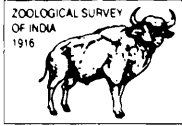


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ON A COLLECTION OF CHALCIDOID WASPS (HYMENOPTERA : CHALCIDOIDEA) FROM MELGHAT WILDLIFE SANCTUARY OF MAHARASHTRA, INDIA

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INTRODUCTION

Melghat Wildlife Sanctuary is a part of Melghat Tiger Reserve which is located in the northern part of Amravathi district of Maharashtra state in India. It forms an integral part of the Satpura- Maikal Ranges, where land folds and unfolds creating a distinctive and mystifying landscape of high hills and deep valleys. The forest is tropical dry deciduous in nature and dominated by teak plants. It occupies an area of 788.78 sq. km and located on longitude 21°21'N, latitude 77°22'E. The Zoological Survey of India (ZSI) has initiated programmes for survey and collection of insects (and other animals) from protected areas such as Wildlife sanctuaries, National Parks, etc. Under this programme, scientists of ZSI made surveys and collection of chalcidoid wasps from the Melghat Wildlife Sanctuary (MWS). There is no study of chalcidoid Hymenoptera from the MWS, except for recent descriptions of three pteromalid species by Narendran & Girish Kumar (2009). In this paper we record 20 species of chalcidoids (10 species of Eulophidae, 2 species of Eupelmidae and 8 species of Pteromalidae) from MWS. The collections were made from such areas as Semodah, Makhala and Kolkaz. All the specimens are deposited at the 'National Zoological Collections' of the Hymenoptera section, Zoological Survey of India, Kolkata (NZSI).

MATERIAL AND METHODS

The collected specimens were card-mounted and curated using the methods mentioned by Narendran

(2001). The specimens were studied under Leica M6 stereozoom microscope (Switzerland) and the photos were taken by using Samsung PL50 digital camera (China) with 10.2 mega pixels.

The following abbreviations are used in the text :
F1-F3 = Funicular segments 1 to 3; MS = Malar sulcus; MV = Marginal vein; OOL = Ocellocular line; POL = Postocellar line; SMV = Submarginal vein; STV = Stigmal vein; T1-T3 = Gastral tergites 1 to 3.

Abbreviations for the Depositories : BMNH = The Natural History Museum, London, SW7 5BD, England; DEI = Institute fur pflanzenschutz fur Schung, Germany; FRI = Forest Research Institute, Dehradun; NMP = Norodni Museum v Praze, Prague, Czech Republic; NZSI = National Zoological Collections of the Hymenoptera section, Zoological survey of India, Kolkata; QMB = Queensland Museum, Brisbane, Australia; SEA = School of Entomology, St. John's College, Agra, India; UMO = University Museum, Oxford, England; USNM = United States National Museum, Washington DC, USA; ZSIK = Western Ghats Regional Centre, Zoological Survey of India, Kozhikode, Kerala, India.

RESULTS AND DISCUSSION

A total of 20 species were identified of which 10 species belongs to the family Eulophidae, 2 species belongs to the family Eupelmidae and 8 species belongs to the family Pteromalidae. Of these 20 species, 3 species of pteromalids were recently described. The informations on chalcidoid fauna of Maharashtra is very

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scanty and fragmentary. 187 species are recorded from the state so far (Noyes, 2003 last updated October, 2010). In this paper, 15 species are found out to be the new records from Maharashtra state. It is extremely important to explore the faunal diversity of Sanctuaries and other protected areas like MWS to find out more and more number of described and undescribed species.

SYSTEMATIC ACCOUNT

Order HYMENOPTERA

Superfamily CHALCIDOIDEA

Family EULOPHIDAE

1. *Aprostocetus microcosmus* (Girault)

(Plate I-1)

1888. *Aprostocetus granulatus* Ashmead, 105, Syntype Female, USA : Florida (USNM).
 1917. *Tetrastichus microcosmus* Girault, 316. Replacement name for *granulatus* Ashmead.
 1981. *Tetrastichus asperculus* Graham, 2, Holotype Female, Madeira (UMO).
 2002. *Aprostocetus microcosmus* (Girault) : Zhu *et al.*, 598.
 2007. *Aprostocetus granulatus* Ashmead : Narendran, 59.

