



Taxonomic survey of stink bugs (Heteroptera: Pentatomidae) of India

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Abstract

A taxonomic survey has been conducted to observe the diversity of pentatomid bugs in India. The species collected have been systematically arranged in their respective subfamilies and tribes. The study is based on the personal collection and on the basis of collection deposited in the museum of Indian Agricultural Research Institute, New Delhi.

Keywords: Taxonomic survey, Stink bugs, India.

Introduction

The members of the family Pentatomidae are commonly called as stink bugs. They constitute an economically important group of hemipterous pests as most of the species are phytophagous. Both nymphs and adults have piercing and sucking type of mouthparts. They suck the sap by piercing their rostrum into the plant tissues and lowers its vitality. The infested plants remain stunted in growth and present a sickly appearance. The injury caused by them is usually overlooked as they have a colouration which is more or less harmonious to their surroundings. Besides sucking the sap from the plant, some of them transmit a number of viral, bacterial and fungal diseases.

The members of the subfamily Asopinae are predaceous in nature and feed upon other insects, especially on lepidopterous larvae.

In the present study four subfamilies under the family Pentatomidae have been recognized viz., Pentatominae, Phyllocephalinae, Podopinae and Asopinae on the basis of length of rostrum, bucculae, frena and scutellum; presence and absence of tuft of setae on the inner margin of fore tibia. Further, the subfamilies Pentatominae and Asopinae are divided into fourteen and two tribes respectively.

In India, important contributions on the taxonomy of the family Pentatomidae have been made by Atkinson (1887, 1888, 1889), Bergroth (1915a and 1915b), Distant (1902, 1908 and 1918), Menon and Ghai (1959), Sen

(1965), Mathew (1969, 1977 and 1980), Pawar (1971), Chopra (1972 and 1974), Ghauri (1975a, 1975b and 1977), Azim and Shafee (1978, 1980, 1982, 1983a, 1983b, 1984a, 1984b, 1985a, 1985b, 1987a and 1987b), Shafee and Azim (1984), Azim and Gami (1999), Azim (2000, 2002) and Azim *et al.* (2008).

Subfamily: Pentatominae Leach

Tribe: Gynenicini Shafee and Azim

Genus *Gynenica* Dallas

Type-species: *Gynenica marginella* Dallas

Neogynenica Yang

Type-species: *Neogynenica izzardii* Yang

Gynenica affinis Distant

Material examined: 1 ♀, 6 ♂, India; Andhra Pradesh, Tenali on *Crossandra undulifolia* Salisb., 3.i.1980 (S. Adam Shafee). IARI, New Delhi Collection: 1 ♂, Delhi on grass, 25.iv.1939 (Rang coll., R-8102), *Gynenica* sp. Det M. Bose.

Gynenica alami Shafee & Azim

Material examined: 1 ♀, India; Andhra Pradesh, Guntur on *Crossandra undulifolia* Salisb., 5.ii.1980 (M. N. Azim).

Tribe: Mecideini Distant

Genus *Mecidea* Dallas

Type-species: *Mecidea indica* Dallas

Mecidea indica Dallas

Material examined: IARI, New Delhi collection: 1 ♂, Punjab, Lyalpur (R-1898).

Mecidea pallidissima Jansen-Haarup

Material examined: IARI, New Delhi collection; 1 ♂, South India, Coimbatore, 7.iv.1913 (Fletcher coll., R-1899); 1 ♂, South India, Coimbatore, 7.iv.1913 (Fletcher coll., R-1900).

Tribe: Strachiini Mulsant and Rey

Genus *Strachia* Hahn

Type-species: *Strachia crucigera* Hahn

Strachia crucigera Hahn

Material examined: IARI, New Delhi collection; 1 ♀, Bengal, Dacca, 15.i.1906 (R-2103).

Genus *Eurydema* Laporte

Type-species: *Cimex oleraceum* Linnaeus

Eurydema pulchrum (Westwood)

Material examined: 8 ♀, 8 ♂, India; Uttar Pradesh, Aligarh, University Botanical Garden on *Raphanus sativus* L., 20.vi.1976 (M.N.Azim); 5 ♀, 5 ♂, Jammu & Kashmir, Srinagar, Naseem Bagh on *Raphanus oleracea* L., IARI, New Delhi collection: 1 ♀, Uttar Pradesh, Mussoorie on turnip leaves, 24.vi.1940 (H.S.Pruthi coll., R-8111); 1 ♀, Bihar, Pusa on weed, 27.iii.1933 (W.K.Wesley coll.); 1 ♀, Trichinopoly on Paddy (Baldev coll.); 1 ♂, Peshawar on Taru, April, 1916 (Fletcher coll., R-2090).

