



Rec. zool. Surv. India : **109**(Part-1) : 97-103, 2009

TAXONOMIC NOTES ON HAIRY WASPS (HYMENOPTERA : SCOLIIDAE) OF ANDHRA PRADESH, INDIA

P. GIRISH KUMAR

Zoological Survey of India, M-Block, New Alipore, Kolkata-700 053

E-mail : k_p_girish@yahoo.co.in

INTRODUCTION

The family Scoliidae is a group of fossorial aculeate wasps. All species are solitary. They are commonly known as hairy wasps. Adults are often predominantly black, commonly marked with yellow, white 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 up to 50 mm. Sexual dimorphism slight to moderate and even stronger. They are cosmopolitan in distribution but predominantly found in tropical region, containing about 300 species in two subfamilies: Proscoliinae and Scoliinae. The larvae are ectoparasitoides of the larvae of Coleoptera, usually Scarabaeoidea but rarely Curculionoidea.

Seventy nine species under 19 genera have been reported from Indian subregion so far (Gupta and Jonathan, 2003). The knowledge of Scoliid fauna of Andhra Pradesh is very scanty and fragmentary. Only three species are reported so far. So in this paper, in addition to this three species, three more species are reported as new records from Andhra Pradesh.

All the specimens are deposited in the 'National Zoological Collections' of the Hymenoptera Section, Zoological Survey of India, Kolkata (NZSI).

SYSTEMATIC LIST

Family SCOLIIDAE

Subfamily SCOLIINAE

I. Tribe **Campsomerini** Betrem

1. Genus *Micromeriella* Betrem1. *Micromeriella marginella marginella* (Klug)2. Genus *Campsomeriella* Betrem2. *Campsomeriella (Campsomeriella) collaris collaris* (Fabricius)3. Genus *Megacampsomeris* Betrem3. *Megacampsomeris reticulata* (Cameron)II. Tribe *Scoliini*4. Genus *Scolia* Fabricius4. *Scolia (Discolia) binotata binotata* Fabricius5. *Scolia (Discolia) fichteli* Betrem6. *Scolia (Discolia) rubrosinuata* Betrem

SYSTEMATIC ACCOUNT

1. *Micromeriella marginella marginella* (Klug)

1810. *Scolia marginella* Klug, *Beitr. Naturk.*, **2** : 214. Male, India-Orient (Type in Zoologisches Museum Der Humboldt universitat, Berlin)
1858. *Elis (Campsomeris) hirsuta* Saussure, *Ann. Soc. Ent. Fr.*, (3) **6** : 234. Female, India : Tranqueber (Type in Zoological Museum of the University of Copenhagen).
1864. *Elis (Dielis) hirsuta* Saussure: Saussure & Sichel, *Cat. Spec. Gen. Scolia*: 216, Female, India.
1864. *Elis (Dielis) marginella (Klug)* : Saussure & Sichel, *Cat. Spec. Gen. Scolia* : 186, Male, India.
1974. *Micromeriella marginella marginella* (Klug): Bradley, *Revue. Suisse Zool.*, **81** (2) : 443; (notes on the synonymy of *E. hirsuta* Saussure with typical *M. m. marginella*).

Diagnosis : Male : Length 6-12 mm. Integument black, antennal flagellum blackish brown; the following yellow : mandible at their bases, clypeus except at the middle, on callosities, pronotum except at its anterior margin, scutellum and metanotum, coxae below, femora below, first and second tibiae dorsally and third with a linear mark above, first pretarses dorsally, apical bands on first to fifth tergites, second to fifth sternites with narrow apical bands. Vestiture white, wings hyaline. Frontal spatium not distinctly defined posteriorly, sparsely punctate punctures mostly separated by the diameter of a puncture. Genitalia with parameres slender, basal part of volsellae with small, sparse hair.