Diagnosis : Female. Body black, antenna brown, legs honey yellow except at apical tarsal segments brown, wings hyaline; mesosoma moderately arched dorsally, with propodeum slopping at 45° to 50°; midlobe of mesoscutum very slightly longer than broad; dull with moderately fine, slightly raised reticulations; scutellum slightly more than half as long as mesoscutum, reticulations like that of mesoscutum but finer; gaster lanceolate, about 3.5x as long as broad, nearly half as long as head plus mesosoma but slightly narrower than mesosoma, strongly acute, slightly acuminate, longest setae of each circus 2x length of next one, sinuate.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10519/H3). 1 Female, same data except the collection locality is Kolkaz (NZSI, Regd. No. 10520/H3).

Host : *Hyparrhenia hirta* (Linnaeus) (Family : Poaceae) (Narendran, 2007).

Distribution : India : Jharkhand, Karnataka, Kerala, Maharashtra (new record), Tamil Nadu.

Elsewhere : Australia, Canary Islands, Cape Verde Islands, China, Europe, Madeira, USA, Trinidad and Tobago.

2. *Aprostocetus kuriani* (Husain & Khan)

(Plate I-2)

1954. *Syntomosphyrum israeli* Kurian, 131, Male, Female,

India : Cuttak (SEA?). Preoccupied by Mani & Kurian (1953).

1986. *Tetrastichus kuriani* Husain & Khan, 239. Replacement name for *S. israeli* Kurian.
 2003. *Aprostocetus kuriani* (Husain & Khan) : Noyes, Universal Chalcidoidea Database.
 2007. *Aprostocetus kuriani* (Husain & Khan) : Narendran, 71.

Diagnosis : Female. Body reddish brown to black with metallic greenish blue luster; legs yellowish brown with hind coxa dorsally black; antenna with 1 anellus; postocellar line 1.5x ocellocular line; forewing 2.4x as long as broad; MV 3.05x as long as STV; hind femur 1.25x as long as wide; gaster 1.5x as long as mesosoma, laterally compressed; ovipositor long exerted from ventrally far ahead of abdominal tip.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10521/H3). 1 Female, same data except locality is Makhala (NZSI, Regd. No. 10522/H3). 12 Females, same data except locality is Kolkaz (NZSI, Regd. Nos. 10523/H3 to 10534/H3).

Host : Eggs of the moth *Schoenobius* sp. (Lepidoptera : Crambidae) (Narendran, 2007).

Distribution : India : Orissa, Maharashtra (new record).

3. *Aprostocetus vatiata* Narendran

(Plate I-3)

2007. *Aprostocetus vatiata* Narendran, 103, Holotype Female, India : Aligarh (NZSI).

Diagnosis : Female. Body dark brown with lower frons, mesopleuron, metapleuron, coxae, gastral tergites light brown; legs (except dark brown coxae) pale yellow with fourth tarsal segment and pretarsi brown; antenna with 2 anelli; mesoscutum with 3 adnotaular setae on either side; SMV with 3 dorsal setae; MV 2.83x as long as STV.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary; Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10535/H3).

Host : Coccids (Scale insects) on *Euphorbia* sp. (Family : Euphorbiaceae) (Narendran, 2007).

Distribution : India : Kerala, Maharashtra (new record), Uttar Pradesh, West Bengal.

4. *Neotrichoporoides arunima* Narendran

(Plate I-4)

2007. *Neotrichoporoides arunima* Narendran, 146, Holotype Female, India : Aligarh (NZSI).

Diagnosis : Female. Head and mesosoma mostly brilliant metallic green, gaster dark metallic green; scape not exceeding above level of vertex; pedicellus 3x as long as broad; fovea of malar sulcus not reaching half length of malar sulcus; midlobe of mesoscutum with one row of 3 adnotaular setae on either side; scutellum with 3 pairs of setae; SMV with 5 dorsal setae; MV 8.5x as long as STV; hypopygium not reaching middle of gaster.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Kolkaz, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10536/H3). 3 Females, same data except locality is Semodah. (NZSI, Regd. Nos. 10537/H3 to 10539/H3).