Eurydema lituriferum (Walker)

Material examined: IARI New Delhi collection; 1 ♀, Uttar Pradesh, Mussoorie on turnip leaves, 24.vi.1940 (H.S.Pruthi coll., R-8115).

Genus: *Stenozygum* Fieber

Type-species: *Stenozygum variegatum* Fieber, 1861 (= *Stenozygum coloratum* Fieber)

Material examined: 1 ♀, India; Uttar Pradesh, Aligarh, University Botanical Garden on *Brassica campestris* L., 20.vii.1977 (M. N. Azim).

Genus: *Bagrada* Stal

Type-species: *Cimex picta* Fabricius

Bagrada picta (Fabricius)

Material examined: 10 ♀, 8 ♂, India; Uttar Pradesh, Aligarh, University Botanical Garden on *Brassica*

compestris, 27.vii.1977 (M.N.Azim); IARI, New Delhi collection: 1 ♀, U.P., Saharanpur, Botanical Garden on Mustard and Cabbage, 30.ix.1917 (R-139).

Tribe: Sciocorini Amyot and Serville

Genus: *Scicoris* Fallen

Type-species: *Scicoris terreus* Schrank

Scicoris indicus Dallas

Material examined: 8 ♀, 5 ♂, India; Uttar Pradesh, Aligarh, University Botanical Garden on grass, 30.vi.1978 (M.N.Azim); 6 ♀, Tamil Nadu, Madras on Croton sp., 11.xi.1979 (M.N.Azim).

Scicoris tamilnadensis Azim & Shafee

Material examined: 1 ♀, India; Tamil Nadu, Madras on grass, 12.xi.1979 (M.N.Azim).

Scicoris rufus Azim & Shafee

Material examined: 1 ♀, India; Uttar Pradesh, Aligarh, University Botanical Garden on Croton, 28.vi.1978 (M.N.Azim).

Genus: *Menedemus* Distant

Type-species: *Menedemus vittatus* Dallas

Menedemus hieroglyphicus Distant

Material examined: IARI, New Delhi collection; 1 ♂, India: Coorg, 5.vi.1917 (T.R.N. Coll., R-1877).

Tribe: Dorpiini Distant

Genus: *Dorpius* Distant

Type-species: *Dorpius typicus* Distant

Dorpius indicus Distant

Material examined: IARI, New Delhi collection; 1 ♂, Delhi, at light, 18.vi.1939 (R-8096).

Genus *Laprius* Stal

Type-species: *Cimex gastricus* Thunberg

Laprius varicornis (Dallas)

Material examined: 1 ♂, India; Uttar Pradesh, Aligarh, University campus at light, 23.vii.1977 (M.N.Azim). IARI, New Delhi collection: 1 ♂, Bombay at light, 1.viii.1904 (R-1882); 1 ♀, Bengal, Chapra (Mackenzie coll., R-1881).

Tribe: Eysarcorini Mulsant and Rey

Genus: *Eysarcoris* Hahn

Type-species: *Eysarcoris aeneus* (Scop.)

Eysarcoris ventralis (Westwood)

Material examined: 9 ♀, 8 ♂, India; Uttar Pradesh, University campus at light, 15.vii.1977 (M.N.Azim).

Genus: *Carbula* Stal

Type-species: *Carbula decorata* (Signoret)

Carbula scutellata Distant

Material examined: 2 ♀, India; Tamil Nadu, Coimbatore, Forest Research Institute on *Croton* sp., 23.xi.1979 (M.N.Azim); IARI, New Delhi collection; 1 ♂, Bombay, Bassein fort, September, 1909 (A.M.coll., R-2003).

Carbula biguttata (Fabricius)

Material examined: IARI, New delhi collection; 1 ♀, Lebong, Phoobsering, October, 1910 (R-2004).

Carbula indica (Westwood)

Material examined: IARI, New Delhi collection; 1 ♀, Lebong, September, 1908 (M.M.L. coll., R-2002); 1 ♂, Bombay, Bassein fort, September, 1909 (A.M. coll., R-2001).

Genus: *Stollia* Ellenrieder

Type-species: *Cimex guttiger* Thunberg

Bainbriggeanus Distant

Type-species: *Bainbriggeanus fletcheri* Distant

Stollia guttiger (Thunberg)

Material examined: 5 ♀, 5 ♂, India; Uttar Pradesh, Aligarh, University Botanical garden on *Croton* sp., 5.vii.1978 (M.N.Azim); 5 ♀, 6 ♂, Tamil Nadu, Madras, Mylapore on grass, 15.xi.1979 (M.N.Azim).

