

## Hover-flies (Diptera: Syrphidae) in the collection of the Annamalai University, Chidambaram, Tamil Nadu

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### Introduction

Presented in this paper is the result of the examination of whatever Syrphidae I managed to find in the collections of the Annamalai University (1929-) at Chidambaram, maintained in the Department of Entomology in the Faculty of Agriculture there. I had visited there from August 25th to 28th, 2016 and was permitted study of their insect collections through courtesy of Prof. Dr S. Manickavasagam. A couple of hours examination of the 50 Syrphidae specimens that were located there resulted in the following 13 species (of 10 genera) being identified, which are enumerated below, with pertinent annotations on each of them. Other published records of Syrphidae from Tamil Nadu and other parts of southern India, vide Ghorpadé et al. (2011: 79) were published by Ramakrishna Ayyar & Krishna Ayyar, 1933 (not seen); Cherian, 1934; Usman & Puttarudriah, 1955; Kalyanam, 1970; Datta & Chakraborti, 1986 and Joseph & Parui, 1986. Those species not found by me in Annamalai Univ., Chidambaram have also been variably mentioned below, the most frequent hover-fly species usually occurring in this biogeographical sub-area of the "Tamilnad Carnatic," a coastal strip in the extreme southeastern corner of the Indian landmass. Chidambaram lies just a few kilometres north of the famous seacoast of Tranquebar [= Tharangambadi] and the recent destruction of that place by the tsunami leaves Chidambaram as the nearest place where old types from Tranquebar could be collected from, if still flying. The Indian political States/Union Territories in southern India, i.e., Karnataka, Goa, Telengana, Andhra Pradesh, Tamil Nadu, Pondicherry and Kerala are covered. For floristic data, reference may be made to Matthew (1982, 1983) and Mani (1974). The data in the paper on south Indian Syrphidae (Cherian, 1934) and Joseph & Parui (1986) are also included here, with notes on, and corrections of, the identities of species listed by them.

This is the tenth faunistic study of Indian sub-continent Syrphidae by me, after my papers on Syrphidae in the eastern coastal portion of the south Indian State of Andhra Pradesh (Ghorpadé et al., 2011), another on Pakistan Syrphidae (Ghorpadé & Shehzad (2013), on Afghanistan

Syrphidae (Ghorpadé, 2014b), the Panjab University, Chandigarh collection (Ghorpadé, 2014c), that on the PAU, Ludhiana collection (Ghorpadé & Pathania, 2014), on the Nepal Himalaya Syrphidae (Ghorpadé, 2014d), on Syrphidae of the North-West Frontier (Ghorpadé, 2015), on Tripura (Ghorpadé & Anooj, 2016), again on Pakistan (Shehzad et al. (2017) and on Poonch District, Azad Kashmir [=P.O.K.] (Hassan et al., 2017). The Tamilnad Carnatic is also an almost completely deforested country, and equally extensively farmed, with little natural tree and other wild vegetation remaining now. I again noticed a "sea of paddyfields" during my tour of this State in August-September 2016, but several pulses and chilli peppers are also grown in the alluvial red soil here. University campuses there also have horticultural gardens and 'forest' plantation plots where Syrphidae could be frequent visitors to flowering plants (native and cultivated) there, as well as occurring on flowers of field crops like nigerseed, safflower, sunflower and others, and perhaps engaging in their pollination also as also of the mangrove tree *Excoecaria agallocha* L. (Euphorbiaceae) ?

Ghorpadé et al. (2011: 79) had given a summary account of Syrphidae faunistics in India, citing all major published references in that paper. I have recently published (Ghorpadé, 2015) a detailed summation of Syrphidae recorded from the "North-West Frontier" of the Indian sub-continent, which area has mostly Palaearctic and Afrotropical elements occurring and, actually, just a limited number of the real, 'Oriental' fauna, which latter flies in the rest of India and in the other south and south-east Asian countries (see also Mani, 1974).