Host : Unknown.

Distribution : India : Kerala, Maharashtra (new record), Uttar Pradesh.

5. *Neotrichoporoides beonus* Narendran
(Plate I-5)

2006. *Neotrichoporoides beonus* Narendran, in Narendran *et al.*, 5. Holotype Female, India : Kohinoor (near Calicut University Campus) (NZSI).

Diagnosis : Female. Upper half of head dark brown with metallic green reflections; a line adjacent to eye brownish yellow; lower half of frons, gena and temples brownish yellow; antenna dark brown with scape and under side of pedicel pale yellow; pronotum, mesoscutum, scutellum and propodeum metallic green; pronotal panel, meso and metapleuron pale brownish yellow; axilla pale brownish yellow with middle part metallic green; sides of lateral lines of scutellum pale brownish yellow; legs pale yellow with hind coxa and basal half of mid coxa pale yellowish brown and hind femur with pale brownish tinge medially; pretarsi and fourth tarsal segment of all legs dark brown; gaster black with base yellow; wings hyaline; midlobe of mesoscutum with 2 rows of adnotaular setae, outer row of 6 and inner row of 3 setae; forewing (excluding fringe) about 3.7x as long as wide.

Material examined : 4 Females, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary; Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. Nos. 10540/H3 to 10543/H3).

Host : Unknown.

Distribution : India : Delhi, Kerala, Maharashtra (new record), Tamil Nadu.

6. *Neotrichoporoides doproides* Narendran
(Plate I-6)

2007. *Neotrichoporoides doproides* Narendran, 153, Holotype Female, India : Siruvani forest (NZSI).

Diagnosis : Female. Brown with the following parts otherwise : head, lower frons, gena, posterior half of dorsum of pronotum, sides of pronotum, tegula, legs, base of gaster pale yellow, mesosomal dorsum with slight metallic green reflections on some parts; scape not exceeding vertex; clava distinctly longer than F1; F1 1.5-1.83x as long as pedicellus; midlobe of mesoscutum with 3 adnotaular setae on either side, middle seta being a little inside of other setae; posterior pair slightly longer than others; forewing 2.5x as long as broad; SMV with 5 dorsal setae; speculum relatively small.

Material examined : 2 Females, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary; Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. Nos. 10544/H3 and 10545/H3).

Host : Unknown.

Distribution : India : Kerala, Maharashtra (new record), Tamil Nadu.

7. *Tetrastichus epilachnae* (Giard)
(Plate I-7)

1896. *Lygellus epilachnae* Giard, 839, Syntypes, France : Saint-Roch, near Valenciennes (not located).

1940. *Tetrastichus jablonowskii* Szelenyi, 86, Holotype Female, Hungary: Budapest, Harmashatarhegy, (Synonymised with *epilachnae* by Domenichini (1966), 92.

2007. *Tetrastichus epilachnae* (Giard) : Narendran, 256.

Diagnosis : Female. Body black with weak bluish or greenish tinge; antenna with 1 anellus; F2 1.4-1.43x as long as broad; clava about as long as F2 and F3 combined; mesoscutum with distinct median line; SMV with single dorsal seta; costal cell of forewing very narrow, more than 10x as long as broad.

Material examined : 3 Females, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Makhala, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. Nos. 10546/H3 to 10548/H3). 6 Females, same data except locality is Semodah (NZSI, Regd. Nos. 10549/H3 to 10554/H3).

Host : *Simmondsius pakistanensis* Ahmad & Ghani (Coleoptera: Coccinellidae), *Epilachna* beetles (Coleoptera: Coccinellidae) (Narendran, 2007).

Distribution : India : Assam, Karnataka, Kerala, Maharashtra (new record), Tamil Nadu, West Bengal.

Elsewhere : Bulgaria, Croatia, Europe, France, Hungary, Iran, Italy, Macedonia, Morocco, Netherlands, Pakistan, Slovakia, Sweden, Old USSR, Yugoslavia.

