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CHECKLIST OF INDIAN TRICHOGRAMMATIDAE (HYMENOPTERA: CHALCIDOIDEA)

Salma Begum*, Shoeba B. Anis

Department of Zoology, Section of Entomology, Aligarh Muslim University, Aligarh, Uttar Pradesh.

ABSTRACT

A complete updated checklist of Indian Trichogrammatidae is presented here. This list is based on a detailed study of all available published data and on recent collected materials from different state of India. A total of 151 species representing 31 genera were recognized from India.

Keywords: Checklist, Trichogrammatidae, India.

INTRODUCTION

The family Trichogrammatidae is one of the most widely distributed, speciose and biologically diverse group. The members of this family are very minute, measuring about 0.2-1.0 mm and are easily recognized by three segmented tarsi. The trichogrammatids fauna is represented by 89 genera and more than 800 species across the world (Ranyse et al., 2010). However, in India, it is represented by only 151 species in 31 genera (Noyes, 2012) and among them *Trichogramma* Westwood and *Oligosita* Walker are highly speciose (Noyes, 2012). The trichogrammatids constitute an economically important group of hymenopterous parasitoids attacking eggs of various groups of insect pests mostly on Lepidoptera and Hemiptera, few on Coleoptera, Diptera and Thysanoptera (Yousuf and Shafee, 1987). The species of Trichogrammatidae are showing a great diversity in host preference, thus play a major role in regulating pest population in nature and therefore potentially important in biological control programs against various pests, *Trichogramma* are used commercially to control Lepidopterous pests of various crops (Ridgway and Morrison, 1985). The confusion still present in the Trichogrammatidae can only be alleviated with further collecting efforts and the necessary taxonomic work. Beside the usefulness of these insects in the control of pests, their taxonomic study is

fascinating such as modifications in antennal, wing, male genitalic characters, though laborious and time consuming work. Because of their small size, lack of literature, lack of collection and less taxonomy studies resulted in many nomenclature problems. Girault (1911, 1912a, b, 1913) was perhaps the only chalcidologist who made great strides in the study of trichogrammatids, and Ashmead (1904) laid the foundation for subsequent taxonomists to work further. However, the need for a reliable system for classifying trichogrammatids was fulfilled by Doult and Viggiani (1968). These authors studied all the available types and presented for the first time a workable key to the genera known from the world and gave notes on their distribution and synonym. Their paper forms the basis for the subsequent studies on Trichogrammatidae. The present checklist is an attempt to bring at one place the available information on the distribution of Indian Trichogrammatidae.

CLASSIFICATION OF THE FAMILY TRICHOGRAMMATIDAE

Ashmead (1904) divided the family Trichogrammatidae into two subfamilies, viz. Trichogrammatinae and oligositinae; the former with 9 genera and the later with 5 genera. His classification was based on the discal ciliation of the forewing. Girault (1912) rejected his classification. He divided the family into two subfamilies, Chaetostrichinae and Trichogrammatinae and further recognized two to three tribes, Chaetostrichinae, Ophioneurini and Lathromerini (Girault, 1912a, b, c, 1913) in Chaetostrichinae; and Trichogrammatinae with

* Corresponding Author:

Email: salma.taxo@gmail.com

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two tribes, Trichogrammatini and Poropaeni (Girault, 1912c) and Trichogrammatinae and Ophioneurinae (Nowicki, 1933) Viggiani, 1971 divided the family into Trichogrammatinae and Oligositinae as earlier done by Ashmead (1904), but he further recognized 4 tribes, namely, Trichogrammatini and Paracentrobini in Trichogrammatinae, and Oligositini and Chaetostichini in Oligositinae. Yousuf and Shafee (1988) agreed with Viggiani (1971) in dividing the family into subfamilies but recognized 5 tribes within these two subfamilies. More recently, Pinto (2006) agreed with the subfamilial classification of Ashmead (1904), Viggiani (1971) and Yousuf and Shafee (1988b), but recognized only one tribe Trichogrammatini in Trichogrammatinae, and 3 tribes in the Oligositinae: Oligositini (with subtribes, Oligositina and Eteroligositina), Paracentrobini and Chaetostichini. In spite of the above mentioned studies, suprageneric classification remains largely an unsettled problem.

