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DESCRIPTION OF A NEW SPECIES AND NEW RECORD INCLUDING SOME KNOWN SPECIES OF ENCYRTIDAE (HYMENOPTERA : CHALCIDOIDEA) FROM INDIA

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INTRODUCTION

This paper deals with a small collection of Encyrtidae. It deals with records of four known species and description of a new species.

The descriptive method and terminology adopted here follow those of Noyes & Hayat (1984) and Hayat (2006).

The holotype and determined specimens are all deposited in the National collection, Zoological Survey of India, Kolkata.

The following abbreviations are used :

F–Female; M–Male; NRS–Naturhistoriska Riksmuseet, Stockholm, Sweden; QMB–Queensland Museum, Brisbane, Australia; WADA–Western Australian Department of Agriculture, Perth, Australia; ZDAMU–Department of Zoology, Aligarh Muslim University, Aligarh, India; NZC–National Zoological Collection, Zoological Survey of India, Kolkata, India.

Family ENCYRTIDAE

Genus *Adelencyrtus*

1. *Adelencyrtus quadriguttus* (Girault)

1932. *Epitetracnemus quadriguttus* Girault, (3), Holotype F : India (WADA).

1984. *Adelencyrtus quadriguttus* (Girault) : Noyes & Hayat : 224, tax.

Material examined : 1 female (on slide No. EH. 1223, under 3 coverslips), India : Uttar Pradesh, Jaunpur, 18.ii.2005, Coll. S.I. Kazmi & Party (Regd. No. 11385/H3).

Host : Red scale.

Distribution : India : Uttar Pradesh (In original publication locality not given).

Remarks : This species is known as far from and the holotype collected in India (no locality given) and described by Girault (1932). A redescription of the slide-mounted fragmented parts of the type was given by Hayat (1978).

The specimen from Jaunpur (Uttar Pradesh) agrees in nearly all respects with the type except from some minor differences in the relative dimensions of funicle segments, and relative measurements of ovipositor and mid tibia.

Genus *Homalotylus*

2. *Homalotylus albiclavatus* (Agarwal)

1970. *Neoaenasioidea albiclavatus* Agarwal : 27, F. Holotype F : India, Aligarh (ZDAMU).
 1976. *Neoaenasioidea albiscutellaris* Khan : 10, F. Holotype F : India, Aligarh (ZDAMU). Synonymy by Hayat, 1981 : 21, F, tax, Aligarh and Gonda recorded.
 1975. *Homalotylus albiclavatus* (Agarwal) : Hayat, Alam & Agarwal, 1975 : 69, F, M, key, hosts, distribution.
 1984. *Echthroplexis albiclavatus* (Agarwal) : Shafee & Fatma, 1984 : 371, tax, hosts.
 1984. *Echthroplexis albiscutellaris* (Khan) : Shafee & Fatma, 1984 : 373.

Material examined : 1 female, 1 male, India : Uttar Pradesh, Lucknow, NBRI, Botanical Garden, 7.iii.2007, Coll. S. Sheela & Party (Regd. No., 11391/H3 & 11392).

Notes : This is a well known Indian species recorded from several Indian States including Uttar Pradesh (Hayat, 2006).

Hosts : *Pullus* sp. on robusta coffee, *Coffea canephora*; coccinellids predaceous on *Coccidohystric insolita*, same host on *Solanum melongena* and *Achyranthes aspera*; *Nipaecoccus viridis* on *Tephrosia purpurea* and *Zizyphus* sp; *Pseudococcus* sp. on *Citrus medica*; aphid on *Solanum* sp.

Distribution : India : Himachal Pradesh, Jharkhand, Karnataka, Kerala, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

3. *Homalotylus flaminus* (Dalman)

1820. *Encyrtus flaminus* Dalman : 390, ?M. Sweden (NRS).
 1876. *Homalotylus flaminus* (Dalman) : Mayr, 1876 : 752.
 1964. *Echthroplexis flaminus* (Dalman) : De Santis : 162.

Material examined : 1 female, India : Uttar Pradesh, Sitapur, 9.iii.2007, (Malaise Trap) Coll. S. Sheela & Part (Regd. No. 11390/H3).

Notes : This is a cosmopolitan species, recorded from the Indian States of Andhra Pradesh, Delhi, Karnataka, Punjab and Uttar Pradesh (Hayat, 2006).

Hosts : Coccinellids predaceous on : *Nipaecoccus* sp. on *Solanum* sp.

Distribution : India : Andhra Pradesh, Delhi, Karnataka, Punjab, Uttar Pradesh.

Elsewhere : South China, Java, Australia.