8. *Tetrastichus taprobanensis* Ranaweera
(Plate I-8)

1950. *Tetrastichus taprobanensis* Ranaweera, (1947). 10. Holotype Female, Sri Lanka (FRI).

2007. *Tetrastichus taprobanensis* Ranaweera : Narendran. 290.

Diagnosis : Female. Body metallic blue with green reflections; legs pale cream colored with coxae and major part of femora concolorous with mesosoma; head as broad as mesosoma; ocelli surrounded by a groove which extends on sides to the eye; antennal scape reaching front ocellus, more than 2x as long as broad; funicular segments subequal in length; mesoscutum with complete median line.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Makhala, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10555/H3).

Host : *Darna nararia* Moore (Lepidoptera : Limacodidae) on tea plant *Camellia sinensis* (Linnaeus) (Family : Theaceae) (Narendran, 2007).

Distribution : India : Kerala, Maharashtra (new record).

Elsewhere : Sri Lanka.

9. *Tetrastichus tunicus* Narendran
(Plate I-9)

2007. *Tetrastichus tunicus* Narendran, 293, Holotype Female, India: Calicut University Campus (ZSIK).

Diagnosis : Female. Head, mesosoma and gaster black with metallic blue reflections; antenna with 1 anellus; F1 shorter than F2; mesoscutum with distinct median line, 4 adnotaular setae on each side; costal cell a little shorter than MV; SMV with single dorsal seta; gaster distinctly longer than mesosoma.

Material examined : 1 Female, India: Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10556/H3).

Host : Eggs of Cockroaches ? (Narendran, 2007).

Distribution : India : Kerala, Maharashtra (new record).

10. *Elasmus viridiscutellatus* Verma & Hayat
(Plate I-10)

2002. *Elasmus viridiscutellatus* Verma & Hayat, in Verma *et al.*, 270, Holotype Female, India : Mumbai (BMNH).

2008. *Elasmus viridiscutellatus* Verma & Hayat : Narendran *et al.*, 3.

Diagnosis : Female. Body blackish with greenish blue reflection on frontovertex, pronotum and

mesoscutum, more intense on scutellum. propodeum less bluish; pleura black with greenish reflections, tegula metallic dark; posterior extension of metanotum hyaline except at base yellowish; flagellum dark brown covered with short black setae; mid coxa and femur largely yellow; hind femur yellowish with blackish margins; gaster blackish dorsally with bluish green reflections at base of T1 and with narrow, dusky yellow stripes at apices of tergites 1-4; wings hyaline; pedicel slightly shorter than F1.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary; Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10557/H3).

Host : The larvae of the Rice Leaf Roller, *Cnaphalocrosis medinalis* (Guenee) (Lepidoptera : Crambidae) (Verma *et al.*, 2002).

Distribution : India : Andhra Pradesh, Bihar, Maharashtra, Tamil Nadu, West Bengal.

Family EUPELMIDAE

11. *Eupelmus (Eupelmus) testaceiventris*
(Motschulsky)
(Plate II-11)

1863. *Callimome ceylonica* Motschulsky, 47, Syntypes, Sri Lanka.

1863. *Roprocercus testaceiventris* Motschulsky, 49, Syntypes, Sri Lanka.

1965a. *Eupelmus testaceiventris* (Motschulsky) : Boucek, 543-554.

2000. *Eupelmus (Eupelmus) testaceiventris* (Motschulsky) : Askew & Nieves-Aldrey, 55-56.

Diagnosis : Female. Macropterous; antenna black; head and thorax metallic green; gaster yellow; legs yellow except forecoxa concolorous with thorax; ovipositor dark brown at base and apex, pale yellow in middle; metanotum with posterior margin produced into plical depression of propodeum; forewing without lineal clava; ovipositor length 0.70x length of gaster.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Makhala, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10628/H3). 19 Females, same data except locality is Kolkaz (NZSI, Regd. Nos. 10629/H3 to 10647/H3).

