



ON AN ACCOUNT OF COREOIDEA (HETEROPTERA: HEMIPTERA) FROM CHHATTISGARH, INDIA

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INTRODUCTION

Reuter (1910) first established the Coreoidea as a superfamily of the Heteroptera and Leston *et al.* (1954) placed the Coreoidea within infraorder Pentatomomorpha. The superfamily includes five families: Alydidae (broad headed bugs), Coreidae (Leaf-footed bugs or Squash bugs), Rhopalidae (Scentless plant bugs), Stenocephalidae (confined to Eastern Hemisphere) and Hyocephalidae (endemic to Australia), comprising of 2376 species from the world (Henry 2009). Of these, about 200 species under 60 genera are so far known from India including 78 endemic species.

Member of the superfamily Coreoidea can easily be recognized by having forewings with numerous veins, ocelli present, head narrower and most often shorter than pronotum, antennae four segmented and hind tibiae in some species with lateral expansions, Scent glands are present on the thorax between mesocoxae and metacoxal and are highly modified and well developed, peritremes are provided with orifices that emit a strong scent that serves both to deter predators and as an alarm pheromone causing aggregation to scatter. They are principally phytophagous but several instances of coprophagy and carrion feeding have been recorded.

Chhattisgarh is tenth largest state (135,000 km²) and third largest area under forest cover after Madhya Pradesh and Arunachal Pradesh (43.9%). Information on the Coreoidea fauna of Chhattisgarh is very scanty and only 9 species

under 8 genera are known so far through the work of Chandra and Kushwaha (2012, 2013) from Barnawapara Wildlife Sanctuary and Kanger Valley National Park, Jagdalpur respectively and Biswas and Ghosh (1995) from Indravati Tiger Reserve. The present study revealed an account of 23 species belonging to 16 genera under 4 families of superfamily Coreoidea from the state of Chhattisgarh, out of this 5 species under 5 genera have already been recorded and rest of the 18 species under 11 genera are new record to the state. The material studied was collected during the year 2009-2012 by the different survey parties Zoological Survey of India and deposited in the National Zoological Collection of Z.S.I.

SYSTEMATIC LIST

Superfamily COREOIDEA

Family COREIDAE

Subfamily COREINAE

Genus 1. *Anoplocnemis* Stal, 1873

*1. *Anoplocnemis phasiana* (Fabricius, 1781)

Genus 2. *Petillopsis* Hsiao, 1963

2. *Petillopsis calcar* (Dallas, 1852)

Genus 3. *Dalader* Amyot & Serville, 1843

3. *Dalader planiventris* (Westwood, 1842)

Genus 4. *Homoeocerus* Burmeister, 1835

*4. *Homoeocerus signatus* Walker, 1871

5. *Homoeocerus striicornis* Scott, 1874

- Genus 5. *Aschistocoris* Bergroth, 1909
6. *Aschistocoris brevicornis* (Dallas, 1852)
Genus 6. *Notobitus* Stal, 1860
- *7. *Notobitus meleagris* (Fabricius, 1787)
Genus 7. *Petalocnemis* Stal, 1854
8. *Petalocnemis obscura* (Dallas, 1852)
Genus 8. *Cletus* Stal, 1860
- *9. *Cletus bipunctatus* (Westwood, 1840)
10. *Cletus punctulatus* (Westwood, 1842)
11. *Cletus punctiger* (Dallas, 1852)
Subfamily PSUDOPHLOCINAE
- Genus 9. *Clavigralla* Spinola, 1837
12. *Clavigralla concolor* (Dohrn, 1860)
13. *Clavigralla gibbosa* Spinola, 1837
Genus 10. *Hoplolomia* Stal, 1873
14. *Hoplolomia scabricula* Stal, 1873
Family STENOCEPHALIDAE
- Genus 11. *Dicranocephalus* Hahn, 1826
15. *Dicranocephalus lateralis* (Signoret, 1879)
Family ALYDIDAE
- Subfamily MICRELYTERINAE
- Genus 12. *Leptocorisa* Latreille, 1829
16. *Leptocorisa oratorius* (Fabricius, 1873)
17. *Leptocorisa acuta* (Thunb.)
Subfamily ALYDINAE
- Genus 13. *Nariscus* Stal, 1866
18. *Nariscus fisheri* (Distant, 1908)
Genus 14. *Riptortus* Stal, 1860
19. *Riptortus pedestris* (Fabricius, 1775)
- *20. *Riptortus linearis* (Fabricius, 1775)
Family RHOPHALIDAE
- Subfamily RHOPHALINAE
- Genus 15. *Liorhyssus* Stal, 1870
21. *Liorhyssus rubicundus* (Signoret, 1859)
22. *Liorhyssus hyalinus* (Fabricius, 1794)
Subfamily SERINATHINAE
- Genus 16. *Leptocoris* Hahn, 1833
23. *Leptocoris augur* (Fabricius, 1781)

SYSTEMATIC ACCOUNT

Superfamily COREOIDEA

Key to the families of the superfamily

Coreoidea

1. Abdominal spiracle dorsal..... 2
- Abdominal spiracle ventral..... 3
2. Metathoracic scent gland auricles absent or greatly reduced Rhopalidae
- Metathoracic scent gland auricles large and conspicuous, never bristly, ovipositor usually flattened and plate like, if laciniate then tibiae not sulcate and abdominal pore bearing organs lacking..... Coreidae
3. Interocular distance greater than width of anterior margin of scutellum, ovipositor plate like Alydidae
- Interocular distance less than width of anterior margin of scutellum, ovipositor laciniate... . Stenocephalidae

Family COREIDAE

Key to the subfamilies of family Coreidae

- 1 Length variable; tibiae sulcate (sometimes shallowly sulcate); head longitudinally impressed near central lobe; posterior angles of dorsal surface of sixth abdominal segment in male rounded, obtuse, or straight, or somewhat prominently recurved; tibiae above generally sulcate or dilated..... Coreinae.
- Member of the subfamily not more than 12 mm long; tibiae not sulcate; head not impressed near central lobe metathoracic scent gland orifices with a single large or two nearly fused disc, posterior angles of dorsal surface of sixth abdominal segment in both sexes prominently recurved, slightly dentate, or spinose; meso and meta sterna sulcate, male with a bilobed genital capsule opening, filled by the clearly visible parameres; tibiae rounded, not sulcate Pseudophlocinae.