Genus: *Hermolaus* Distant

Type-species: *Hermolaus typicus* Distant

Hermolaus typicus Distant

Material examined: 1 ♀, India; Uttar Pradesh, Aligarh, University campus at light, 3.vi.1979 (M.N.Azim).

Hermolaus ernakulensis Azim & Shafee

Material examined: 1 ♀, India; Kerala, Ernakulum on grass, 28.iii.1979 (M.N.Azim).

Hermolaus brevis Azim & Shafee

Material examined: 1 ♀, 2 ♂, India; Uttar Pradesh, Aligarh, University campus at light, 14.viii.1979 (M.N.Azim).

Tribe: Halyini Dallas

Genus: *Halys* Fabricius

Type-species: *Cimex dentatus* Fabricius

Halys dentatus (Fabricius)

Material examined: 5 ♀, 5 ♂, India; Uttar Pradesh, Jawahar Park on *Azadirachta indica*, 5.iv.1980 (M.N.Azim); IARI, New Delhi collection: 1 ♂, Gwalior, Dinara, Karera, 12.v.1944 (H.L.Rattan coll.), *H. dentatus* det. C.K. Samuel.

Halys magnus Chopra

Material examined: 12 ♀, 8 ♂, India; Uttar Pradesh, Aligarh, Jawahar Park on *Azadirachta indica* L., 4.iii.1979 (M.N.Azim); 5 ♀, 5 ♂, Tamil Nadu, Coimbatore, Veda Medurai on *Acacia Arabica*, 28.iii.1979 (M.N.Azim).

Halys parvus Chopra

Material examined: 5 ♀, 5 ♂, India; Uttar Pradesh, Jawahar Park on *Azadirachta indica*, 23.iii.1997 (M.N.Azim).

Genus: *Erthesina* Spinola

Type-species: *Cimex fullo* Thunberg

Erthesina fullo (Thunberg)

Material examined: IARI, New Delhi collection; 1 ♀, Assam, Jorhat, September (Gupta coll., R-1843); 1 ♂, Assam, Baroma, 3.iii.1907 (R-1840).

Erthesina guttata (Fabricius)

Material examined: 2 ♂, India; Rajasthan, Ajmer, 18.xi.1978 on *Acacia* sp. (M.N.Azim).

Genus: *Dalpada* Amyot & Serville

Type-species: *Dalpada aspersa* Amyot & Serville

Dalpada mcdonaldi Azim & Shafee

Material examined: 5 ♀, India; Tamil Nadu, Coimbatore, Forest Research Institute on *Ceiba pentandra* (Linn.), 27.iii.1979 (M.N.Azim); 5 ♀, 4 ♂, Jammu & Kashmir, Srinagar on apple tree, 27.vii.1994 (Ajaz Rasool Gami); 6 ♀, 4 ♂, University of Kashmir campus on apple tree, 16.vi.2002 (M. Shafi Bhat).

Dalpada oculata (Fabricius)

Material examined: IARI, New Delhi collection; 1 ♀, India; Uttar Pradesh, Dehradun on Arhar

(M. Bose coll.), *Dalpada oculata* det. Sucheta

Dalpada jugatoria Lethierry

Material examined: IARI, New Delhi collection; 1 ♀, Bombay, Bassein (V.N.S. coll., R-1829).

Dalpada affinis Dallas

Material examined: IARI, New Delhi collection; 1 ♂, Lebong, September, 1908 (M.M.L.coll.).

Dalpada clavata (Fabricius)

Material examined: IARI, New Delhi collection; 1 ♀, Nainital, May 1843 (Lucknow Museum); 1 ♀, Bhowali 6000ft on apple leaf, 13.vi.1929 (R-8133).

Dalpada confusa Distant

Material examined: IARI, New Delhi collection; 1 ♀, Nainital District, 4.vii.1937 (T. Ahmad coll.); 1 ♀ (R-7388), *Dalpada confusa* Distant det., B. Uvarov 1938.

Genus: *Paranevisanus* Distant

Type-species: (*Paranevisanus subgenericus* Distant)=*Paranevisanus melania* Distant

Asylana Distant

Type-species: *Asylana punjabensis* Distant

Paranevisanus melania (Distant)

Material examined: 5 ♀, India; Jammu & Kashmir, Srinagar, Habak on apple tree, 5.viii.2001 (Anjum Aziz Mir).

Genus: *Apodiphus* Spinola

Type-species (*Halys hellenica* Lefebvre)=*Halys amygdali* Germ.