Host : The Sorghum midge *Contarinia sorghicola* (Coquil-lett) (Diptera : Cecidomyiidae) and the mango leaf gall midge *Procontarinia matteiana* Kieffer & Ceconi (Diptera : Cecidomyiidae) (Noyes, 2003).

Distribution : India : Maharashtra (new record), West Bengal.

One report of this species from India without mentioning the state in CIBC Annual Report 1984-1985 : 30, Commonwealth Agricultural Bureaux, Slough, U.K.

Elsewhere : Afrotropical, Australia, Canary Islands, Croatia, Cyprus, Oman, Spain, Sri Lanka.

12. *Neanastatus cinctiventris* Girault

(Plate II-12)

1913. *Neanastatus cinctiventris* Girault, 35, Syntype Female, Australia (QMB).

1926. *Metaplopoda grillaria* Masi, 276. Female, Taiwan (DEI) (Boucek, 1988 synonymised).

Diagnosis : Body black; head metallic green; mesoscutum medially, pronotum often medially, fore coxa, middle leg except apical three tarsal segments, apical half of hind coxa, hind femur at its base and apex, pale or white yellow; antenna, mandible, apical four tarsal segments dark brown, rest of foreleg pale brownish yellow; hind basitarsi white; forewing with an infuscation starting before STV; gaster longer than mesosoma; T1-T3 with posterior margin medially incised; last tergite narrow conical; ovipositor sheath slightly exerted.

Material examined : 1 Male, India : Maharashtra; Amravathi dist., Melghat Wildlife Sanctuary, Makhala, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10648/H3).

Host : The rice gall midge *Orseolia oryzae* (Wood-Mason) (Diptera: Cecidomyiidae) (Noyes, 2003).

Distribution : India : Andhra Pradesh, Madhya Pradesh, Maharashtra (new record), Orissa, Tamil Nadu.

Elsewhere : Australia, China, Sri Lanka, Taiwan, Thailand.

Family PTEROMALIDAE

13. *Chlorocyclus amaravathicus* Narendran &

Girish Kumar

(Plate II-13)

2009. *Chlorocyclus amaravathicus* Narendran & Girish Kumar, 33, Holotype Female, India : Melghat Wildlife Sanctuary (NZSI).

Diagnosis : Female. Bright metallic green; antennal funicle dark brown; anelli, pedicel and scape brownish yellow; all coxae metallic green, remainder of legs pale yellow except brown last tarsal segment and pretarsi; wings hyaline; scape slightly exceeding level of vertex; propodeal plicae absent; forewing with speculum open below; relative lengths of SMV = 23, MV = 17, PMV = 11.3, STV = 5.6; metasomal length subequal to head plus mesosoma combined; hypopygium reaching middle of gaster.

Material examined : Holotype : Female, India : Maharashtra; Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 12362/H3). 2 Female, Paratypes of same data (NZSI, Regd. Nos. 12363/H3 & 12364/H3).

Host : Unknown.

Distribution : India : Maharashtra.

14. *Colotrechnus melghaticus* Narendran &

Girish Kumar

(Plate II-14)

2009. *Colotrechnus melghaticus* Narendran & Girish Kumar, 29, Holotype Female, India : Melghat Wildlife Sanctuary (NZSI).

Diagnosis : Female. Dark metallic blue; antenna black with scape pale yellow, all coxae black with slight metallic bluish green tinge and with apex slightly pale; all femora brownish black with apices pale yellow; all tibiae blackish brown with bases and apices pale yellow; all tarsi pale white with pretarsi dark brown; wings hyaline; scape 2.55x as long as F1; head width in anterior view 1.56x distance between front ocellus and lower clypeal margin; pronotum as long as half length of mesoscutum in dorsal view; forewing 2.39x as long as broad; PMV 1.46x as long as STV; MV 2.75x as long as PMV; hind femur 1.5x as long as hind coxa; metasoma 1.77x as long as mesosoma; ovipositor sheath exerted, 0.64x as long as last tergite.

Material examined : Holotype : Female, India : Maharashtra; Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 12365/H3).

Host : Unknown.

Distribution : India : Maharashtra.