Subfamily Coreinae

Key to the genera of the subfamily Coreinae

1. Posterior femora incrassated, profoundly thickened..... 2
 - Posterior femora not incrassated 5
2. Anterior femora incrassated..... 3
 - Anterior femora not incrassated 4
3. Posterior tibiae moderately dilated.....
 -*Petillopsis* Hsiao
 - Posterior tibiae not dilated.....
 -*Anoplocnemis* Stal
4. Apex of head slightly produced.....
 -*Notobitus* Stal
 - Apex of head not produced; lateral margin of corium perceptibly rounded; meso-sternum sulcate *Petalocnemis* Stal
5. Third joint of antenna foliaceously dilated on each side; pronotum with lateral angles always strongly dilated.....
 - *Dalader* Amyot and Serville
 - Third joint of antenna not foliaceously dilated on each side; pronotum with lateral angles not dilated 6
6. Abdomen not amplified; pronotal angles not acutely produced 7
 - Abdomen profoundly amplified; pronotal angles acutely produced; abdominal segmental angles not exteriorly acutely produced.....
 - *Cletus* Stal
7. Central lobe of head distinctly deflected between lateral lobes..... *Homoeocerus* Burmeister
 - Central lobe of head not distinctly deflected between lateral lobes.....
 -*Aschistocoris* Bergroth

Genus 1. *Anoplocnemis* Stal, 18731873. *Anoplocoemis* Stal, *En. Hem.*, **3**: 47.1. *Anoplocnemis phasiana* (Fabricius, 1781)1781. *Lygaeus phasiana* Fabricius, *Spec. Ins.*, **2**: 361.1902. *Anoplocnemis phasiana*: Distant *Fauna Brit. India, Rhynchota*, **1**: 346.

Material examined: 4 exs., Nakti pond, Dist. Raipur, 13.vii.2011, coll. Sunil Kumar and party; 1ex. Jilianala, Dist. Raipur, 25.vii.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body brown; head wider than long, about 0.73 times as long as wide; corium reddish brown with the margins and apex black; antennae black, with the apical joint light brown to brown; scutellum brown apically; hind femora in male curved at base, strongly incrassated, inwardly broadly dentate near apex, outer margin linearly serrate. A1:A2:A3:A4::1:0.81:0.72:1.1. *Length*: 22-28 mm.

Distribution: India: Chhattisgarh (Raipur), Assam, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Meghalaya, Nagaland, Sikkim, Uttarakhand. *Elsewhere*: Sri Lanka, Myanmar, Malayan Archipelago, Malayan Peninsula.

Genus 2. *Petillopsis* Hsiao, 19631963. *Petillopsis* Hsiao, *Act. Zool. Sinica*, **15**: 622.2. *Petillopsis calcar* (Dallas, 1852)1852. *Mictis calcar* Dallas *List. Hem.*, **2**: 397.1902. *Petillia calcar*: Distant, *Fauna Brit. India, Rhynchota*, **1**: 351.2006. *Petillopsis calcar*: Dolling, *Cat. Het. Palae. Reg.*, **5**: 97.

Material examined: 1 ex., Seja, Dist. Durg, 23.viii.2011, coll. Sunil Kumar and party; 1ex., Pavirid, Dist. Raipur, 3.viii.2011, coll. Sunil Kumar and party; 1ex., Sakri river, Dist. Kabirdham, 25.viii.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body brown and pilose, paler ventrally provided with small scattered black spots; pronotum with some scattered black tuberculous points, the lateral margins darkly serrate, the lateral angles produced, their apices pointed and slightly directed backward; connexivum alternately brown and black; veins of the corium black; posterior femora incrassated, posterior tibiae inwardly dilated and strongly dentate. *Length*: 22 to 27 mm.

Distribution: India: Chhattisgarh (Durg, Kabirdham, Raipur), Sikkim, Meghalaya, Nagaland, Maharashtra. *Elsewhere*: Myanmar, Philippine Islands, Sri Lanka.

Genus 3. *Dalader* Amyot & Serville, 18431843. *Dalader* Amyot & Serville, *Hem*: 187.3. *Dalader planiventris* (Westwood, 1842)1842. *Acauonicus planiventris* Westwood, in *Hope Cat.*, 2: 8.1902. *Dalader planiventris*: Distant, *Fauna Brit. India, Rhynchota*, 1: 352.

Material examined: 1 ex., Pagwahi, Dist. Kabirdham, 1.ix.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body brown in colour, finely punctate; antennae finely pilose, third joint amplified on each side, fourth joint slender and a little paler; pronotum with distinct central longitudinal carination, the lateral angles lunately produced, their apices obliquely truncate, the anterior lateral margins finely denticulate; membrane provided with scattered darker spots; abdominal dilatations with paler reflections on each segment; abdomen coarsely granulate. Head wider than long, about 0.79 times as long as wide; maximum width of head 0.24X as long as maximum width of pronotum and pronotum much wider than long, about 0.35X as long as wide. *Length*: 23 to 28 mm.

Distributions: India: Chhattisgarh (Kabirdham), Assam, Maharashtra, Tamil Nadu, Sikkim. *Elsewhere*: Sri Lanka, Mayanmar, Malayan Peninsula and Sumatra.