MATERIAL AND METHODS

The following checklist is based on our taxonomic studies and data obtained from all the available literature for the territory of current India, as well as other publications handling Indian data (till 2013). Data of only valid species described from India are given in the distributions cited, as much as feasible, and included only after critical assessment. The present study is based only on females, though males are present in our collection), because it is difficult to associate sexes correctly from swept material and these can only be identified when both the sexes are reared together from known hosts. See Noyes (1982) for hints on collecting and preserving chalcidoid wasps. The list is arranged alphabetically by genus and species. For each species, the most recent combination followed by the author name, year and the Indian distribution (name of state between brackets). The synonyms are given between parentheses after the name (for genus) and distribution (for species), where present.

CHECK LIST OF INDIAN TRICHOGRAMMATIDAE

At present, a total of 151 species in 31 genera of trichogrammatid wasps is recorded from Indian fauna. The most specious genus is *Trichogramma*, which includes 32 species.

1. Genus *Aphelinoidea* Girault, 1911

(Synonyms: *Lathromeroides* Girault, 1913; *Diaclava* Blood & Kryger, 1928; *Krygeriola* Nowicki, 1934; *Thalesanna* Girault, 1938; *Lengerkeniola* Nowicki, 1946; *Encyrtogramma* De Santis, 1957; *Tanygramma* De Santis, 1957)

- a. *gwaliorensis* Yousuf & Shafee, 1985. [Gwalior; Madhya Pradesh; Uttar Pradesh]
- b. *longiclavata* Yousuf & Shafee, 1988. [Uttar Pradesh, Karnataka]

2. Genus *Brachygrammatella* Girault, 1915

(Synonym: *Pseudbrachygramma* Girault, 1915)

- a. *indica* Viggiani & Hayat, 1974. [Maharashtra; Uttar Pradesh; Punjab; Tamil Nadu; Rajasthan] (Synonym: *Brachygrammatella aligarhensis* Khan, 1976; *Brachygrammatella longiclavata* Khan, 1975)
- b. *jaipurensis* Yousuf & Shafee, 1988. [Rajasthan]

3. Genus *Burksiella* De Santis, 1957

(Synonym: *Parhispidophila* Yousuf & Shafee, 1988)

- a. *singularis* (Yousuf & Shafee), 1988. [Haryana; Uttar Pradesh; Orissa]

4. Genus *Chaetogramma* Doutt, 1974

(Synonym: *Brachistarapha* De Santis, 1997)

- a. *borealis* Hayat, 2008. [Uttar Pradesh]
- b. *hisarensis* Yousuf & Shafee, 1993. [Haryana]
- c. *maculata* Hayat, 1981. [Uttar Pradesh] (Synonym: *Brachygrammatella singularis* Yousuf & Shafee, 1985)

5. Genus *Chaetostricha* Walker, 1851

(Synonym: *Centrobia* Foerster, 1856; *Centrobiella* Girault, 1912; *Ratzberggalla* Girault, 1938).

- a. *fumipennis* (Yousuf & Shafee) 1988. [Uttar Pradesh]
- b. *magniclavata* Yousuf & Shafee 1988. [Uttar Pradesh]
- c. *terebrata* (Yousuf & Shafee), 1984. [Andhra Pradesh; Uttar Pradesh; Orissa]

(Synonym: *Chaetostricha terebrator* Yousuf & Shafee, 1985; *Oligositoides latipennis* Yousuf & Shafee, 1988)

6. Genus *Chaetostrichella* Girault, 1914

- a. *Indica* Hayat, 2009. [Assam]

7. Genus *Epoligosita* Girault, 1915

Synonyms: *Paroligosita* Girault & Dodd, 1915. Preoccupied by *Paroligosita* Kurdjumov, 1911).

- a. *albiscutellum* Yousuf & Shafee, 1988. [Uttar Pradesh]
- b. *bicolor* Hayat & Viggiani, 1981. [Uttar Pradesh]
- c. *clara* Hayat & Viggiani, 1981. [Uttar Pradesh]
- d. *duliniae* Livingstone & Yacoob, 1983. [Kerala; Tamil Nadu]

8. Genus *Haeckeliania* Girault, 1912i.

- a. *magniclavata* Yousuf & Shafee, 1984. [Uttar Pradesh]

