

An account of Heteropteran Bugs collected by Light Trap in and around Dum Dum (Kolkata), West Bengal

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Abstract

The representatives of 7 families of heteroptera were collected by light trap from Dum Dum region of district Kolkata, West Bengal consist of 35 species fewer than 29 genera. Each species is provided with taxonomic keys, distributional details, diagnostic characters and coloured images (dorsal).

Keywords: Distribution, Dum Dum, Hemiptera, Heteroptera, Light Trap

Introduction

Hemiptera is one of the largest insect orders characterized by having piercing and sucking type mouthparts, a beak like structure inserted near the anterior end of the head, leathery anterior pair of wings and membranous apically, and second pair completely membranous. More than 967 species under 495 genera (14.87% in India) of hemiptera have been reported from West Bengal including 203 species from Kolkata district (Sanyal, *et al.* 2007). Insects are photo positive in nature, which is exploited for the collection at light during night, provides insect fauna composition active during night or attach on light to meet various biological activities. Ramamurthy *et al.* (2010) experimented with mercury and UV light traps are being used for insect collections including Hemipterans.

Present study has been carried out for the assessment of faunal groups among the Hemipteran insects attracted on light. During the study Hemipteran were collected in and around Dum Dum (lies in between 22.62° N and 88.42° E, with an average elevation of 11 meters) by using Mercury light trap in the campus of Rabindra Bharoti Viswabidhyalay, Gopeswar Dutta free School, and Raja Bagan area, Dum Dum between May 2014 to April, 2015. This paper deals with the infraorders, Cimicomorpha

(Superfamilies Reduvidae, Naboidae and Mirioidea) and Pentatomorpha (Superfamilies Pentatomoidae, Lygaeoidea and Coreoidea) containing 35 species of 29 genera under 7 families of Hemiptera, Lygaeidae (20 species under 16 genera), Pyrrhocoridae (3 species under 2 genera), Miridae (5 species and 5 genera), Malcidae (1 species and 1 genus), Reduviidae (1 species), Pentatomidae (5 species under 5 genera), Coreidae (1 species), and Tingidae (1 species) from the Dum Dum, Kolkata. All species were reported for the first time from Dum Dum, Kolkata.

Systematic List

Infra Order: CIMICOMORPHA

Superfamily: REDUVIOIDEA

Family: REDUVIIDAE

Genus 1. *Polytoxus* Spinola, 1840

1. *Polytoxus maculatus* Distant, 1903

Superfamily: MIRIOIDEA

Family: MIRIDAE

Subfamily I: BRYOCORINAE

Tribe: **Dicyphini**

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Genus 2. *Helopeltis* Signoret, 1858

2. *Helopeltis theivora* Waterhouse, 1886

Genus 3. *Nesidiocoris* Kirkaldy, 1902

3. *Nesidiocoris tenuis* (Puton, 1886)

Subfamily II: PHYLINAE

Tribe: **Phylini**

Genus 4. *Campylomma* Reuter, 1878

4. *Campylomma lividum* Reuter, 1885

Subfamily III: Orthotylinae

Tribe: **Orthotylini**

Genus 5. *Mecomma* Fieber, 1858

5. *Mecomma amicus* (Distant, 1909)

Genus 6. *Cyrtorrhinus* Fieb, 1858

6. *Cyrtorrhinus lividipennis* Reuter, 1858

Infra Order II: PENTATOMORPHA

Superfamily I: PENTATOMOIDEA

Family: PENTATOMIDAE

Genus 7. *Eysarcoris* Hahn, 1834

7. *Eysarcoris ventralis* (Westwood, 1837)

8. *Eysarcoris capitatus* Distant, 1902

Genus 8. *Halys* Fabricius, 1803

9. *Halys dentatus* (Fabricius, 1775)

Genus 9. *Piezodorus* (Fieber, 1860)

10. *Piezodorus hybneri* (Fabricius, 1790)

Family: DINIDORIDAE

Genus 10. *Coridius* Illger, 1807

11. *Coridius ianus* (Fabricius, 1775)

Superfamily: LYGAEOIDEA

Family: LYGAEIDAE

Subfamily I: RHYPAROCHROMINAE

Tribe: **Rhyparochromini**

Genus 11. *Metochus* Scott, 1874

12. *Metochus uniguttatus* (Thunberg, 1922)

Genus 12. *Elasmolemus* Stål, 1872

13. *Elasmolemus sordidus* (Fabricius, 1787)

Genus 13. *Rhyparothesus* Scudder, 1962

14. *Rhyparothesus sparsus* (Distant, 1904)

Genus 14. *Dieuches* Dohrn, 1860

15. *Dieuches femoralis* (Distant, 1904)

16. *Dieuchus leucocerus* (Walker, 1872)

Tribe: **Myodocini**

Genus 15. *Pseudopachybrachius* Malipatil, 1978

17. *Pseudopachybrachius guttus* (Dallas, 1852)

Genus 16. *Paraecosmetus* Malipatil, 1978

18. *Paraecosmetus pallicornis* (Dallas, 1852)

Genus 17. *Paromius* Fieber, 1860

19. *Paromius exiguous* (Distant, 1883)

Tribe: **Ozophorini**

Genus 18. *Primierus* Distant, 1901

20. *Primierus bispinus* (Motschulsky, 1863)

Subfamily II: ORSILLINAE

Genus 19. *Nysius* Dallas, 1852

21. *Nysius ceylanicus* (Motschulsky, 1863)

22. *Nysius inconspicuous* Distant, 1902

23. *Nysius laucustrinus* Distant, 1909

Genus 20. *Nysiodes* Distant, 1909

24. *Nysiodes typus* Distant, 1918

Subfamily III: LYGAEINAE

Genus 21. *Spilostethus* Stål, 1868

25. *Spilostethus pandurus militaris* (Fabricius, 1763)

26. *Spilostethus hospes* (Fabricius, 1794)

Genus 22. *Graptostethus* Stål, 1868

27. *Graptostethus servus* (Fabricius, 1787)

Subfamily IV: OXYCARENINAE

Genus 23. *Oxycarenus* Fieber, 1837

28. *Oxycarenus laetus* Walker, 1872

Subfamily V: GEOCORINAE

Genus 24. *Geocoris* Fallen, 1814

29. *Geocoris ochropterus* Fieber, 1844

Subfamily VI: CYMINAE

Genus 25. *Cymus* Stal, 1874

30. *Cymus tabidus* Stal 1874

Family: MALCIDAE

Subfamily VII: MALCINAE

Genus 26. *Malcus* Stal, 1859

31. *Malcus flavidipes* Stal, 1859

Superfamily: PYRRHOCOROIDEA

Family: PYRRHOCORIDAE

Genus 27. *Dysdercus* Amy & Serv 1843

32. *Dysdercus koenigii* (Fabricius, 1775)

33. *Dysdercus olivaceus* (Fabricius)

Genus 28. *Antilochus* Stal, 1863

34. *Antilochus coqueberti* (Fabricius) 1784

Superfamily IV: COREOIDEA

Family: ALYDIDAE

Genus 29. *Leptocorisa* Stal 1873.