Genus 4: *Homoeocerus* Burmeister, 18351835. *Homoeocerus* Burmeister, *Handb.*, 2: 316**Key to the species of the genus *Homoeocerus***

1. Third rostral segment longer than fourth ; third antennal segment distinctly dilated apically; macular spot touching costal margin
..... *signatus*
- Third rostral segment shorter than the fourth; dominant body color green; antennae thicker and shorter; pronotum with red lateral lines, posterior margin sinuate; body with punctures of yellow color; pronotal angles less acute and narrow *striicornis*

4. *Homoeocerus signatus* (Walker, 1871)1871. *Prismatocerus signatus* Walker, *Cat. Hemip. Hetin the Collection of the British Museum*, 4(92): 97.1871. *Homoeocerus signatus* Walker, *Cat. Het.*, 4: 97.1902. *Homoeocerus signatus*: Distant, *Fauna Brit. India, Rhynchota*, 1: 356.

Material examined: 1 exs., Makki Range, Bastar, Dist. Bastar, 27.ix.2011, coll. R.P. Gupta and party.

Diagnostic characters: Body brown; a broad basal fascia to the pronotum between the lateral angles; corium with a large transverse macular spot at inner angle and the lateral margins and yellowish brown in colour; head wider than long, about 0.64 times as long as wide, with a narrow fascia on each side before eyes, and the sub-granulous lateral margins of the pronotum, black; antennae with the first and second joints pale reddish brown, third joint light brown, apices of second and third joints black, second joint longer than the first, A1:A2:A3:A4:: 1:1.42: 1.85: 1.87; meso and meta-sterna with a black spot on each lateral area; lateral angles of the pronotum moderately and sub-acutely produced, pronotum little wider than long, about 0.72 X as long as wide, maximum width of head about 0.33X as long as maximum width of pronotum. *Length*: 19 to 21 mm.

Distribution: India: Chhattisgarh (Bastar), Himachal Pradesh, Maharashtra, Sikkim, *Elsewhere*: Pakistan, Sri Lanka.

5. *Homoeocerus striicornis* (Scott, 1874)1874. *Homoeocerus striicornis* Scott, *A.M.N.H.* (4)14: 362.2006. *Homoeocerus striicornis*: Dolling. *Cat.Het.Palae. Reg.*, 5: 83.

Material examined: 1 ex., Ramgarh, Dist. Koriya, 2.viii.2011, coll. Angshuman Raha and party.

Diagnostic characters: Body greenish to pale brown; antennae light brown with reddish tinge, the first and second joints exteriorly with a longitudinal black line, fourth joint with its apical half infuscated, first and third joints sub-equal in length, third shortest, considerably shorter than fourth; pronotum longer than wide, the lateral margins with a fine black line, the lateral angles distinctly angulately prominent; corium with a

distinct sub-costal black line; body beneath and legs pale; rostrum with the third joint considerably shorter than fourth. Head wider than long, about 0.76X as long as wide, maximum width of pronotum about 2X as long as maximum width of the head, pronotum wider than long, about 0.71X as long as wide. *Length*: 17 to 20 mm.

Distribution: India: Chhattisgarh (Koriya), Assam, Himachal Pradesh, Maharashtra, Sikkim. *Elsewhere*: Thailand, Sri Lanka, Japan.

Genus 5. *Aschistocoris* Bergroth, 1909

1909. *Aschistocoris* Bergroth, *Ann. Soc. Entomol. Belg.* **53**: 34.

6. *Aschistocoris brevicornis* (Dallas 1852)

1852. *Aschistus brevicornis* Dallas, *List of the specimens of hemipterous insects in the collection of the British Museum*, **2**: 448.

1998. *Aschistocoris brevicornis*: Ahmad & Praveen, *Proc. Pak. Cong. Zool.* **18**: 231-238.

Material examined: 1 ex., Donduala, Dist. Raipur, 10.vii.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body elongate and brown in colour, thickly punctate; head wider than long, about 0.98 times as long as wide; maximum width of head 0.45X as long as maximum width of pronotum; antennae with first, third, and fourth joints sub-equal in length, second joint longest, fourth slender and infuscated towards apex, A1: A2: A3: A4: : 1:1.8:1:1. Pronotum wider than long, about 0.86X as long as wide. Scutellum slightly longer than wide; membrane brassy, hyaline, not reach reaching the apex of abdomen, beneath and legs pale brown; sternum coarsely punctate, furrowed and ridged on each lateral area, a minute fuscous spot on each side of the meso- and meta sterna; abdomen finely punctate, with a series of foveate spots on each lateral area. Length of hind femur about 0.93X as long as hind tibia. *Length*: 15 mm.

Distribution: India: Chhattisgarh (Raipur), West Bengal.

Genus 6. *Notobitus* Stal, 1860

1860. *Notobitus*: Stal 1859, *Ofv. Vet.-Ak. Forh.*, p. 451.

7. *Notobitus meleagris* (Fabricius, 1787)

1787. *Cimex meleagris* Fabricius, *Mant.*, **2**: 207.

1902. *Notobitus meleagris* Distant, *Fauna Brit. India, Rhynchota*, **1**: 371.

Material examined: 7 exs., Ravan Forest, Dist. Raipur, 20.ix.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body grayish brown; head brown, wider than long, 0.85 X as long as wide, maximum width of head 0.45X as long as maximum width of pronotum; pronotum wider than long, about 0.63X as long as wide; antennae blackish, basal area of fourth joint light brown, with 2nd and 3rd segments sub-equal in length, length of the 2nd segment about 1.16X as long as 1st segment; corium brown on its apical area; posterior femora in the male extending considerably beyond the apex of the abdomen, with a long spine beyond middle of inner surface, followed by some smaller spines, posterior tibiae in the male with their inner margins strongly serrate; abdomen above black. Length of hind femur about 1.07X as long as hind tibia. *Length*: 22 to 25 mm.