Chidambaram (11.39°N, 79.69°E) is a temple town in Cuddalore District of Tamil Nadu, located some 215km south of Chennai (erstwhile Madras) between the Vellar and Kollidam (erstwhile Coleroon) Rivers. It almost abuts the Bay of Bengal where the Pichavaram mangroves and wetlands are situated, with *Excoecaria agallocha* L. (Euphorbiaceae) tree dominated forests (Matthew, 1982: 638, 1983: 1442). This area was under the Chola, Pandya and Pallava kingdoms of yore and is dotted with many Shiva temples.



The records of Syrphidae and their prey compiled by Ghorpade (1981a) from localities in Tamil Nadu have been incorporated under the relevant predacious species documented below, for information.

#### Systematic Account

Order DIPTERA  
Family SYRPHIDAE  
Subfamily ERISTALINAE  
Tribe ERISTALINI

##### 1. *Eristalinus arvorum* (Fabricius, 1787)

*Eristalis arvorum* Fabricius, 1787, Mantissa Insectorum, 2: 335 (♂ ♀; China) [ ? ]

Specimens Examined: 1♂. INDIA: Tamil Nadu: Chidambaram, iv.2017, Student coll. ( 1♂ ) [ AUC, Chidambaram ]

Remarks: This species is peregrine (widespread) in S. & SE. Asia, Australia (Queensland), Hawaii, Marianas, Micronesia and is familiar in most of the Indian sub-continent. Cherian (1934: 698) mentioned specimens from Coimbatore in Tamil Nadu and was stated to be very common all over India (Joseph & Parui, 1986). Ghorpade et al. (2011: 81) listed it as widespread in India, and as peregrine and widespread in India. It was mentioned as "entire SE. Asia" in the Oriental Catalog (Knutson et al., 1975: 347). For this and other species documented below almost full synonymy is available in Ghorpadé (2015). Specimens may be mistaken for *obliquus* (Wiedemann) but that species has the hind femora black, unlike *arvorum* which has it yellow or orange-yellow.

##### 2. *Eristalinus megacephalus* (Rossi, 1794)

*Syrphus megacephalus* Rossi, 1794, Mantissa Insectorum, 2: 63 (♂: lost; 'Etruria' = Toscana, Italy) [ lost ]

Specimens Examined: 3♀. INDIA: Tamil Nadu: Chidambaram, iv.2017, Student coll. ( 1♀ ); same locality, no date, Manickavasagam (2♀) [ AU, Chidambaram ]

Remarks: This species is named as *obscuritarsis* in most Indian/Oriental older literature but should be called *megacephalus* now (vide F. C. Thompson pers. comm.). This synonymy needs to be confirmed since it has a widespread range, from Africa through the Indian sub-continent via China, Taiwan, Java and the Pacific island of Guam. Cherian (1934: 699) recorded it from Kurnool (Andhra Pradesh). Datta & Chakraborti (1986: 58, Fig. 1, A-C) reported it from Kashmir to Bangalore, and in Bangladesh. For complete data see Ghorpadé (2015: 29-30). It is also familiar in most of the Indian sub-continent, especially in the north; southern Indian records are few. Specimens have an elongate-conical abdomen and black tarsi, which are at most pale

at base.

##### 3. *Mesembrius bengalensis* (Wiedemann, 1819)

*Eristalis bengalensis* Wiedemann, 1819, Zool. Mag. (Wied.), 1:16 (♂ ♀; 'Bengal, India' [ NM, Wien ]

Specimens Examined: 4♂ 2♀. INDIA: Tamil Nadu: Chidambaram, iv.2017, Student coll. ( 1♂ ♀ ); same locality, no date, Manickavasagam (3♂ 1♀) [ AU, Chidambaram ]

Remarks: For complete data see Ghorpadé (2015: 34), Ghorpadé et al. (2011: 82) and Datta & Chakraborti (1986: 60, Fig. 3A-C). It is also familiar in most of the Indian sub-continent, especially in the north, from Bengal. Specimens of males have a tooth below near base of middle femur and fourth tergum has a widely open inverted V-mark.