35. *Leptocorisa acuta* Thunberg 1783

Systematic Account

Suborder: HETEROPTERA

Key to the infraorders of the suborder Heteroptera

1. Antenna 4 segmented; eggs are usually operculate and implanted in substrate **Cimicomorpha**
- Antenna 4 or 5 segmented; eggs neither operculate nor inserted in substrate **Pentatomorpha**

Infra Order I: CIMICOMORPHA

Key to the superfamilies of the infraorder Cimicomorpha

1. Head narrow and elongated forming a neck like region behind eyes without any cuneus on hemelytra; mostly predaceous on other insects few are blood suckers on vertebrates **Reduivoidea**
- Head neither elongated nor narrow and never forms neck like region behind eyes; with a distinct cuneus on hemelytra; mostly plant sap feeders barring a few which are predaceous on other insects and mites **Mirioidea**

Superfamily: REDUVIOIDEA

Family: REDUVIIDAE

Genus 1. *Polytoxus* Spinola, 1840

1840. *Polytoxus* Spinola, *Essai sur les insectes Hemipteres Rhyngote occ Heteropteres*, 47 pp.

1. *Polytoxus maculatus* Distant 1903

1903. *Polytoxus maculatus* Distant, *Ann. Soc. Entomol. Belg.*, 47: 53.

1904. *Polytoxus maculatus*, Distant, *Fauna.Brit.India,Rhynchota*, 2: 218.

2006. *Polytoxus maculatus*, Mukherjee et al., *Proc.Nat.Conf.Biod*: 173 -180.

2014. *Polytoxus maculatus*, Ambrose, *Zoos'Print Journal*, 21(9): 23.

Material examined: 1ex, Rabindra Bharoti Viswabidhyaloy campus, Dum Dum, Dist. Kolkata,

16.iv.2015, P.C. Saha Coll.

Diagnostic characters: Body pale brown, posterior pronotal lobe reddish to brown; scutellum black with light brown spine; fore wings and legs pale orange brown; spots on the body, margins of abdomen, femora apices, tibiae (bases and apices), and tarsi black in colour; base of first joint brownish yellow; legs pilose, hind femora about as long as the abdomen, pronotum centrally sulcate, and foveate on each lateral area.

Length: 12 m.m.

Distribution: India: West Bengal (Dist. Kolkata).
Elsewhere: Myanmar.

Superfamily: MIRIOIDEA

Family I: MIRIDAE

Key to the subfamilies of the family Miridae

1. Tarsi dilated distally; "Pseudopulvilli" arising on unguitactor plate claws, not arising from an alveolus; rounded pronotal collar always present .. **Bryocorinae**
- Tarsi linear, not dilated distally; true parempodia weakly to strongly fleshy, inserted in an alveolus; anterior pronotal margin usually fine and reflexed dorsally, or more rarely in form of a rounded or flattened collar2
2. Parempodia weakly flattened,, sometimes weakly curving, and convergent apically;pulvilli present on ventral claw surface; vesica in male sclerotized and rigid;phallosome attached to posterior wall of pygophore; left paramere boat-shaped; anterior pronotal margin without a collar, or rarely with a distinct collar **Phylinae**
3. Parempodia broadly flattened, always convergent apically; pulvilli not present on ventral claw surface; vesica in male not sclerotized and rigid; phallosome attached to phallobase; left paramere never boat - shaped; anterior pronotal margin always with a distinct collar **Orthotylinae**

Subfamily I: BRYOCORINAE

Tribe: **Dicyphini**

Key to genera of the subfamily Bryocorinae

1. Head broad, deflected in front of eyes *Helopeltis*
- Head robust, vertically deflected in front of eyes
.....*Nesidiocoris*

Genus 2. **Helopeltis** Signoret, 1858

1858. *Helopeltis* Signoret, *Ann. Soc. entomol. Fr.*, **6**(3): 499-502.
 1956. *Helopeltis* Southwood, *Tran. R. Entomol. Soc. Lond.*, 108: 163-221.
 1991. *Afropeltis* Stonedahl, *Bull. Ent. Res.* 81: 465-490.

2. **Helopeltis theivora** Waterhouse, 1886

1886. *Helopeltis theivora* Waterhouse, *Trans. Entomol. Soc. Lon.*, (4): 457-459.
 1889. *Helopeltis febriculosa* Bergroth, *Entomologist's Monthly Magazine*, **25**: 271-272.
 1904. *Helopeltis oryx* Distant, *Fauna. Brit. India, Rhynchota*, **2**(2): 243-503.
 1939. *Helopeltis theobromae* Miller, *Bull. Ento. Res.*, **30**: 343-344.
 1957. *Helopeltis theivora* Carvalho, *Arch. Mus. Nac. (Rio de J.)*, **44**: 158 pp.
 1991. *Helopeltis theivora* Stonedahl, *Bull. Ent. Res.*, **81**: 465-490.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 5.v. 2014, P.C. Saha Coll.

Diagnostic characters: Head and pronotum straw coloured with a shade of brown, head beneath with a lateral grey fascia on each side; scutellum brown to black; antennae dark brown, 1st joint paler, femora dark brown with dark brown spots, tibiae yellow brown, abdomen pale with a slight tinge of brown.

Length: 6-7 mm.

Distribution: India: West Bengal (Kolkata), Assam, Himachal Pradesh; Sikkim. **Elsewhere:** China; Hainan Is; Java; Malaya; Sumatra; Sri Lanka, Thailand.

Genus 3. **Nesidiocoris** Kirkaldy, 1902

1902. *Nesidiocoris* Kirkaldy, 1902, *Trans. Ent. Soc. London*, **1902**: 243-272.
 1904. *Gallobelicus* Distant, *Fauna Brit. India, Rhynchota*, **2**(2): 243-503.
 1974. *Cyrtopeltis Nesidiocoris* Wagner, *Entomologische Abhandlungen*, 37 Suppl. iii + 484 pp.

3. **Nesidiocoris tenuis** (Puton, 1886)

1886. *Dicyphus tamaricis* Puton, *Exploration Scientifique de la Tunisie, Zool. Hem.*, 24.
 1895. *Cyrtopeltis tenuis* Reuter, *Revue d'Entomologie, Caen*, **14**: 131-142.
 1904. *Gallobelicus crassicornis* Distant, *Fauna Brit. India, Rhynchota*, **2**(2): 243-503.
 1958. *Nesidiocoris tenuis* Lindberg, *Commentationes Biologicae*, **19**(1): 46 pp.
 1992. *Cyrtopeltis tenuis* Wheeler & Henry, *Ent. Soc. Am.*, 282 pp.
 2010. *Nesidiocoris tenuis* Hernandez & Henry, *Pensoft Series Faunistica*, **92**: 212 pp.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 7.v. 2014, P.C. Saha Coll.

Diagnostic characters: Body pale yellow; compound eyes, 1st joint of antennae (excluding apex), base and apex of second joint black, third and fourth joints of antennae dark brown; pronotum finely punctuate; apex of scutellum, a spot on corium, cuneus, bases of tibiae black.

Length: 3mm.

Distribution: India: West Bengal (Dist. Kolkata), Assam. **Elsewhere:** Myanmar.

Subfamily II: PHYLINAE

Tribe: **Phylini**

Genus 4. **Campylomma** Reuter, 1878

1878. *Campylomma* Reuter, *Acta Soc. Sci. Fennicae* **13**: 1-188.
 1914. *Alluaudiella* Poppius, *Acta Soc. Sci. Fennicae*, **44**(3): 136.
 1926. *Stenocapsus* Bergroth, *Deutsche Ent. Zeitschrift*, **1926**: 60-64.
 1958. *Campylomma* Carvalho, *Arch. Mus. Nac. (Rio de J.)*, 45: 216.
 2010. *Campylomma* Duwal, Yasunaga, & Lee, *Entomol. Am.*, 116: 1-48.