Neonevisanus Distant

Type-species: *Neonevisanus rugosus* Distant

Apodiphus integriceps Horvath

Material examined: 5 ♀, 5 ♂, India; Jammu & Kashmir, Srinagar, Raj Bagh on apple tree, 15.viii.2001 (Nakeer Razak); IARI, New Delhi collection; 1 ♀, Kashmir, Yasimarg, 15.viii.1923 (Fletcher coll., R-8070).

Apodiphus pilipes Horvath

Material examined: 6 ♀, 3 ♂, India; Jammu & Kashmir, Srinagar, Habak on apple tree (*Malus* sp.), 15.vii.2002 (M.S.Bhat).

Genus: *Phricodus* Spinola

Type-species: *Aradus hystrix* Germar

Material examined: IARI, New Delhi collection; 1 ♂, Coimbatore on Gingelly, 31.v.1912 (K.P.S. coll, R-1869); 1 ♂, South India, Coimbatore, 11.i.1913 (Fletcher coll., R-1868); 1 ♀, South India, Coimbatore at light, 4.xii.1912 (Fletcher coll., R-1861).

Tribe: Carpocorini Mulsant and Rey

Genus *Carpocoris* Kolenati

Type-species: *Cimex lynx* Fabricius

Carpocoris nigricornis (Fabricius)

Material examined: 1 ♀, India; Uttar Pradesh, Moradabad, Pipalsana on *Phaseolus mungo*, 21.iii.1977 (M. N. Azim); 2 ♀, 1 ♂, Jammu & Kashmir, Anantnag, Pahalgam on wild plant, 12.viii.2004 (M.S.Bhat).

Carpocoris pallidus (Dallas)

Material examined: 1 ♀, India; Jammu & Kashmir, Baramulla on wild plant, 3.ix.2004 (M.S.Bhat). IARI, New Delhi collection: 1 ♀, Himachal Pradesh, Simla on hedge, 13.iv.1966 (A. Pawar coll.)

Genus: *Dolycoris* Mulsant & Rey

Type-species: *Cimex baccarum* Linnaeus

Dolycoris indicus Stal

Material examined: 7 ♀, 5 ♂, India; Uttar Pradesh, Aligarh, University agricultural farm on *Trifolium alexandrinum* Linn., 20.iv.1977 (M.N.Azim); 4 ♀, Moradabad on *Phaseolus mungo*, 2.vi.1979 (M.N.Azim); 7 ♀, 3 ♂, Tamil Nadu, Coimbatore, Mettupalayam on *Trifolium alexandrinum* Linn., 1.iv.1979 (M.N.Azim); 8 ♀, 4 ♂, Jammu & Kashmir, Srinagar on *Brassica* sp. 5.vii.2002 (M.S.Bhat).

Genus: *Codophila* Mulsant & Rey

Type-species: *Cimex varia* Fabricius

Codophila maculicollis (Dallas)

Material examined: 1 ♀, India; Uttar Pradesh, Aligarh, University agricultural farm on *Raphanus sativus*, 15.iv.1980 (M.N.Azim); IARI, New Delhi collection; 1 ♀, Poona on Linseed, 19.ix.1941 (Ghulamullah coll., R-8141) *Codophila maculicollis* Dallas, det. M. Bose.

Genus: *Agonoscelis* Spinola

Type-species: *Cimex nubila* Fabricius

Agonoscelis nubila (Fabricius)

Material examined: 8 ♀, 5 ♂, India; Uttar Pradesh, Aligarh, University Botanical Garden on *Foeniculum vulgare*, 16.iii.1978 (M.N.Azim); 5 ♀, 3 ♂, Tamil Nadu, Coimbatore, Mettupalayam, Nanjangarh on *Trifolium alexandrinum* L., 15.vi.1979 (M.N.Azim).

Agonoscelis femoralis Walker

Material examined: IARI, New Delhi collection; 1 ♀, Assam, 3.iii.1907 (R-2063); 1 ♂, Delhi, on Linseed, 28.xi.1940 (P.Mukherjee coll.).
Agonoscelis femoralis Walker det. Sucheta.

Agonoscelis tamilnadensis Mathew

Material examined: 2 ♀, India; Tamil Nadu, Coimbatore, Mettupalayam on *Trifolium alexandrinum* L., 26.iii.1979 (M.N.Azim)

Genus *Halyomorpha* Mayr

Type-species: *Cimex picus* Fabricius)

Halyomorpha picus (Fabricius)

Material examined: IARI, New Delhi collection; 1 ♀, Bellary, Ramandrug, 28.viii.1918 (Roy coll.).

Genus *Cappaea* Ellenrieder

Type-species: *Pentatoma taprobanensis* Dallas

Cappaea taprobanensis (Dallas)

Material examined: IARI, New Delhi collection; 1 ♀, Nilgiris on Orange, 25.i.1917 (Y.R. coll., R-1929).