- b. *orissaina* Hayat, 2009. [Orissa]
- 9. Genus *Hayatia* Viggiani, 1982**
(*Alhinda* Hayat, 2008 as subgenus)
- a. *indica* Viggiani, 1982. [Maharashtra; Uttar Pradesh; West Bengal.]
- b. *triclada* Hayat, 2008. [Uttar Pradesh]
- c. *uttara* Hayat, 2009. [Uttar Pradesh]
- 10. Genus *Lathromeris* Foerster, 1856**
(Synonyms: *Lathromerella* Girault, 1912; *Garouella* Risbec, 1956.)
- a. *viggianii* Yousuf & Shafee, 1988. [Uttar Pradesh]
- b. *yousufi* Hayat, 2009. [Meghalaya]
- 11. Genus *Lathromeroidea* Girault, 1912**
(Synonym: *Centrobiopsis* Girault, 1918)
- a. *ajmerensis* Yousuf & Shafee, 1988. [Rajasthan]
- b. *angustipennis* (Yousuf & Shafee, 1985). [Uttar Pradesh]
- c. *nigrella* Girault, 1912. [Uttar Pradesh]
- 12. Genus *Lathromeromina* Livingstone & Yacoob, 1983**
- a. *tingiphaga* (Livingstone & Yacoob, 1983). [Karnataka; Kerala, Orissa, Tamil Nadu, Kerala]
- b. *transiseptata* (Lin, 1994). [Orissa]
- 13. Genus *Lathromeromyia* Girault, 1914**
(Synonym: *Lathromeromyia* Girault, 1916).
- a. *dimorpha* Hayat, 1981. [Uttar Pradesh; Orissa]
- 14. Genus *Megaphragma* Timberlake, 1923**
(Synonyms: *Sethosiella* Kryger, 1923; *Paramegaphragma* Lin, 1992)
- a. *longiciliatum* Subba Rao, 1969. [Karnataka]
- b. *magniclava* Yousuf & Shafee, 1988. [Uttar Pradesh]
(Synonym: *Megaphragma aligarhensis* Yousuf & Shafee, 1988a).
- c. *shimalianum* Hayat, 2009. [Uttar Pradesh]
- 15. Genus *Mirufens* Girault, 1915**
(Synonym: *Trachocera* Blood & Kryger, 1928)
- a. *afrangiata* Viggiani & Hayat, 1974. [Punjab; Rajasthan; Uttar Pradesh]
(Synonyms: *Mirufens albiscutellum* Khan & Shafee, 1977; *Mirufens magniclavata* Khan & Shafee, 1977)
- b. *brevifuniculata* Khan & Shafee, 1977. [Uttar Pradesh; Rajasthan]
- c. *longifuniculata* Viggiani & Hayat, 1974. [Punjab; Uttar Pradesh; Gujarat; Karnataka]
- d. *mangiferae* Viggiani & Hayat, 1974. [Tamil Nadu; Uttar Pradesh]
(Synonym: *Mirufens longiclavata* Khan & Shafee, 1977)
- 16. Genus *Neocentrobiella* Girault, 1915**
- a. *terebrator* Yousuf & Shafee, 1985. [Uttar Pradesh]
- b. *viggianii* Hayat, 1980. [Uttar Pradesh]
- 17. Genus *Oligosita* (Haliday MS) Walker, 1851**
(Synonyms: *Westwoodella* Ashmead, 1904; *Paroligosita* Kurdjumov, 1911; *Orioligosita*, Hayat, 2009 as subgenus).
- a. *angustipennis* Yousuf & Shafee, 1922. [Uttar Pradesh]
- b. *breviclavata* Yousuf & Shafee, 1988. [Uttar Pradesh; Rajasthan]
- c. *debaiensis* Yousuf & Shafee, 1988. [Uttar Pradesh]
- d. *gilvus* Yousuf & Shafee, 1984. [Uttar Pradesh]
- e. *longiflagellata* Yousuf & Joshi, 2003. [Madhya Pradesh]
- f. *longipennis* Yousuf & Shafee, 1992. [Uttar Pradesh]
- g. *longirhinaria* Yousuf & Shafee, 1988. [Uttar Pradesh]
- h. *meerutensis* Yousuf & Shafee, 1984 [Bihar; Uttar Pradesh; Rajasthan; Jharkand] (Synonyms: *Oligosita aligarhensis* Yousuf & Shafee, 1984; *Oligosita kasimpurensis* Yousuf & Shafee, 1988)
- i. *naias* Girault, 1938. [Andhra Pradesh; Karnataka; Orissa; Tamil Nadu]
- j. *novisanguinea* Girault, 1912. [Haryana; Himachal Pradesh; Jammu and Kashmir; Uttarakhand; Uttar Pradesh; Rajasthan]
- k. *sanguinea* (Girault), 1911. [Uttar Pradesh]
- l. *similiana* Hayat, 2009. [Orissa]
- m. *younusi* Yousuf & Shafee, 1988. [Uttar Pradesh]
- 18. Genus *Paracentrobia* Howard, 1897**
Synonyms: *Abbella* Girault, 1911; *Brachistella* Girault, 1911; *Jassidophthora* Perkins, 1912; *Abbellisca* Ghesquiere, 1946).
- a. *ajmerensis* Yousuf & Shafee, 1988. [Rajasthan]
- b. *andoi* (Ishii, 1938). [Andhra Pradesh]
- c. *bharatpurensis* Yousuf & Shafee, 1988. [Rajastha]
- d. *brevifringiata* Yousuf & Shafee, 1988. [Uttar Pradesh].
- e. *longiclavata* Yousuf & Shafee, 1985. [Uttar Pradesh; Madhya Pradesh]
- f. *longipedicelata* Yousuf & Shafee, 1988. [Uttar Pradesh]
- g. *longipennis* Yousuf & Shafee, 1988. [Madhya Pradesh; Uttar Pradesh]
- h. *maduraiensis* Yousuf & Shafee, 1988. [Tamil Nadu]
- i. *magniclavata* Yousuf & Shafee, 1985. [Uttar Pradesh]

