



E-ISSN: 2320-7078

P-ISSN: 2349-6800

JEZS 2018; 6(3): 1278-1280

© 2018 JEZS

Received: 24-03-2018

Accepted: 25-04-2018

T Krishna Chaitanya

Horticultural Research Station,
Dr. YSR Horticultural
University, Lam farm, Guntur,
Andhra Pradesh, India

C Venkata Ramana

Horticultural Research Station,
Dr. YSR Horticultural
University, Lam farm, Guntur,
Andhra Pradesh, India

S Manickavasagam

Parasitoid Taxonomy and
Biocontrol Laboratory,
Department of Entomology,
Faculty of Agriculture,
Annamalai University,
Chidambaram, Tamil Nadu,
India

L Naram Naidu

Horticultural Research Station,
Dr. YSR Horticultural
University, Lam farm, Guntur,
Andhra Pradesh, India

K Sireesha

Horticultural Research Station,
Dr. YSR Horticultural
University, Lam farm, Guntur,
Andhra Pradesh, India

Correspondence

T Krishna Chaitanya

Horticultural Research Station,
Dr. YSR Horticultural
University, Lam farm, Guntur,
Andhra Pradesh, India

New record of three encyrtid species (Chalcidoidea: Encyrtidae) from the state of Andhra Pradesh

**T Krishna Chaitanya, C Venkata Ramana, S Manickavasagam, L Naram
Naidu and K Sireesha**

Abstract

Three encyrtid species viz., *Coagerus bouceki* Noyes and Hayat; *Gentakola trifasciata* (Saraswat) and *Sakencyrtus mirus* Hayat are newly recorded from chilli associated forest eco-system, Horticultural Research Station, Lam Farm, Guntur District, Andhra Pradesh.

Keywords: Chilli (*Capsicum annum* L.), Encyrtidae, Andhra Pradesh, new record

Introduction

The hymenopteran superfamily, Chalcidoidea is one of the most species rich and biologically diverse groups of insects. The family Encyrtidae (Hymenoptera: Chalcidoidea) is one of the largest of the chalcidoid families. This family currently includes nearly 4,000 described species in 497 genera globally, 610 species in 142 genera from India [4, 6] and represents one of the most successful groups used in the biological control of agricultural pests worldwide [5, 2], especially the biocontrol of mealybugs [8]. Members of this family regularly attack the Sternorrhyncha families, Pseudococcidae and Coccidae, although other families such as Aphididae and Cercopidae may also serve as hosts. In the hemipterous family Pentatomidae and its closely related forms, only the egg stage is attacked. Many Lepidoptera are parasitized, some by species that develop in the eggs and others in the larvae. Several genera are in the latter group that are capable of polyembryonic reproduction, where several thousand individuals emerge from a single host. Among Coleoptera, the larval and pupal stages of Coccinellidae and Chrysomelidae are frequent hosts. Dipterous pupae, in particular those of the Syrphidae and Cecidomyiidae, are also often parasitized. Several species are recorded from neuropterous cocoons, principally of the genus *Chrysopa*. Occasionally chloropid dipteran, *Hippelatespusio* Loew are also attacked by *Ooencyrtus submetallicus* Howard. Some encyrtids are also internal parasitoids of the nymphs of ticks (Ixodidae), represented by the genera *Huntrellus* and *Ixodiphagus* [9]. The taxonomy of such an important group of parasitoids of agricultural importance has not been fully exploited throughout India except for a team of workers from Aligarh Muslim University. There is no consistent effort to work on Encyrtidae Taxonomy from south India. The present work is in continuation of the consistent efforts to document the unnamed and unidentified encyrtid fauna.

Materials and Methods

The specimens were collected through yellow pan traps from chilli associated forest ecosystems in Guntur, Andhra Pradesh. The specimens were studied and photographed by Leica M205C stereozoom trinocular microscope with a DMC2900 camera. The identified specimens were properly registered and kept at Parasitoid Taxonomy and Biocontrol Laboratory, Department of Entomology, Faculty of Agriculture, Annamalai University, Chidambaram.

The following abbreviations are used:

F1, F2, etc. = funicle segments 1, 2, etc.

YPT = Yellow pan trap.

TI, TII, etc. = Tergites I, II, etc. of gaster.

The following acronyms are used:

HRS = Horticultural Research Station.

USNM = United States national museum of natural history, Washington DC, U.S.A.

BMNH = The natural history museum, London, England.

Results and Discussion

1. *Coagerus bouceki* Noyes and Hayat

(Fig. 1)

Coagerus bouceki Noyes and Hayat, 1984 [8]: 252-253, F. Holotype F: India, Coimbatore (BMNH). (Also Bangalore)

Tyndarichus bouceki (Noyes & Hayat): Fatima & Shafee, 1994 [1]: 74-75, tax.

Diagnosis: Head black dorsally with dull greenish and brassy reflections, around mouth and antennal toruli slightly purplish; antennal torulus, basal half or so of scape and pedicel dark brown, remainder of antenna yellow, the apex of clava indistinctly fuscus, meso scutum shining metallic green; tegula brown; scutellum matt, black; legs white to yellow with apical one third of mid femur, extreme base and a narrow sub-basal band on mid tibia; gaster with venter and basal area dorsally yellow, apex dorsally continuing along sides to base dark purplish brown; exerted part of gonostyli dark purplish brown, apices yellowish; scape 3.8× as long as broad; frontovertex 0.2× head width; ovipositor 1.4× as long as mid tibia.