Tribe: Antestiini Distant

Type-species: *Antestia anchora* Thunberg

Antestiopsis anchora (Thunberg)

Material examined: IARI, New Delhi collection; 1 ♀, Burma, Zashis, 5.vi.1918 (A.G.R. coll., R-2012); 1 ♀, Ceylon, Alutnuwara, 17.xii.1908 (R-2013).

Antestiopsis cruciata (Fabricius)

Material examined: IARI, New Delhi collection; 1 ♂, India; Uttar Pradesh, Gonda on *Mangifera indica* L., 28.ii.1980 (M.N.Azim). IARI, New Delhi collection: 1 ♂, South India, Khondala on Coffee (C.R. coll., R-1924) *Antestia cruciata* Fabricius det Baldev Pradshad, 1956.

Tribe: Degonetini Azim and Shafee

Type-species: *Degonetus serratus* Distant
Degonetus serratus Distant

Material examined: 8 ♀, 8 ♂, India; Tamil Nadu, Coimbatore, Forest Research Institute campus on *Tectona grandis*, 27.iii.1979 (M.N.Azim); IARI, New Delhi collection: 1 ♂, Bihar, Pusa, 9.iii.1936 (M.Bose coll., R-8086).

Tribe: Rhyncochorini Stal

Genus: *Ryncochoris* Stal

Type-species: *Cimex humeralis* Thunberg

Rhynchocoris humeralis (Thunberg)

Material examined: 1 ♀, India; Assam, Guwahati on citrus fruits, 21.iii.1980 (K.M.Das); IARI, New delhi collection: 1 ♀, Assam, Guwahati on orange (H.C. Javaraya coll.).

Tribe: Pentatomini Leach

Genus: *Nezara* Amyot & Serville

Type-species: *Cimex smaragdula* Fabricius= *Cimex viridula* L. fixed by Kirkaldy

Nezara viridula (Linn.)

Material examined: 8 ♀, 9 ♂, India; Uttar Pradesh, Aligarh, University Botanical garden on *Trifolium alexandrinum* L., 10.iii.1976 (M.N.Azim); 2 ♀, Andhra Pradesh, Guntur, Ponnur on *Lycopersicum esculentum*, 6.iv.1979 (M.N.Azim); 1 ♂, Tamil Nadu, Coimbatore, Mettupalayam on *Sorghum vulgare*, 26.iii.1979 (M.N.Azim); 2 ♀, Jammu & Kashmir, Srinagar on Cowpea, 17.viii.2002 (M.Shafi); IARI, New Delhi collection: 1 ♂, Bihar, Pusa, 1.vii.1929 (Samuel coll., R-2194).

Genus: *Acrosternum* Fieber

Type-species: *Cimex heegri* Fabricius

Acrosternum graminea (Fabricius)

Material examined: 8 ♀, 5 ♂, India; Uttar Pradesh, Aligarh, University Botanical garden on *Trifolium alexandrinum* L., 5.iv.1977 (M.N.Azim); 4 ♀, 2 ♂, Andhra Pradesh, Guntur, Ponnur on wild plant, 20.iv.1979 (M.N.Azim); IARI, New Delhi collection: 1 ♀, Bihar, Pusa on grass, 27.vii.1915 (U. Bahadur coll., R-1250).

Genus *Plautia* Stal

Type-species: *Cimex fimbriata* Fabricius

Plautia fimbriata (Fabricius)

Material examined: 5 ♀, 4 ♂, India; Uttar Pradesh, Aligarh, University Botanical garden on *Solenum*

melongena, 28.vii.1977 (M.N.Azim); 5 ♀, 2 ♂, Karnataka, Mysore, Nanjangarh on *Croton* sp., 21.xi.1979 (M.N.Azim); IARI, New Delhi collection: 1 ♂, Bengal, Durbhanga, Daulatpur, 30.vii.1908 (H.M.Z. coll., R-787); 1 ♀, Pusa, Pomegranate fruits (Ghosh coll., R-725); 1 ♀, Punjab, Gurdaspur on Lantana, 19.x.1918 (A.G.R. coll., R-786); 1 ♂ Assam, Baroma on Petals, 2.iii.1907 (R-705).

Plautia viridicollis (Westwood)

Material examined: IARI, New Delhi collection; 1 ♂, Guwahati, Barnihat, Nov. 1944 (S.Dutt coll., R-703)
Plautia viridicollis (Westwood) named by Distant.

