolia* Fabricius, 1775

Subgenus *Discolia* de Saussure, 1863

5. *Scolia* (*Discolia*) *affinis* Guérin-Méneville, 1838 – India (Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Himachal Pradesh, Jammu &

Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Odisha, Pondicherry, Punjab, Sikkim, Tamil Nadu, Telangana, Tripura, Uttarakhand, Uttar Pradesh, West Bengal). *Elsewhere*: Bangladesh; Myanmar; Nepal; Pakistan.

6. *Scolia* (*Discolia*) *bilunata* de Saussure, 1858 – India (Chhattisgarh, Delhi, Jharkhand, Karnataka, Kerala, Madhya Pradesh (**new record**), Maharashtra, Manipur, Odisha, Punjab, Uttarakhand, Uttar Pradesh, Tamil Nadu). *Elsewhere*: Nepal; Sri Lanka.

7. *Scolia* (*Discolia*) *binotata* Fabricius, 1804

(a). *Scolia* (*Discolia*) *binotata binotata* Fabricius, 1804 – India (Andhra Pradesh, Arunachal Pradesh, Assam, Delhi, Diu, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttarakhand, Uttar Pradesh, West Bengal). *Elsewhere*: Bhutan; Sri Lanka.

8. *Scolia* (*Discolia*) *cruenta* Klug, 1810 – India (Bihar, Chhattisgarh, Delhi, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal).

9. *Scolia* (*Discolia*) *fasciatopunctata* Guérin-Méneville, 1838

(a). *Scolia* (*Discolia*) *fasciatopunctata dunensis* Betrem, 1928 – India (Chhattisgarh, Delhi, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Uttarakhand, Uttar Pradesh, West Bengal). *Elsewhere*: Bhutan.

10. *Scolia* (*Discolia*) *mixta* (Fabricius, 1798) – India (Gujarat, Karnataka, Madhya Pradesh, Tamil Nadu).

11. *Scolia (Discolia) picteti* de Saussure, 1855 – India (Karnataka, Kerala, Madhya Pradesh (**new record**), Maharashtra, Odisha, Tamil Nadu). *Elsewhere*: Sri Lanka.

Fig. 1-6: Images of *Megacampsomeris asiatica himalayana* (female), *Austroscolia nudata* (male), *Scolia (Discolia) affinis* (female), *Scolia (Discolia) bilunata* (female), *Scolia (Discolia) bilunata* (male), *Scolia (Discolia) picteti* (female).

4. Conclusion

The knowledge on scoliid wasp fauna of Madhya Pradesh is scanty and fragmentary with the report of only seven species from the state. During the present study, we added four more species, namely, *Megacampsomeris asiatica himalayana* (Betrem, 1928), *Austroscolia nudata* (Smith, 1855), *Scolia (Discolia) bilunata* de Saussure, 1858, and *Scolia (Discolia) picteti* de Saussure, 1855 to the fauna of Madhya Pradesh. An updated checklist is also provided.



1. *Megacampsomeris asiatica himalayana*, female.



2. *Austroscolia nudata*, male.



3. *Scolia (Discolia) affinis*, female.



4. *Scolia (Discolia) bilunata*, female.



5. *Scolia (Discolia) bilunata*, male.



6. *Scolia (Discolia) picteti*, female.



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