Genus *Tassonia*

4. *Tassonia gloriae* Girault

1921. *Tassonia gloriae* Girault, 2, F. Holotype F : Australia, Wynnum (QMB).
1921. *Neblatticida tassoniaeformis* Girault, 3, F. Holotype F : Australia, Queensland, Babinda (QMB).
Synonymy by Noyes & Hayat : 341.
1975. *Leiocyrtus aphidivorus* Shafee, Alam & Agarwal : 93-95, F. Holotype F : India, Guntur, Nidubrolu (ZDAMU). Synonymy by Hayat, 2003 : 202.
1981. *Aphidencyrtus magniclavus* Hayat & Subba Rao : 108. Synonymy with *aphidivorus* by Fatima & Shafee, 1994 : 90. Synonymy by Hayat, 2003 : 202.
1984. *Tassonia magniclava* (Hayat & Subba Rao) : Noyes & Hayat : 341, tax.
1994. *Adelencyrtus magniclava* Fatima & Shafee : 69, 71-72, F. Holotype F : India, Aligarh (ZDAMU).
Synonymy with *aphidivora* by Hayat, 1999 : 398. Synonymy by Hayat, 2003 : 202.
1994. *Tassonia aphodivora* (Shafee, Alam & Agarwal) : Fatima & Shafee : 90.

Material examined : 1 female (on slide No. EH. 1244) India : Uttar Pradesh, Saharanpur, 14.ii.2005. Coll. S.I. Kazmi & party; 1 female (on slide No., EH. 1245, body damaged) (Regd. No. 11386/H3); Uttar Pradesh, Lucknow, NBRI Botanical Garden, 7.iii.2007, Coll. Sheela & Party (Regd. No., 11387/H3).

Notes : This is a well-known species, and recorded from several Indian States, including Uttar Pradesh (Hayat, 2006).

Hosts : *Hysteronera setariae* on *Cynodon dactylon*; *Longiunguis sacchari* on *Saccharum officinarum*, same host on *Sorghum* plant.

Distribution : India : Andhra Pradesh, Bihar, Goa, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Punjab, Rajasthan, Tamil Nadu, Uttrakhand, Uttar Pradesh, West Bengal.

Elsewhere : Australia.

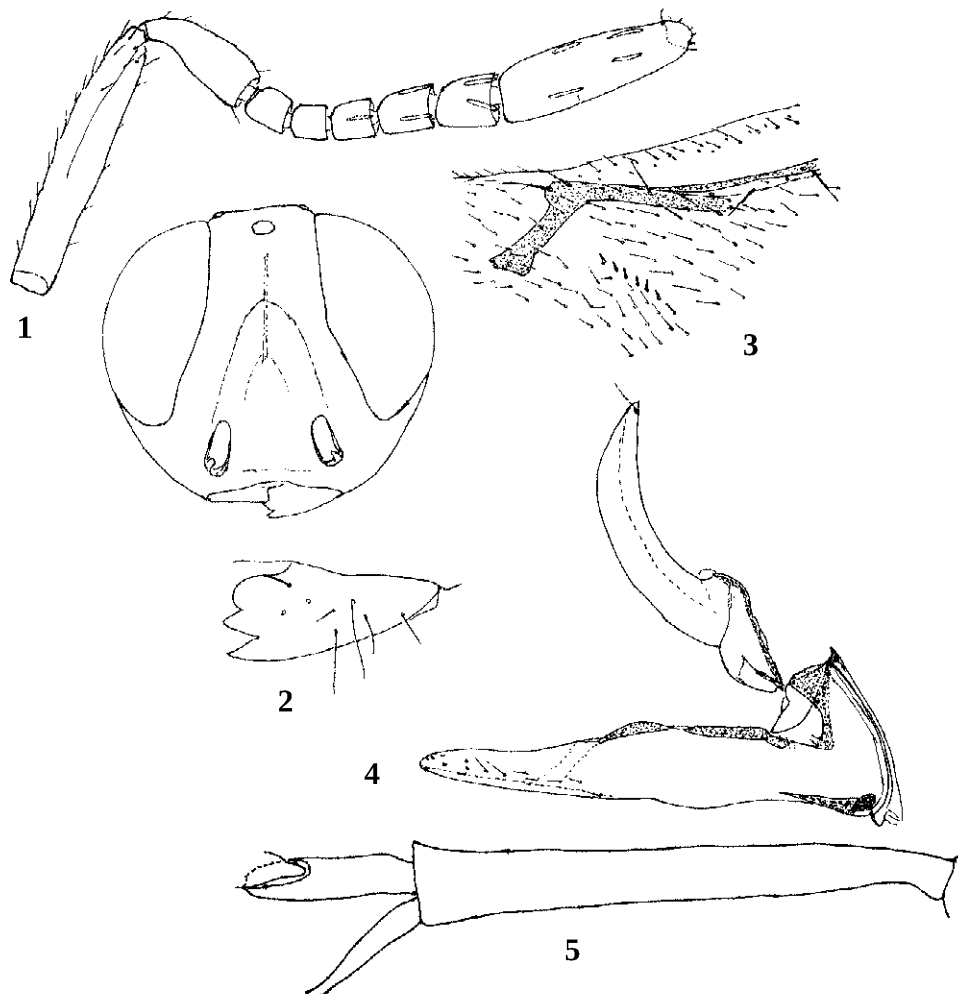
Genus *Trechnites*

5. *Trechnites silvestris* sp. nov.