4. **Campylomma lividum** (Reuter, 1885)

1885. *Campylomma livida* Reuter, *Entomologisk Tidskrift*, 5: 195-200.
 1921. *Ragmus morosus* Ballard, *Records of the Indian Museum*, **22**: 509-510.
 1958. *Campylomma livida* Carvalho, *Arch. Mus. Nac. (Rio de J.)* **45**: 216.
 2010. *Campylomma lividum* Duwal, Yasunaga, & Lee, *Ent. Am.*, **116**: 1-48.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll.

Diagnostic Characters: Body yellow to light brown; head is provided with test or hard covering in the middle; basal joint of antennae and base of second joint black in colour, second joint of antennae as long as breadth of head and about one-third shorter than base of pronotum; hind femora with three large black punctures on apical half.

Length: 2.5 mm.

Distribution: India: West Bengal (Dist. Kolkata), Tamilnadu. **Elsewhere:** Cape Verde Is, Nepal, Philippine Is, Sri Lanka.

Subfamily III: ORTHOTYLINAE

Tribe: **Orthotylini**

Key to genera of the subfamily Orthotylinae

1. Body elongate; head about as broad as long, rostrum reaching the posterior coxae..... *Mecomma*
- Body ovate; head vertical, transverse, short; rostrum reaching the intermediate coxae *Cyrtorhinus*

Genus 5. *Mecomma* Fieber, 1858

1858. *Mecomma* Fieber, *Wiener entomologische Monatschrift*, 2: 289-327.
 1909. *Antiphilus* Distant, *Ann. Mag. nat. Hist.*, 4(8): 509-523.
 1958. *Antiphilus* Carvalho, *Arch. Mus. Nac. (Rio de J.)*, 47: 161.
 2004. *Mecomma* Liu & Yamamoto, *Oriental Insects*, 38: 219-233.

5. *Mecomma amicus* (Distant, 1909)

1909. *Antiphilus amicus* Distant, *Ann. Mag. nat. Hist.*, 4(8): 509-523.
 1958. *Mecomma amicus* Carvalho, *Arch. Mus. Nac. (Rio de J.)*, 47: 161.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll.

Diagnostic characters: Body black; corium more or less yellow, pilose; hind wing dusky with greenish reflections, margins of the cells black; rostrum and legs pale yellow to light brown, apices of tarsi black.

Length: 4.5 – 5 m.m.

Distribution: India: West Bengal (Dist. Kolkata, Darjeeling), Manipur.

Genus 6. *Cyrtorhinus* Fieber, 1858

1858. *Cyrtorhinus* Fieber, *Wiener entomologische Monatschrift*, 2: 289-327.
 1904. *Chlorosomella* Reuter, *Ofv. Vet. Akad. Forh.*, 46(10): 8.
 1958. *Reuteriessa* Carvalho, *Arch. Mus. Nac. (Rio de J.)*, 47: 161.
 1999. *Cyrtorhinus* Yasunaga, *Tijdschr. Entomol.*, 142: 143-183.

6. *Cyrtorhinus lividipennis* Reuter, 1884

1885. *Cyrtorhinus lividipennis* Reuter, *Entomol. Tidskr.*, 5: 195-200.
 1951. *Cyrtorhinus vitiensis* Usinger, *Soc. Scient. Fenn., Comm. Biol.*, 12(8): 5.
 1999. *Cyrtorhinus lividipennis* Yasunaga, *Tijdschr. Entomol.*, 142: 143-183.

Material examined: 22 exs, Raja Bagan, Dum Dum, Dist. Kolkata, 5.v. 2014, 6.v. 14 & 7. v. 2014, P.C. Saha Coll.

Diagnostic characters: Antennae, head pronotum and base of scutellum shiny black. Abdomen yellow green dorsally, membrane reddish brown distally. Antenniferous tubercles and distal end of first joint of antennae, rostrum, a spot on each side of scutellum reddish brown in colour.

Length: 2.5 - 3.5 m.m.

Distribution: India: West Bengal (Dist. Kolkata), Great Nicobar. *Elsewhere*: Fiji, Japan, Indonesia, Malaysia, Myanmar, Philippines.

Infra Order: PENTATOMORPHA**Key to Superfamilies of the Infraorder Pentatomorpha**

1. Antennae five jointed, scutellum broad, shield like, multiple veins in the membrane..... **Pentatomoidea**
- Antennae four jointed, scutellum short, triangular, four or five simple veins in the membrane **Lygaeoidea**

Superfamily: PENTATOMOIDEA**Key to the families of superfamily Pentatomoidea**

1. Scutellum reaching middle of the abdomen, membrane moderate or small..... **Pentatomidae**
- Scutellum not passing middle of the abdomen, apex broad, membrane very large..... **Dinidoridae**

Family I: PENTATOMIDAE**Genus 7. *Eysarcoris* Hahn, 1834**

1834. *Eysarcoris*, Hahn, *Wanz.* 2: 66.

Key to the Species of genera *Eysarcoris*

1. Head black, thickly darkly punctuate *ventralis*
- Head dark brown thickly and rather finely punctuate *capitatus*

7. *Eysarcoris ventralis* (Westwood, 1837)

1837. *Pentatoma ventralis* Westwood, *In Hope Cat.*, 1: 36.
 1902. *Eusarcocoris ventralis*: Distant, *Fauna Brit. India, Rhynchota*, 1: 167.
 1999. *Eysarcocoris ventralis* Chakraborty & Ghosh, *Fauna of Meghalaya: State Fauna Series*, 4: 402.
 2002. *Eysarcoris ventralis*: Rider *et al.*, *Zoosyst. Rassica*, 2: 144.

Material examined: 1ex, Rabindra Bharoti Viswabidhyaloy campus, Dist. Kolkata, 19.iv. 2015, P.C. Saha Coll.

Diagnostic characters: Body brownish yellow thickly punctuate; head brassy black, anterior area of pronotum grey in colour. Pronotum provided with two large black transverse spots; a large spot at each basal angle of scutellum, pronotum twice as long as head width, abdomen black in the middle ventrally; legs and antennae light brown.

Length: 5.5 to 6.5 m.m

Distribution: India: West Bengal (Dist. Kolkata), Chhattisgarh, Jharkhand, Karnataka, Maharashtra, Uttar Pradesh. *Elsewhere*: Myanmar.

8. *Eysarcoris capitatus* Distant 1902

1902. *Eysarcoris capitatus*, Distant, *Fauna Brit. India. Rhynchota*, 1: 169.

Material examined: 1ex, Rabindra Bharoti Viswabidhyalay campus, Dum Dum, Dist. Kolkata, 19.iv. 2015, P.C. Saha Coll.

Diagnostic Characters: Body yellow brown to brown, finely punctuate; pronotum brown or reddish brown, head elongated, corium punctuate; rostrum passing the hind coxae. Antennae with fourth and fifth joints brownish yellow; lateral angles of pronotum not prominent.

Length: 4 m.m.

Distribution: India: West Bengal (Dist. Kolkata).

Genus 8. *Halys* Fabricius, 1803

1803. *Hylus*, Fabricius, *Syst. Rhyng.* 180.

9. *Halys dentatus* (Fabricius, 1775)

1775. *Hylus dentatus* Fabricius, *Syst. End.* 702.

1902. *Hylus dentatus*: Distant, *Fauna Brit. India. Rhynchota.*, 1: 119-120.

Material examined: 1ex, Seven Tanks Campus, Dist. Kolkata, 26. iv. 2015, P.C. Saha Coll.

Diagnostic characters: Body brown coarsely and darkly punctuate and provided with black patched thorough out except antennae; head elongated, compound eye dark brown to black, connexivum alternately yellow and black; antennae brown, distal end of second and third joints and base of fifth joint brownish yellow, second subequal to fourth and third subequal fifth joints; rostrum passing fifth abdominal segment.