##### 4. *Mesembrius quadrivittatus* (Wiedemann, 1819)

*Eristalis quadrivittatus* Wiedemann, 1819, Zool. Mag. (Wied.), 1:17 (♂; 'Bengal') [ NM, Wien ]

Specimens Examined: 2♂ 2♀. INDIA: Tamil Nadu: Chidambaram, ii & iv.2017, Student coll. (2♂ 2♀) [ AU, Chidambaram ]

Remarks: For complete data see Ghorpadé (2015: 34-35), Ghorpadé et al. (2011: 82) and Ghorpade (2014a: 10). It is also familiar in most of the Indian sub-continent, especially in the north. In specimens of males eyes just approach but at no point actually touch., they do not have a tooth below near base of middle femur.

##### 5. *Phytomia argyrocephala* (Macquart, 1842)

*Eristalis argyrocephala* Macquart, 1842, Dipt. exot., 2(2): 45 (105) (♂ ♀; 'Indes Orientales') [ ? ]

Specimens Examined: 1♀. INDIA: Tamil Nadu: Chidambaram, no date, Manickavasagam ( 1♂ ). [ AU, Chidambaram ]

Remarks: For complete data see Ghorpadé (2015: 36) and Cherian (1934: 699) from where latter recorded from Coimbatore. It is also familiar in most of the Indian sub-continent, being dominantly tropical in distribution, and from Coimbatore (Ghorpadé, et al. 2011: 82). Large and stocky eristalines with black hind femur.

Tribe MERODONTINI

##### 6. *Eumerus aurifrons* (Wiedemann, 1824)

*Pipiza aurifrons* Wiedemann, 1824, Analecta Ent., p. 32 (♂; 'Ostindien') [ UZMC, Copenhagen ]

Specimens Examined: 1♂. INDIA: Tamil Nadu: Chidambaram, no date, Manickavasagam ( 1♂ ). [ AU, Chidambaram ]

Remarks: For complete data see Ghorpadé (2015: 40). This is a peregrine species of *Eumerus*, distinct in its golden body colour and hairing. It is also familiar in most of the Indian sub-continent.



Subfamily SYRPHINAE  
Tribe MELANOSTOMINI

**7. *Melanostoma univittatum* (Wiedemann, 1824)**

*Syrphus univittatus* Wiedemann, 1824 *Analecta Ent.*, p. 36 (sex ? 'Ind. Or.') [UZMC, Copenhagen]

Specimens Examined: 20 ♂. INDIA: Tamil Nadu: Chidambaram, no date, Manickavasagam (11♂); Student coll. same locality, -iv.2017 (9♀) [AU, Chidambaram].

Remarks: For complete data see Ghorpadé (2015: 69) and Ghorpadé et al. (2011: 80). This is again a peregrine species of *Melanostoma*, distinct in its lack of a facial tubercle. It is also familiar in most of the Indian sub-continent, especially at lower elevations.

Tribe SYRPHINI

**8. *Allobaccha triangulifera* (Austen, 1893)**

*Baccha triangulifera* Austen, 1893, *Proc. zool. Soc. Lond.*, p. 138 (♂♀; 'Huldamura, Ceylon') [BMNH, London]

Specimens Examined: ♂ ♀. INDIA: Tamil Nadu: Chidambaram, no date, Manickavasagam (♂ ♀). [AU, Chidambaram].

Remarks: For data see Brunetti (1923: 124-126), and Cherian (1934: 698), the latter from South Canara. This is a peculiar "*Baccha*" which perhaps needs a new genus (*teste* Thompson, *in litt.*). Brunetti (1923: 124-126) lumped this southern Indian species with his "*Baccha elegans*" which I (Ghorpadé, 1994: 7) separated into two distinct species, *elegans* being a NE. Indian species. Its larvae have been reared on fulgorids.

**9. *Asarkina hema* Ghorpadé, 1994**

*Asarkina hema* Ghorpadé, 1994, *Colemania*, 3: 8 (♂; 'Bannerghatta Park') [USNM, Washington, DC].

Specimens Examined: ♂. INDIA: Tamil Nadu: Ootacamund, 17.ii.2016, Manickavasagam (♂). [AU, Chidambaram].

Remarks: For data see Ghorpadé (1994: 8). This is a new species discovered by me during a revision of Indian Syrphini. It was seen at Bannerghatta Park, near Bangalore (Karnataka), and at Walayar forest and Thekkady in Kerala. This specimen seen from Ootacamund on the Nilgiri Hills is the first record of this species from Tamil Nadu and is an important first record.