15. *Homoporus maharashtriensis*

Narendran & Girish Kumar

(Plate II-15)

2009. *Homoporus maharashtriensis* Narendran & Girish Kumar, 30, Holotype Female, India : Melghat Wildlife Sanctuary (NZSI).

Diagnosis : Female. Head and mesosoma black; gaster yellow, with brown marking on sides and faint marking on middle; ovipositor sheath black; antenna brownish yellow with scape and pedicel more yellowish; fore coxa black; mid and hind coxae completely yellow; fore femur black with base and apex yellow; mid and hind femora, all tibiae and tarsi yellow; pretarsi brown; wings hyaline; lower margin of clypeus weakly emarginated; scape distinctly longer than eye length; clava 3.25x as long as preceding segment; POL 1.25x

OOL; propodeum without median carina; prepectus with two or three small pits, not smooth; MV 1.58x as long as PMV; PMV 1.9x as long as STV; metasoma elongate, ovate with a very short petiole visible dorsally; gaster longer than mesosoma; hind margin of all tergites straight; ovipositor sheath slightly protruding out; hypopygium reaching middle of gaster.

Material examined : Holotype : Female, India : Maharashtra; Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 12366/H3). Paratype: One female of the same data of holotype (NZSI, Regd. No. 12367/H3).

Host : Unknown.

Distribution : India : Maharashtra.

16. *Mesopolobus harithus* Sureshan & Narendran
(Plate II-16)

2002. *Mesopolobus harithus* Sureshan & Narendran, 84, Holotype Female, India: Silent Valley National Park (ZSIK).

Diagnosis : Female. Head and mesosoma metallic green with golden reflections; gaster darker; antenna pale brown; legs with coxae concolorous with mesosoma, remainder testaceous with tips of tarsi brown; femora darker; tegulae brown; wings hyaline; scape reaching median ocellus, temple length 0.6x eye length; metasoma little longer than head plus mesosoma; hypopygium reaching little beyond half length of gaster.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10649/H3). 1 Female, same data except the collection locality which is Makhala (NZSI, Regd. No. 10650/H3).

Host : Unknown.

Distribution : India : Kerala, Maharashtra (new record).

17. *Propicroscytus mirificus* (Girault)
(Plate II-17)

1915. *Arthrolysis mirificus* Girault, 191, Female, Australia (QMB).

1941. *Propicroscytus mirificus* (Girault) : Szelenyi, 123.

Diagnosis : Head and mesosoma black with metallic green reflections; gaster yellow with one median and two lateral longitudinal brownish lines; antenna yellow except funicular segments yellowish brown; legs yellow except fore coxae and fore femora yellowish brown; wings hyaline; antenna with two anelli; male antenna with funicular segments long and with erect hairs; propodeum uniformly convex and finely reticulate punctate; hind margin of second tergite truncate.

Material examined : 1 Female & 2 Males. India : Maharashtra, Amravathi dist.; Melghat Wildlife Sanctuary, Makhala, 22.ix.2007, Coll. Girish Kumar, P. (NZSI, Regd. Nos. 10651/H3 to 10653/H3).

Host : The rice gall midges (Diptera : Cecidomyiidae) such as *Orseolia mnesitheae* Gagne, *Orseolia oryzae* (Wood-Mason), *Orseoliella javanica* (Kieffer & Docters van Leeuwen-Reijnvaan) and *Pachydiplosis oryzae* (Wood-Mason). The yellow rice stem borer *Scirpophaga incertulas* (Walker) (Lepidoptera : Pyralidae) (Noyes, 2003).

Distribution : India : Andhra Pradesh, Karnataka, Kerala, Maharashtra, Orissa, Uttar Pradesh, West Bengal.

Elsewhere : Australia, Indonesia, Malaysia, China, Sri Lanka.

18. *Sphegigaster anamudiensis*
Sureshan & Narendran
(Plate II-18)

1997. *Sphegigaster anamudiensis* Sureshan & Narendran, 194, Holotype Female, India : Eravikulam National Park (ZSIK).