Length: 17 to 23 m.m.

Distribution: India: West Bengal (Kolkata). Assam, Maharashtra, Karnataka. *Elsewhere:* Sri Lanka.

Genus 9. *Piezodorus* (Fieber, 1860)

1861. *Piezodorus* Fieber, *Eur. Hem.*: 78 and 329.

10. *Piezodorus hybneri* (Fabricius, 1790)

1790. *Cimex hybneri* Gmelin, *Linn. Syst. Nat.*, 1(4): 1517-2224.

2002. *Piezodorus hybneri*: Rider et al., *Zoosyst Rossica*, 2: 144.

Material examined: 1ex, Gopeswar Dutta free School Campus, Dum Dum, Dist. Kolkata, 29. iv. 2015, P.C. Saha coll.

Diagnostic characters: Body light green to light brown and punctuate; pronotum wider than long, with lateral margins yellow and a transverse pale or reddish brown fascia across pronotal angles. Clavus with a small black apical spot, basal lateral margins of corium and connexivum reddish brown. Hind wings yellow to light brown; body ventrally and legs greenish yellow. Antennae light brown, apex of the third, fourth and fifth joints reddish brown.

Length: 8 to 10 m.m.

Distribution: India: West Bengal (Kolkata), Assam, Maharashtra, Sikkim. *Elsewhere:* Africa, Sri Lanka.

Family II: DINIDORIDAE

Genus 10. *Coridius* Illger, 1807

1807. *Coridius* Illger, *Fauna Etrusca*, 2: 361

11. *Coridius ianus* (Fabricius, 1775)

1775. *Cimax ianus* Fabr, *Syst. Ent.*, 714.

1992. *Coridius ianus* Lis, *Ann. Upper Silesian Mus. Ent.*, 3:38.

Material examined: 1ex, Rabindra Bharoti Biswabidhalay Campus, Dum Dum, Dist. Kolkata, 29.1 v. 2015, P.C. Saha Coll.

Diagnostic characters: Body oval, reddish brown except head, antennae, anterior part of pronotum, proximal half of scutellum, and membrane black in colour, body ventrally and legs black. Third joint antennae a little longer than first and shorter than remaining joints.

Length: 16 to 20 m.m.

Distribution: India: West Bengal (Kolkata); Assam, Karnataka, Maharashtra, Tamilnadu. *Elsewhere:* Myanmar, Sri Lanka.

Superfamily: LYGAEOIDEA

Family: LYGAEIDAE

Key to the subfamily of the family Lygaeidae

1. Usually dull brown or mottled brown, black and white; hemelytra not partly hyaline..... **Rhyparochrominae**
- Usually dull brownish yellow; hemelytra partly hyaline2
- 2 Apical corial margin straight **Orsillinae**
- Apical corial margin sinuate on basal half3
- 3 Cross vein absent on membrane of forewing **Lygaeinae**

- Cross vein present on membrane of forewing creating a closed basal cell 4
- 4 Abdominal spiracles 3-7 ventral **Oxycareninae**
- Abdominal spiracles 2-4 dorsal 5
- 5 Pronotal margins not spread out and flattened
..... **Geocorinae**
- Pronotal margins not spread out and flattened
..... **Cyminae**

Subfamily I: RHYPAROCHROMINAE

Key to the tribe of the subfamily Rhyparochrominae

1. 3rd and 4th abdominal spiracle dorsal, and 2nd ventral **Rhyparochromini**
- 2nd, 3rd and 4th abdominal spiracles dorsal
..... **Myodochini**

Tribe: **Rhyparochromini**Genus 11: **Metochus** Scott, 18741874. *Metochus* Scott, *Ann. Mag. Nat. Hist.*, **14**(4): 433-434.**12. Metochus uniguttatus** (Thunberg, 1972)1922. *Pendulinus uniguttatus* Thunberg, *Hem. Rost. Cap.*, **4**: 61988. *Metochus uniguttatus* Mukhopadhyay, *Rec. Zool. Surv. India. Occ. Paper No 107*: 5.2016. *Metochus uniguttatus* Saha et al., *Rec. zool. surv. India*, **116**(2): 150

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 26.v. 2014, P. C. Saha Coll. (Light trap)

Diagnostic characters: Body black, pronotum constricted in posterior half, lateral margins of corium yellowish brown, and two prominent spots, one on inner angle and another at base, an elongate light brown central spot on posterior lobe of pronotum, lateral margin of pronotum and legs pilose.

Length: 10-12 m.m.

Distribution: India: West Bengal (Kolkata); Assam, Andaman & Nicobar Islands, Chhattisgarh, Himachal Pradesh, Karnataka, Maharashtra, Meghalaya, Uttarakhand. *Elsewhere*: China, Myanmar, Malaya Archipelago, Phillipines, Sumatra, Sri Lanka.

Genus 12. **Elasmolomus** Stal, 18721872. *Elasmolomus* Stal, *Ofv. Vet. Akad. Forh.*, **89**: 58.**13. Elasmolomus sordidus** (Fabricius, 1787)1787. *Cimex sordidus* Fabricius, *Mant. Ins.*, **2**: 302.1988. *Elasmolomus sordidus*: Mukhopadhyay, *Rec. Zool. Surv. India. Occ. Paper No 107*: 50.2010. *Elasmolomus sordidus*: Saha & Bal, *Fauna of Uttarakhand, State Fauna Series.*, **18**(2): 221.2016. *Elasmolomus sordidus*: Saha et al.; *Rec. zool.surv.India*, **116**(2): 151-152.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 26.v.2014, P. C. Saha Coll. (light trap)

Diagnostic characters: Body brown with small dark brown patches on posterior half of pronotum, distal half of scutellum, corium. Anterior lobe of pronotum, base of scutellum and sternum and apical angles of corium dark reddish brown; abdomen ventrally pale reddish brown; lateral margins of pronotum and corium yellow, a prominent central line on pronotum and scutellum; membrane grey; antennal joints brown with dark brown shade distally; rostrum yellowish brown with basal joint reddish brown, apex black.

Length: 9 – 10 mm.

Distribution: India: West Bengal (Dist. Kolkata); Chhattisgarh, Himachal Pradesh, Maharashtra, Meghalaya, Nagaland, Uttarakhand. *Elsewhere*: China, Myanmar, Sri Lanka.

Genus 13. **Rhyparothesus** Scudder 19621962. *Rhyparothesus* Scudder, *Can. Ent.*, **95**: 983.**14. Rhyparothesus sparsus** (Distant, 1904)1904. *Aphanus sparsus* Distant, *Fn. Brit. Ind. Rhynchota.*, **2**: 81.1909. *Aphanus dudgeon* Distant, *Ann. Mag. Nat. Hist.*, (8) **3**: 336.1964. *Rhyparothesus sparsus* Slater. *A. Catalogue of the Lygaeidae of the World 2*: 1289.2016. *Rhyparothesus sparsus*: Saha et al.; *Rec. Zool. Surv. India*, **116**(2): 155.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 5.v. 2014, P.C. Saha Coll. (Light trap).

Diagnostic characters: Body grayish brown, sprinkled with dark brown spots; antennae dark brown, apical joint darker; pronotum broader at base, margins amplified and convex; apex of scutelum yellow; legs yellow brown, femora speckled with black spots; rostrum light brown; membrane pale grey.

Length: 7 m.m.

Distribution: India: West Bengal (Kolkata), Assam, Chhattisgarh, Maharashtra, Uttarakhand.