Genus: *Placosternum* Amyot & Serville

Type-species: *Cimex taurus* Fabricius

Placosternum taurus (Fabricius)

Material examined: IARI, New Delhi collection; 1 ♂, Assam, Shillong, 12.vi.1918 (Boy coll., R-2123).

Placosternum obtusum Montandon

Material examined: IARI, New Delhi collection; 1 ♀, South India, Bangalore (R-2127).

Placosternum dama (Fabricius)

Material examined: IARI, New Delhi collection; 1 ♀, Coimbatore, Kollegal on *Ficus*, 13.i.1917, (Rama Krishna coll., R-2129).

Placosternum urus Stal

Material examined: IARI, New Delhi collection; 1 ♀, Assam, Shillong, June, 1918 (Fletcher coll., R-2128).

Placosternum alces Stal

Material examined: IARI, New Delhi collection; 1 ♀, South India, Mettupalayam, January, 1915 (C.K.S. coll., R-2119).

Tribe: Tropicorini Distant

Genus: *Tropicoris* Hahn

Type-species: *Tropicoris rufipes* Linn.

Tropicoris laeviventris Stal

Material examined: 5 ♀, 4 ♂, India: Jammu & Kashmir, Anantnag, Pahalgam on wild plant, 21.vii.2003 (M.S. Bhat).

Genus: *Menida* Motschulsky

Type-species: *Menida violacea* Motschulsky

Menida histrio (Fabricius)

Material examined: 5 ♀, 5 ♂, India: Karnataka, Mysore, Nanjangarh on *Oryza sativa* L., 21.xi.1979 (M.N.Azim); 4 ♀, 3 ♂, Andhra Pradesh, Prakasaran, Chirala on grass, 7.i.1980 (M.N.Azim); IARI, New Delhi collection: 1 ♀, South India, Coimbatore on cholan, 24.iv.1913 (A.G.R. coll., R-2275); 1 ♀, Bengal, Charra on rice, 30.x.1904 (R-2276).

Menida apicalis (Dallas)

Material examined: IARI, New Delhi collection: 1 ♂, Bihar, Pusa on *Tamarix dioica*, 19.iii.1936 (M.Bose coll.).

Menida varipennis (Westwood)

Material examined: IARI, New Delhi collection: 1 ♂, Bengal, Palamow (R-2264); 1 ♂, Bihar, pusa, 1.ix.1915 (Boy cool, R-8104).

Genus: *Cresphontes* Stal

Type-species: *Rhaphigaster monsoni* Westwood

Cresphontes fulvus Azim & Shafee

Material examined: 2 ♀, 2 ♂, India: Uttar Pradesh, Aligarh, University Botanical garden on inflorescence of *Mangifera indica* Linn., 5.iii.1979 (M.N.Azim).

Genus: *Piezodorus* Fieber

Type-species: *Cimex lituratus* Fabricius

Piezodorus rubrofasciatus (Fabricius)

Material examined: 5 ♀, 4 ♂, India: Uttar Pradesh, Aligarh, University Botanical garden on *Trifolium alexandrinum* Linn., 21.iv.1976 (M.N.Azim); 2 ♀, Andhra Pradesh, Guntur on *Solanum nigrum*, 3.iv.1979 (M.N.Azim); IARI, New Delhi collection: 1 ♀, Bombay, 15.iii.1967 (G.R.Dutt coll., R-2236); 1 ♀, Bengal, Pusa, 2.iii.1907 (D.N. coll., R-1224); 1 ♀, Bihar, Pusa, 24.iv.1913 (C.B.S. coll., R-1246).

Genus: *Priassus* Stal

Type-species: *Priassus spiniger* Haglund

Priassus exemptus (Walker)

Material examined: IARI, New Delhi collection: 1 ♂, India: Meghalaya, shillong, Forest area (P.K.Vatsuliya coll.).
Genus: *Palomena* Mulsant & Rey
Type-species: *Palomena viridissima* Poda

Palomena reuteri Distant

Material examined: 2 ♀, India: Jammu & Kashmir, Anantnag, Pahalgam at light, 21.viii.2003 (M.S.Bhat).

Genus: *Catacanthus* Spinola

Type-species: *Cimex incarnatus* Drury

Catacanthus incarnatus (Drury)

Material examined: 2 ♀, India: Tamil Nadu, Tenkashi on *Croton* sp., 1.xii.1979 (M.N.Azim); IARI, New Delhi collection: 1 ♀, Poona on *Ixova*, 21.x.1904 (R-2187).

Catacanthus mirabilis Distant

Material examined: IARI, New Delhi collection: 1 ♀, Nilgiris, Noduvatum, august, 1904 (R-2191).