(Fig. 1-5)

Female : Length, 1.36 mm. Body completely dark brown to nearly black, shiny; scutellum intense bluish green with some purple in middle. Antenna with radical, scape except apex, pedicel except apical third to fourth, dark brown; funicle segments 1-3 (F1-3) brown, F4 and F5 pale yellowish brown, clava yellow. Wings hyaline. Legs with coxae, fore and hind femora dark brown; mid femur yellowish brown; diffuse brownish infuscation in basal third of fore tibia, and basal fourth of hind tibia; mid tibia with slight brownish infuscation in basal fourth; rest of leg parts and tarsi pale yellow.

Head (Fig. 2) : Frontoververtex with raised reticulate sculpture, on sides of scrobes with fine, obliquely elongate cells; malar space with slightly raised elongate reticulations. Eyes setose, setae transparent, and each shorter than a facet. Other details as in Fig. 2. Mandible with two teeth and



Figs. 1-5. *Trechnites silvestris* sp. nov., holotype, female : 1. antenna; 2. head frontal, with mandible enlarged; 3. distal veins of fore wing; 4. ovipositor, right half; 5. mid tibia, basitarsus and spur, drawn on same scale as Fig. 4.

a rounded dorsal tooth. Maxillary and labial palpi each 3-segmented as in other species. Antenna as in Fig. 1. Relative measurements. Head frontal width 49; head frontal height 40; frontovertex width, 15.5; mouth fossa width, 20.5; eye length, 31; malar space, 12.5.

Thorax : Mesoscutum with regular reticulate sculpture; scutellum with raised reticulate sculpture, much deeper than on mesoscutum; propodeum with submedian, oblique ridges, and a 'Y' shaped ridge adjacent to each spiracle. Fore wing 2.25x as long as broad; disc proximad of linea clava densely setose, with a small bare area at base; distal venation as in Fig. 3. Hind wing 3.93x as long

as broad; marginal fringe about 0.20x of wing width. Relative measurements. Thorax length, 59; mesoscutum length (width), 27(40); scutellum length (width), 28(28); medial length of propodeum, 3.5; distance between propodeal spiracles, 40.5. Fore wing length (width), 102(45).

Gaster : Relative measurements. Last tergite of gaster length (T VII), 33; ovipositor length, 33.5 (Mid tibia length, 38; mid basitarsus length, 12; mid tibial spur length, 10).

Male : Unknown.

Material examined : Holotype, female (on slide No. EH. 1246, under 4 coverslips) : India : Maharashtra, Jalgaon District, Jamneri Reserve Forest, 14.ix.2007, on *Terminalia tomentosa*, Coll. Bindu & Party. Deposited in NZC (Regd. No. 11388/H3).

Additional specimen : One female (on slide No. EH. 1247, under a coverslip) with same data as the holotype. The specimen lacks antennae and legs and the body is partly damaged (Regd. No., 11385/H3).

Hosts : Unknown. Specimens were captured on *Terminalia tomentosa*, probably psyllids infesting this plant.

Distribution : India : Maharashtra.

Etymology : Latin, *silva* = forest or wood; *silvestris* = belonging to wood or forest.

Remarks : *Trechnites silvestris* sp. nov. is very closely related to *T. aligarhensis* Hayat *et al.* (1975; see also Kazmi & Hayat, 1995; Hayat, 2006), but differs in having malar space 0.4x of eye length, funicle segments relatively slender, F3 distinctly shorter than F4, funicle segments, except F2, longer than broad; and ovipositor 0.88x of mid tibia. (In *aligarhensis* : malar space 0.34x of eye length; funicle segments relatively robust, F4 and F5 at most only slightly longer than broad; and ovipositor 1.33x as long as mid tibia).

SUMMARY

A new species of the encyrtid genus *Trechnites*, viz. *T. silvestris*, sp. nov., is described and illustrated. Four other known species Encyrtidae are recorded of which *Adelencyrtus quadriguttus* (Girault) is reported after its first description in 1932 from India.

Keywords : Hymenoptera, Encyrtidae, a new species of *Trechnites*, and records of four known species.

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