Genus 14. *Dieuches* Dohrn 1860

1860. *Dieuches* Dohrn, *Slett. Ent.Zeit.*, 21: 159.

Key to the species of genus *Dieuches*

1. Apical margin of corium subtriangular *femoralis*
 - Apical margin of corium not subtriangular
 *leucoceras*

15. *Dieuches femoralis* (Dohrn, 1860)

1860. *Dieuches femoralis* Dohrn, *Slett. Ent. Zeit.*, 21: 405.
 1988. *Dieuches femoralis*: Mukhopadhyay, *Rec. Zool. Surv. India. Occ. Paper No-107*:55 -56.
 2010. *Dieuches femoralis*: Saha & Bal, *Fauna of Uttarakhand, State Fauna Series*, 18 (2): 220.
 2016. *Dieuches femoralis*: Saha et al.; *Rec. Zool. Surv. India*, 116(2): 156-157.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 5.v.2014, P.C. Saha Coll. (light trap).

Diagnostic characters: Head relatively broader; eyes black, the basal joint, apices of second and third joints and fourth joint of antennae black with red; basal half of corium not black but grey in colour.

Length: 9 - 10 m.m.

Distribution: India: West Bengal (Dist. Kolkata), Assam, Chhattisgarh, Jammu & Kashmir, Nagaland, Uttarakhand, Sikkim. *Elsewhere*: China, Japan, Myanmar, Sri Lanka, Thailand.

16. *Dieuches leucoceras* (Walker, 1872)

1872. *Dieuches leucoceras* Walker, *cat, Hem. Het. B.M.*, 5: 98 -99.
 1988. *Dieuches leucoceras*: Mukhopadhyay, *Rec. Zool. Surv. India. Occ. Paper No.*, 107: 56.
 2010. *Dieuches leucoceras*: Saha & Bal, *Fauna of Uttarakhand, State Fauna Series* 18(2): 221.
 2016. *Dieuches leucoceras*: Saha et al.; *Rec. Zool. Surv. India*, 116(2): 157.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 5.v.2014, P.C.Saha Coll. (Light trap).

Diagnostic characters: Body black, head narrower, basal margins of corium and scutellum light brown. Eyes grey in colour.

Length: 8 to 10 m.m.

Distribution: India: West Bengal (Kolkata), Assam, Chhattisgarh, Kashmir, Maharashtra, Uttarakhand.

Elsewhere: Australia, Iran, Sri Lanka.

Tribe: Mydochini

Genus 15. *Pseudopachybrachius* Malipatil, 1978

1978. *Pseudopachybrachius* Malipatil, *Aust. j. Zool. Supplementary series no.56*: 63.

17. *Pseudopachybrachius guttus* (Dallas, 1852)

1852. *Rhyparochromus gutta* Dallas, *List.Hem.B.M.*, 2: 573-574.
 1878. *Pseudopachybrachius guttus*, Malipatil, *Aust. J.Zool., supplementary series no. 56*: 63.
 2016. *Pseudopachybrachius guttus*: Saha et al.; *Rec.zool.surv.India*, 116 (2): 160.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 7.v. 2014, P. C. Saha Coll.

Diagnostic Characters: Head, pronotum, scutellum and body ventrally black; antennae, spots on corium and legs light brown; apical part of corium and bases of membrane dark brown or black.

Length: 3 to 4 m.m.

Distribution: India: West Bengal (Dist. Kolkata), Bihar, Chhattisgarh, Uttar Pradesh. *Elsewhere*: Japan, Myanmar, Phillipines, South Africa, Sri Lanka.

Genus 16: *Paraecosmetus* Malipatil, 1978

1978. *Paraecosmetus* Malipatil, *Aust. J. Zool., Supplementary series no. 56*: 67.

18. *Paraecosmetus pallicornis* (Dallas, 1852)

1852. *Rhyparochromus pallicornis* Dallas, *List. Hem. B.M.*, 2: 573.
 1988. *Paraecosmetus pallicornis* Mukhopadhyay, *Rec. Zool. Surv. India, Occ. Paper No.* 107: 64-65.
 2016. *Paraecosmetus pallicornis*: Saha et al.; *Rec. Zool. Surv.India*, 116(2): 162-163.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 7. v. 2014, Coll. P.C. Saha.

Diagnostic characters: Head and anterior lobe of pronotum, scutellum, basal half of femur, apical angles of corium black. Posterior pronotal lobe reddish brown with four small brownish yellow spots. Corium, apical half of femur, tibia and tarsi brown; rostrum pitchy black.

Length: 6 m.m.

Distribution: India: West Bengal (Dist. Kolkata), Bihar, Chhattisgarh. *Elsewhere*: Myanmar, Sri Lanka.

Genus 17. **Paromius** Fieber. 18601860. *Paromius* Fieber., *Eur. Hem.*, pp. 45: 170 – 171.**19. Paromius exiguus** (Distant, 1904)1883. *Pamera exigua* Distant, *Trans. Ent. Soc. Lond.*: 434.1904. *Paromius exiguus* Distant, *Fauna. Brit. India. Rhynchota.*, 2: 51.1988. *Paromius exiguus*: Mukhopadhyay, *Rec. Zool. Surv. India. Occ. Paper No - 107:63.*2016. *Paromius exiguus*: Saha et al.; *Rec.zool.surv.India*, 116 (2): 163.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 5.v.2014, Coll. P. C. Saha.

Diagnostic characters: Head, anterior lobe of pronotum black, posterior lobe of pronotum, scutellum and legs dark brown in colour, body beneath uniformly black with red; membrane pale brown, with the greyish veins; apex of rostrum black with red.

Length: 7 m.m.

Distribution: India: West Bengal (Dist. Kolkata); Chhattisgarh. *Elsewhere*: Japan, Sri Lanka.

Tribe: **Ozophorini**Genus 18: **Primierus** Distant, 19011901. *Primierus* Distant, *Ann. Mag. Hist.*, 8(7): 477.**20. Primierus bispinus** (Motschulsky, 1863)1863. *Plociomerus bispinus* Motschulsky, *Bull. Soc. Nat. Mosc.*, p.81.1901. *Primierus bispinus* Distant, *Ann. Mag. Nat. Hist.*, 3(7): 477.2016. *Primierus bispinus*: Saha et al.; *Rec. Zool. Surv. India*, 116(2): 164.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 8.v. 2014, P.C. Saha Coll.

Diagnostic characters: Head and anterior lobe of pronotum dark brown, posterior lobe paler; scutellum chestnut brown; corium brown; membrane paler with dark chestnut brown, a paler spot at apex and on each lateral margin.

Length: 7 m.m.

Distribution: India: West Bengal (Dist. Kolkata); Chhattisgarh *Elsewhere*: Sri Lanka

Subfamily II: **ORSILLINAE****Key to genera of the subfamily Orsillinae**

1. Basal joint of antennae slightly shorter than head, second antennal joint longer than the third **Nysius**
- Basal joint of antennae short and subequal to 3rd than

head, second antennal joint longer than the third

..... **Nysiodes**Genus 19. **Nysius** Dallas, 18521852. *Nysius* Dallas, *List. Hem. B.M.* 2: 551-552.**Key to species of the genera Nysius**

1. All antennal segments black with 2nd segment distinctly longer than 3rd segment **ceylonicus**
- 2nd joint slightly longer than the 3rd, 3rd and 4th subequal in length **2**
2. Legs brown, large coarse punctures to femora and the apices to the tarsi black **inconspicuus**
- Legs pale brown, femora spotted with reddish brown, tarsi black apically **lalcustrinus**

21. Nysius ceylonicus (Motschulsky, 1863)1863. *Hetergaster ceylanicus* Motschulsky, *Bull. Soc. Nat. Mosc.*, 36: 78.1904. *Nysius ceylanicus*, Distant, *Fauna Brit. India. Rhynchota*, 2: 18.1988. *Nysius ceylanicus*: Mukhopadhyay, *Rec. zool. Surv. India. Occ. Paper No. 107: 20.*1994. *Nysius ceylanicus*: Chakraborty et al., *State Fauna Series 3: Fauna of West Bengal, Part 5*: 424.2016. *Nysius ceylanicus*: Saha et al.; *Rec. zool. Surv. India*, 116(2): 167.