Distribution: India: Chhattisgarh (Raipur), Tamil Nadu. *Elsewhere*: China, several islands in the Malayan Archipelago.

Genus 7. *Petalocnemis* Stal, 1854

1854. *Petalocnemis* Stal 1853, *Ofv. Vet. Ak. Forh.*, p. 259.

8. *Petalocnemis obscura* (Dallas, 1852)

1852. *Acanthocoris obscura* Dallas *List. Hem.*, **2**: 518.

1902. *Petalocnemis obscura*: Distant, *Fauna Brit. India, Rhynchota*, **1**: 386.

Material examined: 6 exs., Davgaon forest, Dist. Raipur, 12.xii.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body brown, provided with short hairs throughout the body; head and pronotum with a central pale carinate line, pronotal angles broadly truncate; corium with spinous hairs on the anterior-lateral margins; conuexivium with obscure transverse brown spots at the incisures; body beneath and legs light brown; anterior tibiae compressed, somewhat dilated, with a double series

of spinous tubercles on outer margin. Antennae with first, second, and third joints concolorous with the body, apices of second and third joints black, apical joint brownish black. Head wider than long, about 0.67 times as long as wide, maximum width of head about 0.36X as long as maximum width of pronotum, pronotum wider than long, about 2X as long as wide, hind tibia slightly shorter than hind femur. *Length*: 13 to 14.5 mm.

Distribution: India: Chhattisgarh (Raipur), Meghalaya, Maharashtra, Punjab, West Bengal. *Elsewhere*: Sri Lanka.

Genus 8. *Cletus* Stal, 1860

1860. *Cletus* Stal, *Freg. Eug. Resa, Ins. Hem*: 236.

Key to the species of the genus *Cletus*

- 1 Body length of adult may reach up to 12 mm. the apices of lateral margin of pronotum produced into long black spines *punctiger*
- Body length of adults reach up to 10 mm.; apices of the pronotum not much produce... .. 2
2. Pronotal angles shortly and rosately produced ending into fuscous spines; femora without yellow brown spots; breadth between pronotal angles 3.5-4 m.m. *bipunctatus*
Pronotal angles widely and acutely produced ending into short thick yellow brown spines; breadth between pronotal angles 4.5-5 mm. *punctulatus*

9. *Cletus bipunctatus* (Westwood, 1840)

1842. *Coreus bipunctatus* Westwood, *in Hope Cat.*, 2: 23.

1902. *Cletus bipunctatus*: Distant, *Fauna Brit. India, Rhynchota*, 1: 393.

Material examined: 7 exs., Hardinala, Dist. Raipur, 8.xi.2011, col. Anil and party; 4exs., Junagad forest, Dist. Gariabandh, 17.xi. 2011, col. Sunil Kumar and party; 3 exs., Pipartala forest, Dist. Kabirdham, 17.x.2011, col. Sunil Kumar and party.

Diagnostic characters: Body pale brown and somewhat punctate; Head wider than long, about

0.68 times as long as wide, maximum width of head 0.40X as long as maximum width of pronotum, pronotum wider than long, about 0.54X as long as wide; scutellum slightly wider than long, about 0.97X as long as wide; lateral margins of the corium and a small spot on its inner apical margin light brown; abdomen above brown, with transverse black markings, connexivum brown, body beneath and legs light brown, a small spot on the lateral area of each sternal segment; antennae reddish brown, the apical joint fuscous; pronotal lateral angles shortly and acutely produced, the apices of the spines fuscous. Length of hind femur about 1.12X as long as hind tibia. *Length*: 9 to 10 mm.

Distribution: India: Chhattisgarh (Gariabandh, Kabirdham, Raipur), Himachal Pradesh, Maharashtra, West Bengal, Karnataka. *Elsewhere*: Myanmar, Sri Lanka.

10. *Cletus punctulatus* (Westwood, 1842)

1842. *Coreus punctulatus* Westwood, *In Hope Cat.*, 2: 23.

1902. *Cletus punctulatus*: Distant, *Fauna Brit. India, Rhynchota*, 1: 392.

Material examined: 1 ex., Kodmali, Goriyaband, 18.x.2011, Coll. Sunil Kumar and party; 4 exs., Hardinala, Dis. Raipur, 8.xi.2011, Coll. Anil and party; 1ex., Junagad forest, Dist. Goriya band, 17.x.2011, Coll. Sunil Kumar and party.

Diagnostic characters: Body brown in colour, thickly covered with dark reddish brown punctures; lateral margins of head and corium, connexivum, a small spot near inner apical margin of corium, body beneath, and legs, brown; a spot on lateral area of each segment of the sternum and a number of discal spots to abdomen are black in colour; head wider than long, about 0.82X as long as wide, and maximum width of head 0.33X as long as maximum width of pronotum, pronotal angles widely and acutely produced, pronotum wider than long, pronotum wider than long, about 0.47X as long as wide; antennae with the basal joint reddish brown, 1st joint longest, 3rd and 4th joints subequal in length; rostrum about reaching posterior coxae; abdomen above black except at margins. *Length*: 9-10 mm,

Distribution: India: Chhattisgarh (Gariaband, Raipur), Himachal Pradesh, Meghalaya, Nagaland, Sikkim, and West Bengal.

11. *Cletus punctiger* (Dallas, 1852)

1852. *Gonocerus punctiger* Dallas, *List. Hem.*, 2: 494.

1902. *Cletus punctiger*: Distant, *Fauna Brit. India, Rhynchota*, 1: 393.

Material examined: 2 exs., Hardinala, Dist. Raipur, 8.xi.2011, Anil and party.