Tribe: Aeliini Douglas and Scott

Genus: *Aeliomorpha* Stal

Type-species: *Aeliomorpha simulans* Stal

Aeliomorpha coimbatorensis Azim & Shafee

Material examined: 2 ♀, 1 ♂, India: Tamil Nadu, Coimbatore, Mettupalayam on *Trifolium alexandrinum* L., 22.xi.1979 (M.N.Azim).

Aeliomorpha viridis Azim & Shafee

Material examined: 2 ♂, India: Uttar Pradesh, Aligarh, University Botanical garden on wild plant, 12.iv.1977 (M.N.Azim).

Genus: *Adria* Stal

Type-species: *Pentatoma parva* Dallas

Material examined: 5 ♀, 5 ♂ India: Uttar Pradesh, Aligarh, University campus at light, 22.vii.1977 (M.N.Azim).

Subfamily: Podopinae Amyot and Serville

Genus: *Storthechoris* Horvath

Type-species: *Storthechoris nigriceps* Horvath

Storthechoris nigriceps Horvath

Material examined: IARI, New Delhi collection: 1 ♀, Bengal, Pusa, 1.ii.1905 (P.C.P. coll., R-1683).

Storthechoris aligarhensis Azim & Shafee

Material examined: 3 ♀, India: Uttar Pradesh, University campus on grass, 18.iii.1979 (M.N.Azim).

Storthechoris singularis Azim & Shafee

Material examined: 4 ♀, India: Uttar Pradesh, Aligarh, University Agricultural farm on wild plant, 10.iii.1979 (M.N.Azim).

Genus: *Brachycerochoris* Costa

Type-species: *Brachycerochoris camelus* Costa

Brachycerochoris camelus Costa

Material examined: IARI, New Delhi collection: 1 ♀, Bangalore, Malleswaram on Lantana fruits, 25.iii.1917 (Y.R. coll.).

Genus: *Podops* Laporte

Type-species: *Podops inuncta* Fabricius

Podops coarctata Fabricius

Material examined: IARI, New Delhi collection: 1 ♂, Madras, Salem, 14.viii.1907 (I.R.No.396;R-1126).

Genus: *Amauropepla* Stal

Type-species: *Amauropepla denticulata* Haglund

Amauropepla denticulata Haglund

Material examined: IARI, New Delhi collection: 1 ♂, Bengal, Pusa under leaves (A.S.K. coll., R-1689).

Genus: *Melanophara* Stal

Type-species: *Melanophara dentata* Haglund

Melanophara dentata Haglund

Material examined: IARI, New Delhi collection: 1 ♂, Bengal, Pusa under soil, 3.ii.1905 (1148,R-1692).

Subfamily: Phyllocephalinae Amyot and Serville

Genus: *Schyzops* Spinola

Type-species: *Pentatoma aegyptiaca* Lefebvre

Schyzops insignis (Walker)

Material examined: IARI, New Delhi collection: 1 ♀, Chapra (Mackenzie coll.,R-2447); 1 ♀, Siripur, 31.vii.1911 (Mackenzie coll., R-2446).

Genus: *Dalsira* Amyot & Serville

Type-species: *Dalsira affinis* Amyot & Serville

Dalsira glandulosa (Wolff)

Material examined: IARI, New Delhi collection: 1 ♂, Assam, Halem, August, 1908 (Mitchel coll., R-2443).

Genus: *Tetroda* Amyot & Serville
Type-species: *Acanthia histeroides* Fabricius

Tetroda histeroides (Fabricius)

Material examined: IARI, New Delhi collection: 1 ♂, Madras, Salem, 14.viii.1907 (R-2459); 1 ♀, Kamrup farm on grass, 13.v.1919 (Ghosh coll., R-2461).

Genus: *Diplorhinus* Amyot & Serville
Type-species: *Diplorhynchus furcatus* (Westwood)

Diplorhinus quadricornis Stal

Material examined: IARI, New Delhi collection: 1 ♀, (Saran & Mackenzie coll., R-2457); 1 ♀, (Saran & Mackenzie coll., R-2455).

Genus: *Gellia* Stal
Type-species: *Gellia albivittis* (Dallas)

Gellia nigripennis (Dallas)

Material examined: IARI, New Delhi collection: 1 ♀, Bilaspur, November, 1907 (R-2463); 1 ♂, Nasik, 1907 (R-2462).

Genus: *Megarhynchus* Laporte
Type-species: *Aelia rostratus* Fabricius

Megarhynchus rostratus Westwood

Material examined: IARI, New Delhi collection: ♂, Bihar, Pusa, 30.iii.1906 (R-2482); 1 ♂, Bihar, Pusa, March, 1907 (R-2483).