Variations : Male specimens shows slight variations in the colour patterns from the descriptions provided by Gupta and Jonathan (2003). Their descriptions varies from this specimens on the

yellow maculations as follows : extensive linear marks above on all the femora; first and second tibiae wholly and third usually with a linear mark or sometimes wholly, first tarsus usually, second metatarsus, sometimes all the three tarsi with yellow maculations.

Material examined : 1 Male, India : Andhra Pradesh; Vishakapatanam Dt.; Gopalapatanam, Coll. D.R. Maulik and Party, 8.ii.2004, Reg. No. 10114/H3. 1 Male, India: Andhra Pradesh; Vishakapatanam Dt.; Sarabaram, Coll. D.R. Maulik and Party, 5.ii.2004, Reg. No. 10455/H3 (NZSI).

Distribution: India : Andhra Pradesh, Bihar, Delhi, Gujarat, Rajasthan, Karnataka, Kerala, Maharashtra, Orissa, Pondichery, Tamil Nadu, Uttarakhand and West Bengal.

Elsewhere : Sri Lanka.

2. *Campsomeriella (Campsomeriella) collaris collaris* (Fabricius)

1775. *Tiphia collaris* Fabricius, *Syst. Ent.*,: 354; Female, coast of Malabar (type in Zoological Museum of the University of Copenhagen).

1967. *Campsomeriella (Campsomeriella) collaris collaris* (Fabricius): Betrem, *Ent. Ber., Amst.*, 27 : 29.

Diagnosis : Female : 14-27 mm. Body black, Vestiture black, except clypeus and front usually with intermixed cinereous setae, occiput and scapula with dense erect and mesoscutum with decumbent white setae. Wings dark brown with deep blue reflections. Clypeus impunctate in the middle; Upper front and vertex impunctate except for a few scattered punctures; Upper plate of metapleuron impunctate except for a few fine, scattered punctures along upper margin.

Male : Length 11-19 mm. Integument black, abdomen with faint blue reflections. The followings are yellow: clypeus except for a median triangular black mark; mandibles at basal half; pronotum anteriorly in the middle; a narrow strip adjacent to tegula, a narrow strip interrupted in the middle, on scutellum anteriorly; a small antero-median spot on metanotum; a spot on each callosity; strip on apical half of all femora; outer surface of all tibiae; almost entire surface of first tergite, about apical two-thirds of second, apical half of third and fourth, second and third sternites with paired minute postero-lateral spots. Vestiture white except black on apical three abdominal segments; sixth and seventh sternites with long dense black setae. Wings hyaline, very lightly infumated, with weak yellowish reflections.

Variations : The female specimens show variations from the descriptions provided by Gupta and Jonathan (2003) in the pattern of arrangement of white setae on mesoscutum. Setae on mesoscutum arranged uniformly except at postero-median area with sparse setae (In the descriptions of Gupta and Jonathan (2003), mesoscutum with white setae on anterior half only).

The male specimens show variations in the yellow colour pattern on first and last fore tarsal segments. No yellow colour on first and last fore tarsal segments (In the descriptions of Gupta and Jonathan, 2003, yellow colour on the outer surface of first and last fore tarsal segments present).

Material examined : 1 Female, India : Andhra Pradesh; Rangareddy Dt.; Rajendranagar, Coll. S.P. Chakraborty and Party, 9.x.1998, Reg. No. 10086/H3. 1 Female, India : Andhra Pradesh; East Godavary Dt.; Coring Wild Life Sanctuary, Coll. P.H. Roy and Party, 26.xi.2000, Reg. No. 10091/H3. 2 Male, India : Andhra Pradesh; Naguldevpadu; Coll. Durga Prasad, 31.vii.1975, Reg. Nos. 10449/H3 and 10450/H3. 1 Male, India : Andhra Pradesh; Vishakapatanam Dt.; Gopalapatanam, Coll. D.R. Maulik and Party, 8.ii.2004, Reg. No. 10113/H3 (NZSI).

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Lakshadweep, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Nepal and Sri Lanka.