Material examined: 2 exs, Raja Bagan, Dum Dum, Dist. Kolkata, 5.v. 2014, P.C.Saha Coll.; 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 4.vii.2014, P.C.Saha Coll. (light trap)

Diagnostic characters: Body black, posterior area of pronotum, corium, antennae and legs brown. Eyes prominent, head as wide as maximum width of pronotum.

Length: 3- 4 m.m.

Distribution: India: West Bengal (Dist. Kolkata), Chhattisgarh, Jharkhand, Sikkim, Uttarakhand. *Elsewhere*: China, Java, Nepal, Sri Lanka, Sumatra.

22. Nysius inconspicuus Distant, 19021902. *Nysius inconspicuus* Distant, *Fauna of Brit India. Rhynchota*. 2: 18-19.2016. *Nysius inconspicuus*: Saha et al., *Rec. zool. Surv. India*, 116(2): 167.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll. (Light trap).

Diagnostic characters: Head, pronotum and scutellum reddish brown, coarsely punctuate, corium and membrane pale; legs brown with a slight tinge of dark brown; eyes

grey, basal joint of antennae dark brown and thick.

Length: 3m.m.

Distribution: India: West Bengal (Dist. Kolkata); Chhattisgarh, Himachal Pradesh. *Elsewhere:* Myanmar, Malaya.

23. *Nysius laucustrinus* Distant, 1909

1909. *Nysius laucustrinus* Distant, *Ann. Mag. Nat. Hist.*, **3**: 321.

1910. *Nysius laucustrinus* Distant, *Fauna Brit. India. Rhynchota*, **5**: 13.

2010. *Nysius laucustrinus* Saha et al., *Fauna of Uttarakhand, State Fauna Series*, **18** (Part-2): 222.

2016. *Nysius laucustrinus*: Saha et al.; *Rec. Zool. Surv. India*, **116**(2): 167-168.

Material examined: Lex, Raja Bagan, Dum Dum, Dist. Kolkata, 5. v. 2014, P.C. Saha Coll.

Diagnostic characters: Body grey in general, corium membranous in nature, legs light brown, femora spotted with reddish brown, tarsi black apically. Rostrum uniformly black, passing the hind coxae.

Length: 4 m.m.

Distribution: India: West Bengal (Dist. Kolkata); Chhattisgarh, Uttarakhand. *Elsewhere:* Sumatra.

Genus 20. *Nysiodes* Distant, 1909

1952. *Nysiodes*, Distant. *Fauna Brit. India. Rhynchota*, **7**: 182.

24. *Nysiodes typus* Distant, 1918

1952. *Nysiodes typus* Distant, *Fauna Brit. India. Rhynchota*, **7**: 182-183.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll. (Light trap)

Diagnostic characters: Body light grey in colour. Eyes, adjoining areas of head near eyes, anterior part of pronotum, basal and central part of scutellum dark brown in colour. Forth joints of antennae longest and sub-equal to and third joints together.

Length: 5 m.m.

Distribution: India: West Bengal (Dist. Kolkata), South India

Subfamily III: LYGAEINAE

Key to the Genera of the subfamily Lygaeinae

1. Metathoracic scent gland inconspicuous; femora of legs in male usually spinose; brightly coloured

insects usually with a combination of red and black ***Spilostethus***
 - Metathoracic scent gland opening otherwise; femora in male mutic; coloration dull ***Graptostethus***

Genus 21. *Spilostethus* Stal, 1868

1868. *Spilostethus* Stal, *Kongk. Svensk. Vet. Akad. Handl.*, **7**: 72.

Key to the species of genera *Spilostethus*

1. Membrane with white spot, spots on corium small and sub-marginal ***pandurus militaris***
 - Membrane with no white spot, spots on corium larger and marginal ***hospes***

25. *Spilostethus pandurus militaris* (Fabricius, 1775)

1775. *Cimex militaris* Fabricius, *Syst. Ent.*: 717.

1988. *Spilostethus pandurus militaris* (Fabricius), *Rec. zool. Surv. India. Occ. Paper No.* **107**: 15.

2010. *Spilostethus pandurus militaris*: Saha et al., *Fauna of Uttarakhand, State Fauna Series*, **18**(2): 223.

2016. *Metochus uniguttatus* Saha et al.; *Rec. Zool. Surv. India*, **116**(2): 168-169.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll. (Light trap)

Diagnostic characters: Body red; apex of head, inner margins of eyes, antennae, rostrum, two longitudinal spots on pronotum, scutellum, a small spot on clavus, a transverse spot to corium, and the legs black; membrane reddish brown provided with a white spot; femora spined beneath; rostrum reaching the mid coxae.

Length: 13 - 16 m.m.

Distribution: India: West Bengal (Dist. Kolkata), Chhattisgarh, Karnataka, Maharashtra, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand. *Elsewhere:* Australia, Myanmar & South Africa.

26. *Spilostethus hospes* (Fabricius, 1794)

1794. *Lygaeus hospes* Fabricius, *Ent. Syst.*, **4**: 150.

1914. *Spilostethus hospes*: Bergroth, *Ent. Mitteil.*, **2**: 356.

1988. *Spilostethus hospes*: Mukhopadhyay, *Rec. Zool. Surv. India. Occ. Paper No.* **107**: 15 - 16.

2010. *Spilostethus hospes*: Saha et al., *Fauna of Uttarakhand, State Fauna Series*, **18** (2):223

2016. *Metochus uniguttatus* Saha et al.; *Rec. Zool. Surv. India*, **116** (2): 169-170.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6. v. 2014, P.C. Saha Coll. (Light trap)

Diagnostic characters: Body red, finely pilose; rostrum passing the hind coxae; hind femora unarmed. Apex of head, inner margins of eyes, two broad central spots to pronotum, a large central spot to corium, membrane, disks of sternum and abdomen, antennae, rostrum and legs black in colour.

Length: 10 - 13 m.m.

Distribution: India: West Bengal (Dist. Kolkata), Assam, Chhattisgarh, Karnataka, Maharashtra. *Elsewhere:* Australia, China, Hong Kong, Japan, Java, Iran, Australia, Myanmar, New Zealand, Philippines, Sri Lanka, Sumatra.

Genus 22. **Graptostethus** Stal, 1868

1968. *Graptostethus* Stal, *Kngl. Seensk. Vet. Aked. Hand.*, **11**: 73 – 74.

27. *Graptostethus servus* (Fabricius, 1787)

1787. *Cimex servus* Fabricius, *Mant. Ins.*, **2**: 300.

1988. *Graptostethus servus*: Mukhopadhyay, *Rec. zool. Surv. India. Occ. Paper No.* **107**: 18.

2010. *Graptostethus servus*: Saha et al., *Fauna of Uttarakhand, State Fauna Series*, **18**(Part-2): 224.