Diagnostic characters: Body above, beneath and legs brown, thickly covered with dark brown punctures; head wider than long, about 0.82 times as long as wide, maximum width of head 0.34X as long as maximum width of pronotum; pronotum with the lateral angles acutely spinous and more produced, wider than long, about 0.57X as long as wide; scutellum about 0.93X as long as wide; corium with the lateral margin and a small spot in the inner apical angle whitish; membrane pale brownish, black at base; abdomen above red, with the lateral margins very yellow brown; sternum coarsely punctate provided with a small black spot on the lateral area of each segment; length of hind femur about 1.09 X as long as hind tibia; antennae dark brown, with 1st and 3rd joints sub-equal, 2nd about 1.3X as long as 1st joint. *Length:* 10-12 mm.

Distribution: India: Chhattisgarh (Raipur), Himachal Pradesh, Punjab, West Bengal; *Elsewhere:* China, Pakistan, Myanmar.

Subfamily PSUDOPHLOCINAE

**Key to the genera of the subfamily
Psudophlocinae**

1. Scutellum convex and elevated.....
..... *Clavigralla* Spinola
- Scutellum plain, not elevated; antennae with the first joint shorter than head.....
..... *Hoplolomia* Stal

Genus 9. *Clavigralla* Spinola, 1837

1837. *Clavigralla* Spinola, *Spin. Ess.*: 202.

Key to the species of genus *Clavigralla*

1. Lateral pronotal angles produced into acute black spines directed a little forward and upward; femora with the castaneous annulations to apices and base..... *gibbosa*
- Lateral pronotal angles acute, spines a little directed forward; lateral pronotal margins bi-dentate; femora without any annulations
..... *concolor*

12. *Clavigralla concolor* Dohrn, 1860

1860. *Clavigralla concolor* Dohrn, *Stett. ent. Zeit.*, 21: 403.

1902. *Myla concolor*: Distant, *Fauna Brit. India, Rhynchota*, 1: 403.

1986. *Clavigralla concolor* Dolling, *Bull. Br. Mus. (Nat. Hist.) Entomol.*, 53: 182.

Material examined: 2 exs., Pipartala forest, Dist. Kabirdham, 17.xi.2011, coll. Sunil Kumar and party; 1 ex., Barnala, Dist. Raipur, 14.xi.2011, coll. Anil and party.

Diagnostic characters: Body reddish brown; punctured with fuscous; head longer than wide, about 1.07 times as long as wide, maximum width of head about 0.50X as long as maximum width of pronotum; pronotum wider than long, 0.60X as long as wide, pronotal angles acute, spines a little directed forward; lateral pronotal margins bi-dentate; membrane pale; abdominal margin with three spines; hind tibia is sub-equal to hind femur. 1st joint of antennae smallest, 2nd and 4th sub-equal in length, 3rd joints longest, A1:A2:A3:A4:: 3.0:3.5:4.0:3.6. Hind femur slightly longer than hind tibia. *Length:* 7 mm.

Distribution: India: Chhattisgarh (Kabirdham and Raipur); *Elsewhere:* Sri Lanka.

13. *Clavigralla gibbosa* Spinola, 1837

1837. *Clavigralla gibbosa* Spinola, *Ess.*: 202.

1902. *Clavigralla gibbosa*: Distant, *Fauna Brit. India, Rhynchota*, 1: 401.

Material examined: 1 ex., Komali, Dist., Gariaband, 18.x.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body reddish brown,

moderately pilose; head slightly longer than wide, about 1.01 times as long as wide, about 0.35X as long as maximum width of pronotum, pronotum much wider than long about 0.44X as long as wide, posterior area of pronotum, and apical area of corium, brown; antennae brown, apical joint pale brown, second and third joints sub-sub-equal in length, A1:A2:A3::1:0.85:0.82; lateral angles of pronotum produced into acute black spines, the anterior area thickly and strongly pilose; scutellum thickly and strongly pilose; legs yellow brown, apical halves of femora, bases, apices, central annulation to tibiae reddish brown in colour; posterior femora spined beneath towards apices, hind femur about 1.17X longer than the hind tibia. *Length:* 8-10 mm.

Distribution: India: Chhattisgarh (Gariaband), Karnataka, Maharashtra. Elsewhere: Myanmar

Genus 10. *Hoplolomia* Stal, 1873

1873. *Hoplolomia* Stal, *En. Hem.*, 3: 84.

14. *Hoplolomia scabricula* Stal, 1873

1873. *Hoplolomia scabricula* Stal, *En. Hem.*, 3: 84.

1902. *Hoplolomia scabricula*: Distant, *Fauna Brit. India, Rhynchota*, 1: 404.

Material examined: 2 exs., Kodamali, Dist. Gariaband, 18.x.2011, coll. Sunil Kumar and party; 1ex., Makdi Range, Dist. Bastar, 9.XI.2011, Coll. R.P. Gupta and party.

Diagnostic characters: Head, antenna, pronotum, and scutellum dark brown; corium brown, its apical area light brown; legs brown, posterior femora, excluding bases, reddish brown; apices of the tibiae brown; body beneath obscure pale brown, head wider than long, about 0.78 times as long as wide, maximum width of head 0.44X as long as maximum width of pronotum, pronotum wider than long, about 0.47X as long as wide; pronotum with two prominent central discal tubercles, lateral angles produced and spinous, lateral margins strongly dentate, length of hind femur about 1.46X as long as hind tibia. 1st joint about 0.80X as long as 2nd joint and 0.67X as long as 3rd joints. *Length:* 6.5 mm.

Distribution: India: Chhattisgarh (Gariaband, Bastar), All over India, *Elsewhere:* Myanmar.

Family STENOCEPHALIDAE

Genus 11. *Dicranocephalus* Hahn, 1826

1826. *Dicranocephalus* Hahn., *Icon. Cimi.*, 24.