Length: 0.67 – 0.97 mm

Distribution: This species is already recorded from Karnataka, Puducherry, Tamil Nadu, Uttar Pradesh and Uttarakhand. This is newly recorded from Andhra Pradesh.

Material examined: India, HRS, Lam Faram, Guntur District, Andhra Pradesh, 19.vii.2017, (N16°18'51.1524" E80°26'6.1008"), Coll. T. Krishna Chaitanya and C. Venkata Ramana through YPT, Horticultural Research Station, Dr. YSR Horticultural University, Andhra Pradesh.



Fig 1: *Coagerus bouceki* Noyes and Hayat

2. *Gentakola trifasciata* (Saraswat)

(Fig. 2)

Comperiella trifasciata Saraswat, in Saraswat & Mukerjee, 1975 [9]: 51-53, F. Holotype F: India, Karnt., Coorg, mercara (USNM).

Gentakola trifasciata (Saraswat): Noyes & Hayat, 1984 [7]: 280, F, M., tax., des., Bannerghatta, Coimbatore and Delhi rec.

Diagnosis: Head is largely green or greenish blue with anterior genal protuberance more or less deep purple and the clypeus and interantennal prominence quite strongly orange; the scutellum is more strongly blue; occipital foramen situated in dorsal one third of occiput; antennal scape much longer than minimum width of frontovertex; mandible narrow with three apical teeth, the middle one slightly the longest; propodeum medially about one-fifth length of scutellum; gaster very slightly shorter than thorax; hypopygium more or less reaching apex of gaster; paratergites absent; last tergite about as long as mid tibia; ovipositor which is nearly as long as mid tibia.

Length: 0.71 mm

Distribution: This species is already recorded from Assam, Delhi, Karnataka, Tamil Nadu and West Bengal. This is newly recorded from Andhra Pradesh.

Material examined: India, HRS, Lam Faram, Guntur District, Andhra Pradesh, 12.viii.2017, (N16°18'51.1524" E80°26'6.1008"), Coll. T. Krishna Chaitanya and C. Venkata Ramana through YPT, Horticultural Research Station, Dr. YSR Horticultural University, Andhra Pradesh.



Fig 2: *Gentakola trifasciata* (Saraswat)

3. *Sakencyrtus mirus* Hayat

(Fig. 3)

Sakencyrtus mirus Hayat, 1981 [3]: 28, F. Holotype F: India, Aligarh (BMNH)

Diagnosis: Head golden yellow; inter-torular area largely pale brown; thorax yellow; gaster yellow, with dark brown on sides of TI-TVI and adjacent to cercal plates, otherwise large brownish yellow to brownish with light metallic bronzy violet shine. Antennal radicle and scape pale yellow, pedicel and F1-6 and clava dark brown; mfrontovertex one third of head width; malar space one third of eye length; F2-6 broader than long, clava obliquely truncate; fore wing with venation and shape different; flagellum dark brown.

Length: 1.07 mm

Distribution: This species is already recorded from Assam, Karnataka, Odisha, Tamil Nadu and Uttar Pradesh West Bengal. This is newly recorded from Andhra Pradesh.

Material examined: India, HRS, Lam Faram, Guntur District, Andhra Pradesh, 15.viii.2017, (N16°18'51.1524" E80°26'6.1008"), Coll. T. Krishna Chaitanya and C. Venkata Ramana through YPT, Horticultural Research Station, Dr. YSR Horticultural University, Andhra Pradesh.



Fig 3: *Sakencyrtus mirus* Hayat

Conclusion

In Andhra Pradesh encyrtid parasitoid taxonomy study is very poor and there is no interested taxonomist so far to study the fauna of this wonderful and important group of insects from Andhra Pradesh. This present work is in continuation of the consistent efforts to document the unnamed and unidentified agriculturally important encyrtid fauna of Andhra Pradesh.

References

1. Fatima A, Shafee SA. Studies on the taxonomy of Indian encyrtids (Hymenoptera: Encyrtidae). Aligarh Muslim University Publication, Zoological Series on Indian Insect Types. 1994; 15:141.
2. Greathead DJ. Parasitoids in classical biological control. Insect Parasitoids. 1986; 1:287-318.
3. Hayat M. Taxonomic notes on Indian Encyrtidae (Hymenoptera: Chalcidoidea). III. Colemania. 1981; 1:13-34.
4. Hayat M. Indian Encyrtidae (Hymenoptera: Chalcidoidea): Department of Zoology, Aligarh Muslim University, India. 2006; 8:496.
5. Noyes JS. A review of the Neotropical species of *Ooencyrtus* Ashmead, 1900 (Hymenoptera: Encyrtidae). Journal of Natural History. 1985; 19:533-554.
6. Noyes JS. Interactive catalogue of World Chalcidoidea. CDrom: Taxapad, Vancouver and the Natural History Museum, London, 2018.
7. Noyes JS, Hayat M. A review of the genera of Indo-Pacific Encyrtidae (Hymenoptera: Chalcidoidea). Bulletin of the British Museum (Natural History) (Entomology). 1984; 48:131-395.
8. Noyes JS, Hayat M. Oriental mealybug parasitoids of the

Anagryini (Hymenoptera: Encyrtidae): CAB International, Oxon, UK. 1994; 8:554.

9. Saraswat GG, Mukerjee MK. Records of some known and descriptions of new species of chalcids (Hymenoptera) from India. Memorirs of the school of Entomologus, st John's college. 1975; 4:35-62.
10. Walker F. Characters of some undescribed species of Chalcidites. Annals and Magazine of Natural History. 1846; 17:108-115, 177-185, 270-272.