- j. *neoflava* Yousuf & Shafee, 1988. [Rajasthan; Uttar Pradesh]
- k. *nephoteticum* (Mani, 1939). [Orissa] (Synonym: *Oligosita manii* Viggiani, 1981)
- l. *parflava* Yousuf & Shafee, 1988. [Rajasthan]
- m. *pubipennis* Yousuf & Shafee, 1988. [Kerala]
- 19. Genus *Paratrichogramma* Girault, 1912**
- a. *giraulti* Hayat & Shujaiddin, 1980. [Uttar Pradesh]
- b. *nigricorpa* Yousuf & Shafee, 1991. [Uttar Pradesh]
- c. *quilonensis* Yousuf & Shafee, 1988. [Kerala]
- 20. Genus *Poropoea* Foerster, 185**
(Synonym: *Poropoeoides* Nowicki, 1936).
- a. *baleena* Narendran & Hayat, 2007. [Punjab; Uttar Pradesh]
- b. *bella* Hayat & Poorani, 2013. [Karnataka]
- c. *indica* Subba Rao, 1970. [Delhi]
- 21. Genus *Prestwichia* Lubbock, 1864**
(Synonym: *Austromicron* Tillyard, 1926)
- a. *indica* Jonathan & Julka, 1975. [Orissa; West Bengal]
- b. *nympha* Hayat, 2009. [Orissa; Meghalaya; West Bengal]
- 22. Genus *Probrachista* Viggiani, 1968**
- a. *bharatensis* Hayat, 2008. [Himachal Pradesh]
- 23. Genus *Prosoligosita* Hayat & Husain, 1981**
- a. *aseta* Hayat, 2009. [West Bengal]
- b. *longicauda* Hayat, 2009. [Orissa]
- c. *perplexa* Hayat & Husain, 1981. [Orissa; Madhya Pradesh; Uttar Pradesh]
- (Synonym: *Paruscanoidea longiclavata* Yousuf & Shafee, 1984)
- d. *proxima* Hayat, 2009. [West Bengal]
- 24. Genus *Pseudobrachysticha* Girault, 1915**
- a. *semiaurea* Girault, 1915. [Bihar]
- (Synonym: *Paruscanoidea indica*, Mani. 1939)
- 25. Genus *Pseudoligosita* Girault, 1913**
(Synonym: *Zorontogramma* Silvestri, 1915)
- a. *aesopi* (Girault, 1929). [Gujarat; Orissa; Uttar Pradesh]
- b. *brevicilia* Girault, 1915. [Orissa; Tamil Nadu; Uttar Pradesh]
- c. *brevifringiata* (Yousuf & Shafee, 1988). [Gujarat; Orissa; Uttar Pradesh]
- d. *latipennis* (Yousuf & Shafee, 1984). [Uttar Pradesh; Jharkhand]
- e. *longicilia* (Yousuf & Shafee, 1984). [Bihar; Jharkhand; Uttar Pradesh]
- f. *nephoteticum* (Mani, 1939). [Bihar; Jharkhand; Rajasthan; Uttar Pradesh]
- g. *sakara* (Hayat, 2009). [Uttar Pradesh, Orissa]
- h. *singularis* (Yousuf & Shafee, 1984). [Jharkhand; Uttar Pradesh]
- i. *tachikawai* (Yashiro, 1979). [Andhra Pradesh]
- j. *yasumatsui* (Viggiani & Subba Rao, 1978). [Uttar Pradesh]
- 26. Genus *Trichogramma* Westwood, 1833**
(Synonyms: *Calleptiles* Haliday, 1833; *Pentarthron* Packard, 1872; *Aprobosca* Westwood, 1978 as subgenus; *Oophthora* Aurivillius, 1897; *Pentarthron* Dalla Torre, 1898, *Xanthoatomus* Ashmead, 1904; *Neotrichogramma* Girault, 1911; *Trichogrammatana* Girault, 1932 as subgenus; *Trichogrammanza* Carver, 1978 as subgenus; *Nuniella* Kostadinov, 1988, Vanlisus Pinto, 1992 as subgenus).
- a. *achaeae* Nagaraja & Nagarkatti, 1969. [Gujarat; Karnataka; Punjab; West Bengal]
- b. *agriae* Nagaraja, 1973. [Karnataka]
- c. *australicum* Girault, 1912. [Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal]
- d. *breviciliata* Yousuf & Hassan, 2007. [Madhya Pradesh]
- e. *brevifringiata* Yousuf & Shafee, 1988. [Uttar Pradesh]
- f. *californicum* Nagaraja & Nagarkatti, 1973. [Karnataka]
- g. *chilonis* Ishii, 1941. [Andhra Pradesh; Bihar; Delhi; Gujarat; Haryana; Himachal Pradesh; Jammu & Kashmir; Kerala; Madhya Pradesh; Maharashtra; Orissa; Punjab; Rajasthan; Tamil Nadu; Uttar Pradesh; West Bengal]
- h. *chilotraeae* Nagaraja & Nagarkatti, 1969. [Punjab; West Bengal]
- i. *convolvuli* Nagaraja, 2008. [Karnataka]
- j. *cuttackensis* Nagaraja, 2008. [Orissa]
- k. *danausica* Nagaraja, 2008. [Karnataka]
- l. *dendrolini* Matsumura, 1926. [Jammu & Kashmir]
- m. *embryophagum* (Hartig, 1838). [Jammu & Kashmir]
- n. *exiguum* Pinto & Platner, 1978. [Himachal Pradesh; Karnataka]
- (Synonym: *Trichogramma beckeri* Nagarkatti, 1973)
- o. *flandersi* Nagaraja & Nagarkatti, 1969. [Karnataka]
- p. *hebbalensis* Nagaraja, 2008. [Karnataka]
- q. *hesperidis* Nagaraja, 1973. [Karnataka]
- r. *japonicum* Ashmead, 1904. [Andhra Pradesh, Bihar, Haryana, Jammu & Kashmir, Karnataka,

Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttra Pradesh, West Bengal]

(Synonym: *Neotrichogramma acutiventre* Girault, 1911)

- s. *kankerensis* Yousuf & Hassan, 2008. [Chhattisgarh]
- t. *kashmiricum* Nagaraja, Ahmad & Gupta, 2007. [Jammu & Kashmir]
- u. *manii* Nagaraja & Gupta, 2007. [Karnataka]
- v. *minutum* Riley, 1871. [Assam; Himachal Pradesh; Tamil Nadu]

(Synonyms: *Trichogramma helocharae* Perkins, 1907; *T. intermedium* Howard, 1889; *T. minutissimum* Packard, 1881; *T. nagarkattii* Voegelé & Pintureau, 1982; *Xanthoatomus albipes* Ashmead, 1904)

- w. *pallidiventris* Nagaraja, 1973. [Karnataka]
- x. *perkinsi* Girault, 1910. [West Bengal]
- y. *pintoi* Voegele, 1982. [Karnataka]
- z. *plasseyense* Nagaraja, 1973. [Andhra Pradesh; West Bengal]
- aa. *poliae* Nagaraja, 1973. [Haryana; Uttra Pradesh; West Bengal]
- bb. *pretiosum* Riley, 1879. [Bihar; Haryana; Himachal Pradesh; Karnataka; Maharashtra; Rajasthan; Tamil Nadu]

(Synonym: *Trichogramma pretiosa* Riley, 1879; *Trichogramma sudhae* Torre, 1980)

- cc. *raoi* Nagaraja, 1973. [Karnataka; Rajasthan]
- dd. *sankarani* Nagaraja, 2008. [Karnataka]
- ee. *semblidis* Aurivillius, 1897. [Karnataka]

(Synonyms: *Oophthora semblidis* Aurivillius, 1898; *Trichogramma schuberti* Voegelé & Russo, 1982).