15. *Dicranocephalus lateralis* (Signoret, 1879)

1879. *Stenocephalus lateralis* Signoret, *Bull. Soc. Zool. Fr.*, 72

2006. *Dicranocephalus lateralis*: Dolling, *Cat.Het.Palae. Reg.* 5: 5.

Material examined: 2 exs., Durg Camp, Dist. Durg, 24.viii. 2011; 1ex., Nawapara, Dist. Raipur, 28.vii. 2011, coll. Sunil Kumar and party; 1ex., Bar village, Dist. Raipur, 14.vii.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body brown, coarsely punctate; head cylindrical longer than wide, about 1.49X as long as wide, with anterior portion of pronotum somewhat darker, maximum width of head about 0.45X as long as maximum width of pronotum, lateral margins of the pronotum, pronotum wider than long about 0.48X as wide as long; corium, and membrane impunctate and yellow brown; antennae strongly pilose, first joint robust and slightly curved, slightly shorter than the head, second joint about as long as the fourth, third and first sub-equal; the second joint is yellow brown, fourth pale fuscous and yellow brown at base, A1: A2: A3:A4:: 1:0.80:0.67:0.75; legs yellow brown; fore and intermediate femora lightly fuscous at apex, hind femora broadly and more distinctly fuscous; apices and bases of tibiae and tarsi fuscous, hind femur slightly less than one and a half times as long as hind tibia. *Length:* 10-12 mm.

Distribution: India: Chhattisgarh (Durg, Raipur, Seoni), Maharashtra, Tamil Nadu, *Elsewhere:* Sri Lanka.

Family ALYDIDAE

Key to the subfamilies of the family Alydidae

1. 1st joint of rostrum extend beyond the eyes; pronotum posteriorly about one and a half times as long as width of the head Micrelyterinae.
- 1st joint of rostrum not extending behind the eyes; head large, not or slightly shorter than the pronotumAlydinae

Subfamily MICRELYTERINAE

Genus 12. *Leptocoris* Latreille, 18291892. *Leptocoris* Latreille, *Fam. Nat.*: 421.**Key to the species of the genus *Leptocoris***

1. Venter with a series of lateral dark spots on ventrites 3-6.....*oratorius*
- Venter entirely pale; callosities near pronotal posterior angles small and pale.....*acuta*

16. *Leptocoris oratorius* (Fabricius, 1794)1794. *Gerris oratorius* Fabricius, *Ent. Syst. Em. Auc. Sec.*, 4: 191.2006. *Leptocoris oratorius*: Dolling, *Cat. Het. Palae. Reg.*, 5: 30.

Material examined: 2 exs., Nakti forest, Dist. Raipur, 13.vii.2011; 1ex., Lalbandh pond, Raipur, 13.vii.2011, coll. Sunil Kumar and party; 2 exs., Barnawapara, Dist. Raipur, 16.viii.2011, coll. Sunil Kumar and party. 1ex., Chipli forest, Dist. Kabirdham, 14.vii.2011, 1ex., Anjani Beat, Surguja, 10.xi.2011, coll. Angshuman Raha and party; 2 exs. Makdirng, Dist. Bastar, 11.xi.2011, coll. R.P. Gupta and party.

Diagnostic characters: Body above grayish yellow, beneath pale greenish brown; head longer than wide, about 1.26X as long as wide; antennae fuscous, bases of second, third, and fourth joints yellow brown, A1: A2: A3: A4:: 1: 0.80: 0.92: 1.41; pronotum wider than long, about 0.35X as long as wide, 0.65X as long as maximum width of head provided with a small distinct tubercle near each lateral pronotal angle and a distinct central carinate line; scutellum longer than wide, about 1.32X as long as wide; abdomen above reddish-brown, with the margins pale greenish yellow. Hind femur about 0.88X as long as hind tibia. *Length*: 13 to 15 mm.

Distribution: India: Chhattisgarh (Bastar, Kabirdham, Raipur), Assam, Jharkhand, Meghalaya, Maharashtra, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh, Karnataka, Kerala, West Bengal. *Elsewhere*: Australia, Bangladesh, Bhutan, China, Indonesia, Malaysia, Solomon island, Sri Lanka and Tibet.

17. *Leptocoris acuta* (Thunberg, 1783)1902. *Leptocoris acuta* Distant, *Fauna Brit. India, Rhynchota*, 1: 410.2006. *Leptocoris acuta* : Dolling, *Cat. Het. Palae. Reg.*, 5: 29-30.

Material examined: 1 ex, Kudaidhura forest, Dist. Kabirdham, 15.11.2011, Sunil Kumar and party; 1ex. Dullibahal forest, Dist. Raipur, 10xi. 2011, Anil and party; 1ex. Nakti pond, Dist. Raipur, 13.vii.2011, Sunil Kumar and party.

Diagnostic characters: Body pale greenish brown to brownish-orange; head longer than wide, Rostrum relatively shorter and just reaches apices of mesocoxae; antennae and legs are usually pale, antennal joints of variable colour, brown to brownish orange; pronotum with well-developed dark brown humeral calli; scutellum longer than wide; colour of abdomen variable, but dorsum usually darker. Hind femur about 0.88X as long as hind tibia. Male genitalia with pygophore small and almost rounded; claspers bifurcated at their apices. *Length*: 15-16 mm.

Distribution: India: Chhattisgarh (Kabirdham, Raipur), West Bengal. *Elsewhere*: Bhutan, China, Fiji, Indonesia, Malaysia, New Caledonia and Samoa.