2016. *Metochus uniguttatus* Saha et al.; *Rec. zool. Surv. India*, **116**(2): 170-171.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v.2014, P. C. Saha Coll. (light trap)

Diagnostic characters: Body reddish brown in colour, pilose. Apex or whole central area of head, inner margin of eyes, an anterior and two posterior spots on pronotum, pairs of spots on corium and membrane dark brown or black in colour. Rostrum relatively longer and reaching the hind coxae.

Length: 8 to 9 m.m.

Distribution: India: West Bengal (Dist. Kolkata); Chhattisgarh, Kerala, Maharashtra, Meghalaya, Uttarakhand. *Elsewhere:* Algeria, Australia, China, Ethiopia, France, Indonesia, Japan, Java, Malaya, Maldives Island, Myanmar, Philippines Is., Singapore, Spain, Somalia, Sri Lanka, Sudan, Tibet and Turkey.

Subfamily IV: OXYCARENINAE

Genus 23. **Oxycarenum** Fieber 1837

1837. *Oxycarenum* Fieber, *Beitr. Nat. Ges. Heilwiss*, pp. 339 -340.

28. *Oxycarenum lates* Kirkaldy, 1891

1891. *Oxycarenum lates* Kirkaldy, *J. Linn. Soc. Zool.* **29**: 102.

1902. *Oxycarenum lates*: Distant, *Fauna Brit. India, Rhynchota*, **2**: 43.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll. (Light trap)

Diagnostic characters: Head, antennae, pronotum, and legs reddish brown; scutellum dark red brown, corium pale yellow, with a small pitcye black spot at apical angle; membrane hyaline; intermediate and posterior tibiae pale brown, tarsi pale, their black; anterior femora spined beneath.

Length: 4mm.

Distribution: India: West Bengal (Dist. Kolkata); West Bengal. *Elsewhere:* Burma, Mandalay, Sri Lanka.

Subfamily V: GEOCORINAE

Genus 24. **Geocoris** Fallen 1814

1814. *Geocoris* Fallen, *Spec. Nov. Hem. Disp. Met.*, p. 10.

29. *Geocoris ochropterus* (Fabricius, 1844)

1798. *Cimex tricolor* Fabr., *Ent. Syst. Rhynchota.*: 238.

1844. *Geocoris ochropterus* Fieber, *Ent. Monogr.* p.117.

1901. *Geocoris ochropterus* Distant, *Ann. Mag. Nat. Hist.*, **8**(7): 409.

2016. *Metochus uniguttatus* Saha et al.; *Rec. zool. Surv. India*, **116**(2): 176-177.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll. (Light trap)

Diagnostic characters: Body black; head reddish brown; antennae black, basal joint and the apical joint light brown; rostrum brown; first joint of rostrum a little longer than the second.

Length: 3.5 to 4 m.m.

Distribution: India: West Bengal (Dist. Kolkata North), Assam, Chhattisgarh, Karnataka. *Elsewhere:* China, Myanmar, Sri Lanka, Sumatra.

Subfamily VI: CYMINAE

Genus 25. **Cymus** Stal, 1874

1874. *Cymus* Stal, *En. Hem.* **4**. P.125.

30. *Cymus tabidus* Stal 1874

1874. *Cymus tabidus* Stal, *En. Hem.*, **4**. P. 126.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v.2014, P.C. Saha Coll (Light trap).

Diagnostic characters: Body pale brown, head, antennae, legs and scutellum dark brown; second joint of antennae longer than the first subequal in length to fourth.

Length: 3.5 mm.

Distribution: India: West Bengal (Dist. Kolkata).

Family: MALCIDAE

Genus 26: **Malcus** Stal, 1859

1859. *Malcus* Stal, *Freg. Eng. Resa, Ins. Hem.* p: 241.

31. *Malcus flavidipes* Stal, 1859

1859. *Malcus flavidipes* Stal, *Freg. Eng. Resa, Ins. Hem.* P. 242.

Material examined: 2 exs, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll.

Diagnostic characters: Body reddish brown; eyes, antennae (2nd, 3rd and 4th joints) and legs brown, basal joint thick and apical joint clubbed, pronotum granulate.

Length: 3.5 – 4.m.m.

Distribution: India: West Bengal (Dist. Kolkata); Assam. *Elsewhere:* Myanmar, Java.

Family: PYRRHOCORIDAE

Key to genera of the family Pyrrhocoridae

- 1. Head not transversely constricted or impressed beneath ***Dysdercus***
- Head transversely constricted or impressed beneath near base ***Antilochus***

Genus 27: ***Dysdercus*** Amy & Serv 1843

1843. *Dysdercus* Amy & Serv., *Hem.*: 272.

Key to the species of the Genus *Dysdercus*

- 1. Extreme base of first joint of antennae sanguineous ... ***koenigii***
- Extreme base of first joint of antennae not sanguineous ***olivaceus***

32. *Dysdercus koenigii* (Fabricius, 1775)

1775. *Cimex koenigii* Fabricius, *Syst. Ent.* 720.

1904. *Dysdercus cingulatus*: Distant, *Fauna Brit. India, Rhynchota*, 2:118

1914. *Dysdercus koenigii* Bergroth, *Ent Mitt*, 3: 355.

2010. *Dysdercus koenigii*: Saha & Bal, *Fauna of Uttarakhand. State Fauna Series*, 18(2): 248.

2016. *Dysdercus koenigii*: Saha et al. *Rec. Zool. Surv. India*, 116(3): 273.

Material examined: 1ex, Rabindra Bharoti Viswabidyalay Campus, Dum Dum, Dist. Kolkata, 18.iv. 2015, P.C. Saha Coll.

Diagnostic characters: Body reddish brown; basal joint of antennae, spots on corium, scutellum and membrane black in colour. Fore and mid femur and basal half of hind femur reddish brown. Anterior collar to pronotum creamy white.

Length: 9-16 mm.

Distribution: India: West Bengal (Dist. Kolkata); Andaman & Nicobar Islands, Andhra Pradesh, Assam, Chhattisgarh, Himachal Pradesh, Karnataka, Meghalaya, Nagaland, Sikkim, Uttarakhand. *Elsewhere:* Australia, Malayan Archipelago, Myanmar, Sri Lanka.

33. *Dysdercus olivaceus* (Fabricius, 1798)

1798. *Dysdercus olivaceus* Fabricius, *Ent. Syst. Suppl.* p. 540.

1868. *Dysdercus olivaceus* Stal, *Hem, Fabr.* 1 – 84.

1904. *Dysdercus olivaceus* Distant, *Fauna. Brit. Ind. Rhynchota*, 2: 119 – 120.

Material examined: 1ex, Rabindra Bharoti Viswabidyalay Campus, Dum Dum; Dist. Kolkata, 18.1v. 2015, P.C. Saha Coll.

Diagnostic characters: Body saffron yellow; head and anterior part of pronotum reddish brown, antennae and tarsi black. Antennae, eyes, anterior part of pronotum, scutellum, two round spots on corium, and membrane dark brown.

Length: 14 mm.

Distribution: India: West Bengal (Dist. Kolkata).

Genus 28. ***Antilochus*** Stal, 1863

1863. *Antilochus* Stal, *Berl. Ent. Zeitschr.*, 7: 393.

34. *Antilochus coqueberti* (Fabricius, 1784)

1784. *Cimex angur* Fabricius, *Nova Ins. Spec.*, 3: 58.

1902. *Antilochus coqueberti*: Distant, *Fauna Brit. India, Rhynchota*, 2: 101.

2007. *Antilochus coqueberti*: Saha et al., *State Fauna Series*, 5: *Fauna of Andhra Pradesh*, Part-3: 326-327.