- ff. *semifumatum* (Perkins, 1910). [Karnataka]

27. Genus *Trichogrammatoidea* Girault, 1911

- a. *armigera* Manjunath, 1972. [Karnataka; West Bengal]
- b. *bactrae* Nagaraja, 1979. [Bihar; Karnataka; Tamil Nadu; West Bengal]
- c. *brasiliensis* (Ashmead, 1904). [Bihar; Haryana; Himachal Pradesh; Karnataka; Maharashtra; Punjab; Tamil Nadu]

(Synonym: *Pentarthron brasiliensis* Ashmead, 1904)

- d. *eldanae* Viggiani, 1979. [Punjab]
- e. *fulva* Nagaraja, 1978. [Assam; Karnataka]
- f. *fumata* Nagaraja, 1978. [Uttar Pradesh]
- g. *nana* Zehntner, 1896. [Bihar; Kerala; Himachal Pradesh; Tamil Nadu; Uttar Pradesh; West Bengal]

(Synonym: *Trichogrammatoidea arara* Girault, 1925)

- h. *prabhakeri* Nagaraja, 1978. [Karnataka]

- i. *robusta* Nagaraja, 1978. [West Bengal]
- j. *ruficorpa* Yousuf & Hassan, 2006. [Madhya Pradesh]

28. Genus *Tumidiclava* Girault, 1911

(Synonyms: *Orthroneura* Blood, 1922; *Orthoneurella* Blood & Krycer, 1929).

- a. *agraensis* Yousuf & Shafee, 1988. [Uttar Pradesh]
- b. *gilvus* Yousuf, Kumar & Chauhan, 1998. [Rajasthan]
- c. *longiclavata* Yousuf & Shafee, 1988. [Uttar Pradesh]
- d. *magnicorpa* Yousuf & Shafee, 1988. [Uttar Pradesh]
- e. *sasniensis* Yousuf & Shafee, 1988. [Uttar Pradesh]
- f. *tenkasiensis* Yousuf & Shafee, 1988. [Kerala; Rajasthan; Tamil Nadu]

29. Genus *Ufens* Girault, 1911

(Synonyms: *Grantanna* Girault, 1939; *Neocentrobria* Blood, 1923; *Stephanotheisa* Soika, 1931; *Ufensia* Girault, 1913)

- a. *breviclavata* Yousuf & Shafee, 1991. [Uttar Pradesh]
- b. *gurgaonensis* Yousuf & Shafee, 1988. [Haryana]
- c. *jaipurensis* Yousuf & Shafee, 1988. [Rajasthan; Uttar Pradesh]

(Synonym: *Ufens angustipennis* Yousuf & Shafee, 1988)

- d. *khamai* Owen, 2011. [Karnataka]
- e. *latipennis* Yousuf & Shafee, 1988. [Uttar Pradesh]. (Synonym: *Ufens alami* Yousuf & Shafee, 1988; *Ufens singularis* Yousuf & Shafee, 1988).
- f. *similis* (Kryger, 1932). [Karnataka, Uttar Pradesh] (Synonym: *Ufens anomalus*, Linn, 1994)

30. Genus *Uscana* Girault, 1911

(Synonym: *Bruchoctonus* Grese, 1923)

- a. *alami* Yousuf & Shafee, 1988. [Uttar Pradesh]
- b. *bruchidiusi* Pajni & Tewari, 2004. [Punjab]
- c. *Corythaumaii* (Livingstone & Yacoob, 1990). [Tamil Nadu]
- d. *femoralis* Pajni & Sood, 1999 [Punjab]
- e. *indica* Pajni & Tewari, 2002. [Himachal Pradesh]
- f. *latipennis* (Yousuf & Shafee, 1985). [Uttar Pradesh]
- g. *mukerjii* (Mani, 1935). [Delhi; Haryana; Punjab; West Bengal] *meerutensis* (Yousuf and Shafee, 1993). [Uttar Pradesh]

31. Genus *Xiphogramma* Nowicki, 1940

- a. *indicum* Hayat, 1980. [Uttar Pradesh; Assam]

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