Subfamily ALYDINAE

Key to the genera of the subfamily Alydinae

1. Antennae with first joint a little longer than the second and about equal in length to third, fourth longest.....*Riptortus* Stal
- Fourth joint of the antennae longer than the two preceding joints taken together; Posterior tibiae straight, shorter than the femora, with a single row of spines beneath commencing at about one third from base and clothed with long spinulose hairs, scutellum short, sub-triangular, somewhat raised, its apex moderately spatulate.....*Nariscus* Stal

Genus 13. *Nariscus* Stal, 18661866. *Nariscus* Stål. *Hemip. Afr.*, 2: 8.18. *Nariscus fisheri* (Distant, 1908)1908. *Akbaratus fisheri* Distant, *Fauna Brit. India, Rhynchota*, 4: 486.

2006. *Nariscus fisheri*: Dolling, *Cat. Het. Palae. Reg.*, 5: 39.

Material examined: 1 ex., Barnawapara, Dist. Raipur, 24.vii.2011, coll. Sunil Kumar and party

Diagnostic characters: Body greenish brown, head slightly longer than wide and sub-equal to length of the pronotum, maximum width of head slightly shorter than maximum width of pronotum; pronotum pale brownish yellow with a central longitudinal line, anterior marginal area with brown impression and a small nodules at each posterior angle, as long as wide; antennae with first three joints greyish spotted with black; corium pale brownish yellow, thickly punctuate; posterior femora with two brownish annulations. *Length*: 13 mm.

Distribution: India: Chhattisgarh (Raipur), Maharashtra, Uttarakhand.

Genus 14. *Riptortus* Stal, 1860

1860. *Riptortus* Stal, *Ofv. Vet. -Ak. Forh.*,: 460.

Key to the species of genus *Riptortus*

1. A dark castaneous lateral fascia on each side of head, not extending beyond base of antennae *pedestris*
- A sublateral levigate pale ochraceous fascia margined with black on each side of head and sternum *linearis*

19. *Riptortus pedestris* (Fabricius, 1775)

1775. *Gerris pedestris* Fabr., *Syst. Ent.*,: 727.

1902. *Riptortus pedestris* Distant, *Fauna Brit. India, Rhynchota*, 1: 415.

Material examined: 1 ex., Kundpani Forest, Dist. Kabirdham, 21 .ix.2011, coll. Anil and party; 1 ex., Barnala, Dist. Raipur, 4.xi.2011, coll. Anil and party; 1 ex., Junagadh Forest, Dist. Gariaband, 17.x.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body dark brownish, finely and brown pilose; head wider than long, about 0.77X as long as wide, maximum width of head 0.73X as long as maximum width of pronotum, pronotum wider than long, about

0.74X as long as wide, posterior margin of the pronotum and a lateral fascia on each side of head dark reddish brown, lateral pronotal spines black; sternum somewhat brown with reddish tinge, with prominent pale yellow brown spots placed near the coxae; scutellum about 1.23X as long as wide; coanexivum yellowish brown, posterior femora thickly mottled with reddish-brown; about 1.22X as long as hind tibia; posterior tibiae with the bases and apices reddish-brown. *Length*: 15 to 18 mm.

Distribution: India: Chhattisgarh (Gariaband, Kabirdham, Raipur), Karnataka, Maharashtra, Meghalaya. *Elsewhere*: Malayan peninsula, Myanmar, Sri Lanka.

20. *Riptortus linearis* (Fabricius, 1775)

1775. *Lygaeus linearis* Fabr., *Syst. Ent.*,: 710.

1902. *Riptortus linearis*: Distant, *Fauna Brit. India, Rhynchota*, 1: 415.

Material examined: 1 ex., Bakaband, Dist-Bastar, 21.xi.2011, Coll. R.P. Gupta and party; 1 ex., Kherpani, Dist. Kabirdham, 16.xi.2011, Sunil Kumar and party; 1 ex., Banjari hills, Dist. Kabirdham, 25.xi.2011, Anil and party; 1 ex., Jamunpani forest, Dist. Kabirdham, 22.xi.2011, Anil and party; 1 ex., Amajheria, Dist-Balrampur, 9.xi.2011, Coll. Raha and party.

Diagnostic characters: Body dark reddish brown dorsally, disk of sternum and abdomen black with some yellow brown spots. Head wider than long, about 0.83X as long as wide, maximum width of head 0.75X as long as maximum width of pronotum, pronotum wider than long, about 0.81X as long as wide, a small spot at the middle of posterior pronotal margin and the apex of the scutellum pale brown; scutellum about 1.06X as long as wide, length of hind femur 1.27X as long as hind tibia. A1:A2:A3:4A:: 1.00:0.69: 0.75: 1.87. *Length*: 14 to 16 mm.

Distribution: India: Chhattisgarh (Balrampur, Bastar, Kabirdham), Karnataka, Maharashtra, Sikkim, West Bengal. *Elsewhere*: Myanmar, several islands of the Malayan Archipelago.

Family RHOPHALIDAE

Key to the subfamilies of the family**Rhopalidae**

1. Anterior lateral margins of the pronotum not or obtusely sinuate; areole at anterior apical area of corium quadrangular
..... Rhopalinae
- Anterior lateral margins of the pronotum distinctly angulately emarginate; areolus at interior apical area of corium triangular.....
..... Serinathinae

Subfamily RHOPHALINAE

Genus 15. *Liorhyssus* Stal, 18701870. *Liorhyssus* Stal, *En. Hem.*, 1: 222.**Key to species of the genus *Liorhyssus***

- 1 Scutellum black, its apex reddish or ochraceous; corium ochraceous, its apical area more or less reddish- piceous or reddish ; body beneath red ; body beneath red ; abdomen with a series of luteous spots on each lateral area, the extreme lateral margins alternately black and brown..... *rubicundus*
- Scutellum somewhat acute at the apex, punctured with black and clothed with long whitish hairs, body beneath ochraceous; abdomen impunctate, clothed with short pale hairs.....*hyalinus*

21. *Liorhyssus rubicundus* (Signoret, 1859)1859. *Corizus rubicundus* Signoret, *Ann. Soc. Ent. Fr.*, 3(7): 86.1902. *Liorhyssus rubicundus*: Distant, *Fauna Brit. India, Rhynchota*, 1: 415.