**10. *Asarkina incisuralis* (Macquart, 1855)**

*Syrphus incisuralis* Macquart, 1855, *Dipt. exot. Suppl.*, 5: 94 (114) (♂; 'Inde') [OUM, Oxford].

Specimens Examined: 6♂ 1♀. INDIA: Tamil Nadu: Chidambaram, no date, Manickavasagam (4♂); Student coll. same locality, -iv.2017 (2♂); same locality, -ii/2017 (♀). [AU, Chidambaram].

Remarks: For data see Ghorpadé (1994: 8; 2014a: 18; 2015: 90-91), Ghorpadé et al. (2011: 80) and Datta & Chakraborti (1986: 53). This was long misidentified as "*Asarcina ericetorum* or *A. salviae*" in literature (Cherian, 1934: 698), even up to as late as Thompson et al. (2017) without examination of the Fabrician types, which I did (see Ghorpadé, 2015: 91) and Ghorpadé (1994: 8). This is again a peregrine species of *Asarkina* distinct in its carinate face (tubercle). It is also familiar in most of the Indian sub-continent, especially at lower elevations.

**11. *Serratoparagus yerburiensis* (Stuckenberg, 1954)**

*Paragus (Paragus) yerburiensis* Stuckenberg, 1954, *Trans. R. ent. Soc. Lond.*, 105: 415 (♂; 'Velverry, Ceylon') [BMNH, London].

Specimens Examined: 2 ♀. INDIA: Tamil Nadu: Chidambaram, no date, Manickavasagam (2 ♀). [AU, Chidambaram].

Remarks: For complete data see Ghorpadé et al. (2011: 79-80) and Ghorpadé (2015: 82). This is again a peregrine species of *Serratoparagus* distinct in its predominantly black coloration with the first tergum entirely black behind the first transverse ridge. I listed its aphid prey (Ghorpadé, 1981: 65) including six new aphid prey species records. We (Thompson & Ghorpadé, 1992: 16-17) documented more than 350 specimens ranging from Delhi across Uttar Pradesh, Bihar, West Bengal, Nepal, and Assam down south to Kerala and Sri Lanka (Map 7).

**12. *Dideopsis aegrota* (Fabricius, 1805)**

*Eristalis aegrotus* Fabricius, 1805, *Syst. Antlat.*, 243 (♀; 'China') [ZMC, Copenhagen - examined]

Specimens Examined: 1♀. INDIA: Tamil Nadu: Chidambaram, no date, Manickavasagam (♀). [AU, Chidambaram].

Remarks: For complete data see Ghorpadé (2015: 103). This is again a peregrine species, distinct in its black banded wing and abdominal markings. I listed its aphid prey (Ghorpadé, 1981: 70-71).

**13. *Episyrphus viridaureus* (Wiedemann, 1824)**

*Syrphus viridaureus* (Wiedemann, 1824), *Analecta Ent.*, p. 35 (♂; 'Java') [ZMC, Copenhagen - examined]

Specimens Examined: 1 ♀. INDIA: Tamil Nadu: Chidambaram, no date, Manickavasagam (1 ♀). [AU, Chidambaram].

Remarks: For complete data see Ghorpadé (2015: 108), and Ghorpadé (1994: 10). This is again a peregrine species of *Episyrphus* distinct in its coloration of sterna. I listed its aphid prey (Ghorpadé, 1981: 65) including six new aphid prey species records. It was recorded as a predator of "*Syrphus*



*balteatus*" on *Myzus persicae* on cabbage in Bangalore in June and in Coimbatore on aphids on *Arundo donax* and certain grasses, and extremely common (Datta & Chakraborti (1986).

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#### India has most Oral Cancer cases

India has the dubious distinction of maximum number of Oral Cancer cases in the world, with about nine lakh people succumbing to diseases caused by tobacco, Balu David, Director Aringar Anna Memorial Cancer Institute said.

The habit of chewing tobacco in the form of gutkha and khaini in the northern states of UP and Bihar, particularly Mainpuri region, is mainly responsible for the disease in the people.