Diagnosis : Female. Body bluish green with slight golden reflections on head and mesosoma; metasoma almost black; antenna dark brown except scape testaceous; legs with coxae concolorous with mesosoma, remainder testaceous with tips of tarsi brown; tegulae brown; wings hyaline; antenna inserted little below middle of face; pedicel almost 2x as long as broad; head moderately reticulate; forewing with PMV much shorter than MV; STV only about 0.3x MV; gaster 1.2x as long as thorax; petiole 0.3x as long as gaster.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10654/H3).

Host : Unknown.

Distribution : India : India : Kerala, Maharashtra (new record).

19. *Sphegigaster reticulata* Sureshan & Narendran
(Plate II-19)

1997. *Sphegigaster reticulata* Sureshan & Narendran, 195, Holotype Female, India : Parambikulam (ZSIK).

Diagnosis : Female. Head, thorax and petiole bluish black; gaster black; antennae yellow; all coxae concolorous with thorax, remainder of legs brownish yellow with tips of tarsi brown; tegulae testaceous; POL 1.6x OOL; pronotum with lateral angles of collar without teeth; mesoscutum, scutellum and propodeum moderately reticulate; MV 2.9x STV and 1.4x that of

PMV; petiole moderately reticulate; gaster elongate, ovate; T1 occupying almost one third length of gaster, hind margin straight; T2 occupying more than half of gaster.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10655/H3).

Host : Unknown.

Distribution : India : Kerala, Maharashtra (new record).

20. *Sphegigaster stepicola* Boucek
(Plate II-20)

1965b. *Sphegigaster stepicola* Boucek, 12, Holotype Female, Czechoslovakia (NMP).

1971. *Acroclisis melanagromyzae* Mani, 591.

Diagnosis : Female. Body slender, shiny black; legs relatively dark; tibiae more or less infuscate; antenna with all funicle segments transverse; F1 shorter than pedicel; gaster oval, shorter than thorax; petiole 3x as long as wide; hind margin of T1 with its middle portion truncate.

Material examined : 1 Female, India : Maharashtra, Amravathi dist., Melghat Wildlife Sanctuary, Semodah, 22.ix.2007, coll. Girish Kumar, P. (NZSI, Regd. No. 10656/H3).

Host : *Melanogromyza* sp. and *Phytomyza* sp. (Diptera: Agromyzidae) (Noyes, 2003).

Distribution : India : Bihar, Delhi, Karnataka, Kerala, Maharashtra (new record), Uttar Pradesh.

Elsewhere : Widely distributed.

SUMMARY

In this paper, twenty species of chalcidoid wasps are identified and reported from Melghat Wildlife Sanctuary of which 9 species of Eulophidae, viz., *Aprostocetus microcosmus* (Girault), *A. kuriani* (Husain & Khan), *A. vatiata* Narendran, *Neotrichoporoides arunima* Narendran, *N. beonus* Narendran, *N. doproides* Narendran, *Tetrastichus epilachnae* (Giard), *T. taprobanensis* Ranaweera and *T. tunicus* Narendran, 2 species of Eupelmidae, viz., *Eupelmus (Eupelmus) testaceiventris* (Motschulsky) and *Neanastatus cinctiventris* Girault and 4 species of Pteromalidae, viz., *Mesopolobus harithus* Sureshan & Narendran, *Sphegigaster anamudiensis* Sureshan & Narendran, *S. reticulata* Sureshan & Narendran and *S. stepicola* Boucek are reported here for the first time from Maharashtra state.

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PLATE I



1. *Aprostocetus microcosmus* (Girault). Female.



2. *Aprostocetus kuriani* (Husain & Khan). Female.



3. *Aprostocetus variata* Narendran. Female.



4. *Neotrichoporoides arunima* Narendran. Female.



5. *Neotrichoporoides beonus* Narendran. Female.



6. *Neotrichoporoides doproides* Narendran. Female.



7. *Tetrastichus epilachnae* (Giard). Female.



8. *Tetrastichus taprobanensis* Ranaweera. Female.



9. *Tetrastichus tunicus* Narendran. Female.



10. *Elasmus viridiscutellatus* Verma & Hayat. Female.