3. *Megacampsomeris reticulata* (Cameron)

1892. *Elis (Dielis) reticulata* Cameron, *Mem. Proc. Manch. Lit. Phil. Soc.*, **5** (4) : 109; Male, India : Pune (type in Hope Department of Entomology, University Museum, Oxford).

1928. *Campsomeris (Megacampsomeris) reticulata* (Cameron): Betrem, *Treubia*, **9** (suppl.) : 157; Female, Male. India : Bangalore, Malabar, Sangli, Jabalpur.

1972. *Megacampsomeris reticulata* (Cameron): Betrem in Betrem and Bradley, *Mon. Ned. Ent. Ver.*, **6** : 164.

Diagnosis : Female : Length 25 mm. Integument and vestiture black; wings dark brown with dark blue reflections; clypeal disc broadly impunctate in the middle; frontal fissura extending up to anterior ocellus; vertex with coarse, close to scattered punctures, its declivous portion with close punctures; mesoscutum with an impunctate area posteriorly in the middle; upper plate of metapleuron impunctate except for some close punctures above.

Material examined : 1 Female, India : Andhra Pradesh; West Godavary Dt.; Ramasaingavaram, Coll. S.K. Mandal and Party, 4.x.1998, Reg. No. 10088/H3 (NZSI).

Distribution : India : Andhra Pradesh, Bihar, Delhi, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Tamil Nadu.

Remarks : This is the first report of the species from Andhra Pradesh.

4. *Scolia (Discolia) binotata binotata* Fabricius

1804. *Scolia binotata* Fabricius, *Syst. Peiz* : 244 Male, Tranquebar (type in Zoological Museum of the University of Copenhagen).

1978. *Scolia (Discolia) binotata binotata* Fabricius: Krombein, *Smithsonian Contr. Zool.*, **283** : 41- 43. Female, Male; localities from Sri Lanka.

Diagnosis : Male : Length 11-17 mm. Body black, usually third and fourth tergites with paired, rounded, light red spots, sometimes only third or fourth tergite with such spots, rarely abdomen entirely black. The males from eastern Himalaya and Northeast India having sometimes, red marks on front, vertex and scapula. Vestiture black mixed with white on head and thorax anteriorly, legs and ventral side of abdomen predominantly white. Wings dark brown at base and paler at apices with bluish purple effulgence.

Material examined : 1 Male, India : Andhra Pradesh; Hyderabad Dt.; Golkonda, Coll. S.K. Mandal and Party, 27. ix. 1998, Reg. No. 10090/H3. 3 Male, India: Andhra Pradesh; Prakasam Dt.; Srisailam; Sunnipetta, Coll. S.K. Mandal and Party, 23. ix. 1998, Reg. Nos. 10092/ H3, 10093/ H3 and 10094/H3 (NZSI).

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Delhi, Karnataka, Kerala, Manipur, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand and West Bengal.

Elsewhere : Sri Lanka.

Remarks : This is the first report of the species from Andhra Pradesh.

5. *Scolia (Discolia) fichteli* Betrem

1928. *Scolia (Scolia) fichteli* Betrem, *Treubia*, **9** (suppl.) : 257, 258, 313- 314. Female, Male; India, Malabar and unknown locality (types in Naturhistorisches Museum, Vienna).

1964. *Scolia (Discolia) fichteli* Betrem : Betrem & Bradley, *zool. Meded.*, **40** : 93.

Diagnosis : Female : Length 14-20 mm. Reddish spots on some abdominal tergites, rest black; anterior margin of median lobe of clypeus rounded or subtruncate; front subcontiguously punctate medially, weak frontal fissura not extending up to anterior ocellus, upper plate of metapleuron very narrowly punctate along upper margin only.

Male : Length 10-17 mm. Males variable in having number of paired red spots on abdominal tergites. Third and fourth tergites usually marked with paired reddish spots, some males with entirely black abdomen. Antennal flagellum not capitate towards apex, upper plate of metapleurum only narrowly punctate along upper margin.

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Bihar, Delhi, Kerala, Meghalaya, Pondicherry, Punjab and West Bengal.