2010. *Antilochus coqueberti*: Saha et al., *State Fauna Series*, 18: *Fauna of Uttarakhand*, Part-2: 249.

2016. *Dysdercus koenigii*: Saha et al., *Rec. Zool. Surv. India*, 116(3): 272-273.

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 6.v. 2014, P.C. Saha Coll.

Diagnostic characters: Body blood red except apical parts of tibia, tarsus, membrane and antennae black. Corium thickly punctuate, fore femora with short and stout spined near apex.

Length: 14 – 16 mm

Distribution: India: West Bengal (Dist. Kolkata), Assam, Andaman Islands, Andhra Pradesh, Chhattisgarh, Jammu & Kashmir, Meghalaya, Nagaland, Uttarakhand, Uttar Pradesh. *Elsewhere:* Myanmar, Sri Lanka.

Family: ALYDIDAE

Genus 29. **Leptocoris** (Stal, 1873)

1825. *Leptocoris* Latr. *Fam. Nat.*, 421.

1873. *Leptocoris*, Stal, *En. Hem.* 3: 86.

35. **Leptocoris acuta** (Thunberg 1783)

1842. *Leptocoris bengalensis* Fabricius, *Ent. Syst.* 4: 191.

1783. *Leptocoris acuta* Thunberg, *Noc. Ins. Sp.* 2: 34.

1901. *Leptocoris acuta* Distant, *P. Z. S.*, 1; 331.

References

- Biswas, B. and Bal, A. 2013. Insecta: Heteroptera, diversity of Pangi Valley, *Himalayan Ecosystem Series*. Zool. Surv. India, Kolkata, 3: 83-86.
- Distant, W. L. 1910. *Fauna Brit. India*, Rhynchota. 5: 1-100. <https://doi.org/10.5962/bhl.part.10506>.
- Distant, W. L. 1902. *Fauna Brit. India*, Rhynchota. 2: 196-430.
- Esaki, T. 1926. Verzeichnis der Hemiptera: Heteroptera der *Insect Famosa*. *Ann. Mus. Nat. Hung* 26: 135-189.
- Henry, T. J. 1988. Family Largidae Amyot and Sereville, 1843. Pp 159-165. In: T. J. Henry and R. C. Froeschner, *Catalogue of the Heteroptera, or True Bugs, of Canada and the Continental United States*, E. J. Brill, Leiden, the Netherlands; p. 958.
- Henry, T. J. 2009. Biodiversity of Heteroptera. In: *Insect Biodiversity Science and Society*. Edt. By Robert, G. Footitt and Piter, H. Adler; p. 224-263.
- Hussem, R. F. 1929. General catalogue of the Hemiptera. Pyrrhocoridae. 1-144.
- Hussey, R. F. 1929. General Catalogue of the Hemiptera. Fascicle 3: Pyrrhocoridae. 144.
- Lefroy, H. M. 1909. The Insect fauna of Trihut, No. 1 Rhynchota, Heteroptera. *Rec. Ind. Mus.*, Calcutta. 3: 301-330.
- Mukhopadhyay, A. 1988. Taxonomic study of Lygeidae (Heteroptera: Insecta) from West Bengal (India). *Rec. zool. Surv. India; Misc. Pub. Occ. Paper No.* 107: 1-72.
- Ramamurthy, et al. 2010. Efficiency of different light sources in light traps in monitoring insect diversity. *Mun. Ent. Zool.* 5(1): 109-114.
- Saha, P.C and Bal, A. 2010. Fauna of Uttarakhand. *State Fauna Series*. 18(Part-2): 219-228.
- Saha, P. C., Biswas, B., Hassa, M.E., Chandra, K and Pravee, K. 2016. On an account of Superfamily Pyrrhocoroidea (Hemiptera: Heteroptera) from Chhattisgarh, India. *Rec. Zool. Surv. India*. 116(3): 269-279.
- Saha, P.C. and Bal, Animesh. 2010. Insecta: Hemiptera: Pyrrhocoridae. *Fauna of Uttarakhand, State Fauna Series* 18(2): 245-253.
- Saha, P.C., Biswas, B., Hassa, M. E., Chandra, K. and Praveen, K. 2016. On an account of Family Lygaeidae (Hemiptera: Heteroptera) Chhattisgarh, India. *Rec. zool. Surv. India*. 116(2): 147-179. <https://doi.org/10.26515/rzsi/v117/i2/2017/118012>.
- Sanyal, A. K., Ramakrishna and Alfred, J.R.B. 2007. *Faunal Resources in West Bengal* (Publ. Zool. Surv. India, Kolkata).
- Schaefer, C. W. and Panizzi, A. R. 2000. Heteroptera of economic importance, CRC Press; p.271-307. <https://doi.org/10.1201/9781420041859>.
- Schuh, R.T. and Slater, J. A. 1995. *True bugs of the World (Hemiptera: Heteroptera) Classification and Natural History*, Cornell University press, Ithaca, USA; p. 336.
- Sen, G. C., Biswas, B. and Basu, R. C. 1994. *State Fauna Series 3: Fauna of West Bengal* (5): 433-447. (Publ. Zool. Surv. India, Kolkata)

Material examined: 1ex, Raja Bagan, Dum Dum, Dist. Kolkata, 22.v. 2015, P.C. Saha Coll.

Diagnostic characters: Body elongated, olive green, antennae long, as long as length of body, a distinct central carinate line to pronotum; small distinct tubercle near each lateral pronotal angle.

Length: 13 to 15 m. m.

Distribution: India: West Bengal (Dist. Kolkata). *Elsewhere:* China, Malayan Archipelago.

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Polytoxus maculatus Dist.



Helopeltis theivora Waterh.



Nesidiocoris tenuis
Hemundez & Henry



Campylomma lividum
Duwal, Yasunaga & Lee



Mecomma amicus Dist.



Cyrtorrhinus lividipennis
Reuter



Eysarcoris ventralis
(Westwood)



Eysarcoris capitatus Dist.



Halys dentatus (Fabr.)



Piezodorous hybneri (Fabr.)



Coridius janus (Fabr.)



Metochus uniguttatus (Thunb)



Elasmolemus sordidus
(Fabr.)



Rhyparothesus sparsus (Dist.)



Dieuches femoralis (Dist.)



Dieuches leucocerus (Walker)



Pseudopachybrachis guttus
Malipatil



Paraeucosmetus pallicornis
(Dallas)



Paromius exiguus (Dist.)



Premierus bispinus
(Motschulsky)



Nysius ceylanicus
(Motschulsky)



Nysius inconspicuus (Dist.)



Nysius laucustrinus
Distant



Nysiodes typus Distant



Spilostethus pandurus militaris (Fabr.)



spilostethus hospes (Fabricius)



Graptostethus servus Fabricius



Oxycaremus laetus Walker



Geocoris ochropterus Fieber



Cymus tabidus Stal



Malcus flavidipes Stal



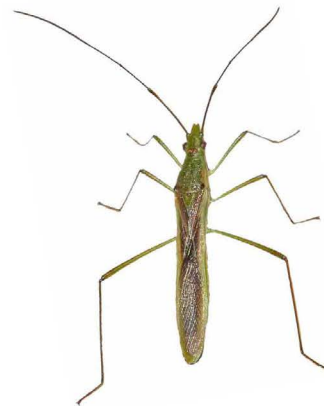
Dysdercus koenigii
(Fabricius)



Dysdercus olivaceus Fabr.



Antilochus coqueberti
(Fabricius)



Leptocorisa acuta Thunb.