Subfamily: Asopinae Amyot and Serville

Tribe: Asopini Amyot and Serville

Genus: *Asopus* Burmeister
Type-species: *Cimex malabaricus* Fabricius

Amyotea Ellenrieder
Type-species: *Amyotea dystercoides* Ellenrieder

Asopus malabaricus (Fabricius)

Material examined: 2 ♀, India: Karnataka, Mysore, Nanjangarh on Paddy, 21.xi.1979 (M.N.Azim); IARI, New Delhi collection: 1 ♀, Bihar, Pusa, on wild plant, 21.viii.1908 (R-2343); 1 ♀, Orissa, Ganjam, Aska, 9.iv.1910 (T.V.R. coll., R-2346).

Asopus rufus Azim & Shafee
Material examined: 1 ♀, India: Uttar Pradesh, Agra on grass, 15.xi.1979 (M.N.Azim).

Genus: *Andrallus* Bergroth
Type-species: *Cimex spinidens* Fabricius

Andrallus spinidens (Fabricius)

Material examined: 1 ♂, India: Uttar Pradesh, Moradabad, Pipalsana on *Mangifera indica*, 23.xii.1979 (M.N.Azim); IARI, New Delhi collection: 1 ♀, India, Delhi on Maize, 18.v.1946 (S.N.Chatterjee coll.) *Andrallus spinidens* det. Sucheta; 1 ♀, Yedu Arabia on jawar, 31.i.1943 (S.Khan coll.) *Andrallus spinidens* det. Sucheta.

Genus: *Zicrona* Amyot & Serville
Type-species: *Cimex caerulea* Linn.

Zicrona caerulea (Linn.)

Material examined: 1 ♀, India: Uttar Pradesh, Moradabad, Pipalsana on *Phaseolus mungo* L., 29.v.1979 (M.N.Azim), 2 ♀, Jammu & Kashmir, Srinagar, Dachigam National Park on wild plant, 27.ix.2004 (M.S.Bhat); IARI, New Delhi collection: 1 ♀, Nainital, 4.vii.1937 (R.Swarup coll., R-7008), 1 ♂, Assam, Chandpur, January, 1908 (R-2348).

Tribe: Jallini Mulsant and Rey

Genus: *Cazira* amyot & Serville
Type-species: *Pentatoma verrucosa* Westwood

Cazira ulcerata (Herrich-Schaeffer)

Material examined: 1 ♂, India: Kerala, Trivandrum, Chiryankil on grass, 28.xi.1979 (M.N.Azim); IARI, New Delhi collection: 1 ♂, Bengal, Pusa (R-2294), 1 ♂, Bihar, Pusa (R-2295).

Cazira friwaldskyi Horvath

Material examined: IARI, New Delhi collection: 1 ♀, Lebong 5000ft, June, 1909 (H.M.L. coll., R-2291).

Cazira verrucosa (Westwood)

Material examined: IARI, New Delhi collection: 1 ♀, Bihar, Pusa, 29.vi.1906 (R-2290), 1 ♀, Nilgiris, Naduvatum, May, 1906 (R-2289).

Genus: *Blachia* Walker
Type-species: *Blachia ducalis* Walker

Sesha Distant
Type-species: *Sesha manifesta* Distant

Blachia ducalis Walker

Material examined: IARI, New delhi collection: 1 ♀, Khasi hills, Nongpoh, 7.1907 (D.Nowrojee coll., R-2298).

Genus: *Canthecona* Amyot & Serville

Type-species: *Canthecona discolor* Palisot de Beauvois

Canthecona tibialis Distant

Material examined: 2 ♀, India: Uttar Pradesh, Aligarh, *Mangifera indica* L., 21.x.1979 (M.N.Azim).

Canthecona furcellata (Wolff)

Material examined: IARI, New Delhi collection: 1 ♀, Bengal, 27.iv.1905 (T.V.R.A.coll., R-1276), 1 ♀, Chapra (Mackenzie coll., R-1282), 1 ♀, Bihar, pusa, 8.vii.1939 (C.K.Samuel coll.).

Canthecona parva Distant

Material examined: 1 ♀, India: Uttar Pradesh, Aligarh, on *Mangifera indica* L., 14.viii.1978 (M.N.Azim); IARI, New delhi collection: 1 ♀, Bengal, Pusa, Daltonganj (C.S.M. coll., R-1341).

Genus: *Picromerus* Amyot & Serville

Type-species: *Cimex bidens* Linn.

Picromerus obtusus Walker

Material examined: 1 ♀, India: Uttar Pradesh, aligarh on *Mangifera indica* L., 25.iii.1978 (M.N.Azim).

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