Remarks : The specimens of this species is not represented in this study and the above diagnosis is based on the descriptions provided by Gupta and Jonathan (2003).

6. *Scolia (Discolia) rubrosinuata* Betrem

1928. *Scolia (Scolia) rubrosinuata* Betrem, *Treubia*, **9** (suppl.) : 248, 249, 266-267. Female, Male; India : Kolkata, Julapore, Surat (type in National Zoological Collections of Z.S.I., Kolkata). Type examined.

1964. *Scolia (Discolia) rubrosinuata* Betrem : Betrem & Bradley, *Zool. Meded.*, **40** : 92.

Diagnosis : Female : Length 12 mm. Body black except head with reddish brown maculation on ocular sinus extends to frontal pit and temples above; vestiture black except white hairs on occiput; wings dark brown with bluish reflections; frontal fissura extending half way to anterior ocellus.

Variations : The female specimen shows variations from the holotype in having reddish brown patches extends to the frontal pit and temples above.

Material examined : 1 Female, India : Andhra Pradesh; East Godavari Dt.; Addatigala village, Coll. T.P. Bhattacharjee & Party, 7. iv. 1996, Reg. No. 10089/H3 (NZSI).

Distribution : India : Andhra Pradesh, Gujarat, Karnataka and West Bengal.

Remarks : This is the first report of the species from Andhra Pradesh.

SUMMARY

This paper deals with the Scoliid fauna of Andhra Pradesh state. 6 species under 4 genera are reported from Andhra Pradesh of which 3 species are new reports from the state.

ACKNOWLEDGEMENT

The author is grateful to the Director, Zoological Survey of India, Kolkata for providing facilities and encouragements.

REFERENCES

- Betrem, J.G. 1928. Monographie der Indo- Australischen Scoliiden mit zoogeographischen Betrachtungen. *Treubia*, **9** (suppl.) : 1-388, 5 plates.
- Betrem, J.G. 1967. The natural groups of *Campsomeriella* Betr., 1941 (Hymenoptera: Scoliidae). *Ent. Ber. Amst.*, **27** : 25-29.
- 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.
- Betrem, J.G. and Bradley, J.C. 1972. The African Campsomerinae (Hym., Scoliidae). *Mon. Ned. Ent. Ver.*, **6** : 1-326. 55 figures, 6 plates, 47 maps.

- Bradley, J.C. 1974. The types of Scoliidae (Hymenoptera) described by Henri de Saussure or by Jules Sichel, or by them jointly. *Revue Suisse Zool.*, **81** (2) : 417-485.
- Cameron, P. 1892. Hymenoptera Orientalis or contribution to a knowledge of the Hymenoptera of the Indian Zoological Region. Part 4: Scoliidae. *Mem. Proc. Manch. Lit. Phil. Soc.*, **5** (4) : 97-137.
- Fabricius, J.C. 1775. *Systema Entomologiae* : 832 pages.
- Fabricius, J.C. 1804. *Systema Piezatorium* : 439 pages.
- Gupta, S.K. and Jonathan, J.K. 2003. *Fauna of India and the adjacent countries*, Hymenoptera: Scoliidae, 1-277 (Published by the Director, *Zool. Surv. India*, Kolkata).
- Klug, J.C.F. 1810. Fortsetzung des im vorigen Bande abgebrochenen Versuchs uber die Gattungen *Scolia* und *Tiphia*. *Beitr. Naturkunde*, **2** : 167-215.
- Krombein, K.V 1978. Biosystematic studies of Ceylonese wasps, II : A monograph of the Scoliidae (Hymenoptera : Scoliioidea). *Smithsonian Contr. Zoology*, **283** : 1-56.
- Saussure, H. De. 1858. Description de diverses especes nouvelles ou peu connues du genre *Scolia*. *Ann. Soc. Ent. France*, (3) **6** : 193-249.
- Saussure, H. De and Sichel, J. 1864. *Catalogue des specierum de l'ancien generis Scolia* : 350 pages, 2 plates.