Material examined: 1 ex., Kehrpani, Dist. Kabirdham, 16.xi.2011, coll. Sunil and party; 1ex., Kodmali, Dist. Gariaband, 18.x.2011, coll. Sunil and party; 1ex., Hardinala, Dist. Raipur, 8.xi.2011, coll. Anil and party.

Diagnostic characters: Head, pronotum and scutellum dark reddish brownish in colour, rest of the body pale brown, body beneath red; abdomen with a series of yellow brown spots on each lateral area; head wider than long, about 0.89X as long as wide, maximum width of head 0.72X as long

as maximum width of pronotum; pronotum with an anterior and posterior transverse black fascia, pronotum wider than long, about 0.62X as long as wide; corium pale brown, scutellum about 1.13X as long as wide; legs pale reddish brown; length of hind femur about 0.67X as long as hind tibia. A1:A2:A3:4A:: 1.0:2.0:2.3:3.6. *Length*: 6 to 9 mm.

Distribution: India: Chhattisgarh (Gariaband, Kabirdham, Raipur). *Elsewhere*: Sri Lanka.

22. *Liorhyssus hyalinus* (Fabricius, 1794)1794. *Lygaeus hyalinus* Fabricius, *Ent. Syst.* 4: 1682009. *Liorhyssus hyalinus* Werner, *Heteropteron*, 31: 35-36

Material examined: 1 ex., Hardinala, Dist. Raipur, 8.xi.2011, coll. Anil and party.

Diagnostic characters: Body brownish yellow above; head with several black streaks and dots, rostrum pale yellow, with the apex black; antennae pale yellow, with a brown line along the upper surface of the first three joints. Head wider than long, about 0.81 times as wide as long, maximum width of head 0.66X as long as maximum width of pronotum ; pronotum thickly and finely punctured with black, dark brown near anterior and posterior margins, pronotum wider than long, about 0.57X as long as wide; scutellum somewhat acute at the apex, punctured with black; tarsi with the tips of the first and third joints and the claws black. *Length*: 5 to 6 mm.

Distribution: India: Chhattisgarh (Raipur), Maharashtra, West Bengal.

Subfamily SERINATHINAE

Genus 16. *Leptocoris* Hahn, 18311831. *Leptocoris* Hahn, *Wanz. Ins.*, 1: 200.23. *Leptocoris augur* (Fabricius, 1781)1781. *Cimex augur* Fabr., *Spec. Ins.*, 2: 366.1902. *Serinetha augur*: Distant, *Fauna Brit. India, Rhynchota*, 1: 420.2006. *Leptocoris augur*: Dolling, *Cat. Het. Palae. Reg.*, 5: 9.

Material examined: 2 exs., Latadar, Dist. Raipur, 8.vii.2011, coll. Sunil Kumar and party;

5 exs., Barnawapara, Dist. Raipur, 8.vii.2011, coll. Sunil Kumar and party; 3 exs., Kodmali, Dist. Gariabandh, 18.x.2011, coll. Sunil Kumar and party.

Diagnostic characters: Body pale reddish brown; head wider than long, about 0.60 times as long as wide, maximum width of head 0.71X as long as maximum width of pronotum, antennae, rostrum, legs, and membrane black; pronotum very distinctly centrally carinate and finely punctate, pronotum wider than long, about 0.59X as long as wide, scutellum about 1.20X as long as wide, length of hind femur about 0.81X as long as hind tibia. *Length:* 14 to 16 mm.

Distribution: India: Chhattisgarh (Gariaband, Raipur) Assam, Maharashtra, Tamil Nadu, West Bengal. *Elsewhere:* Sri Lanka, West Yunnan, Malayan Peninsula, and Hainan.

SUMMARY

This paper reports 23 species of Coreoid bugs under 16 genera belonging to 4 families from the state of Chhattisgarh, of these so far 5 species under 5 genera (marked with *) were known from the state. The diagnosis of each species along with measurements and their ratios, keys to various taxa, distributions of each species in different districts of Chhattisgarh, other states as well as from elsewhere along with relevant references have also been incorporated.

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PLATE I



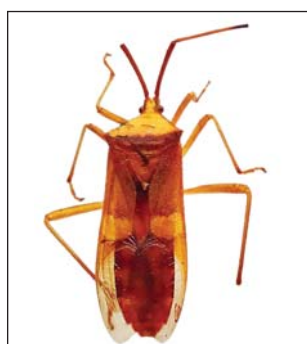
Figs. 1. *Anoplocnemis phasiana* (Fabr.)



Figs. 2. *Petillopsis calcar* (Dall.)



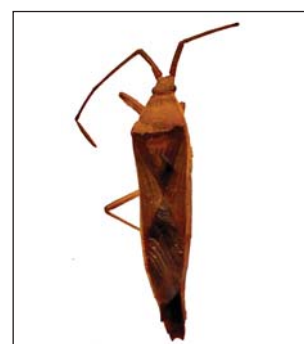
Figs. 3. *Dalader planiventris* (Westw.)



Figs. 4. *Homoeocerus signatus* Walker



Figs. 5. *Homoeocerus striicornis* Scott



Figs. 6. *Aschistocoris brevicornis* (Dallas)



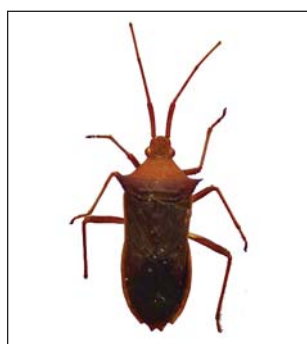
Figs. 7. *Notobitus meleagris* (Fabr.)



Figs. 8. *Petalocnemis obscura* (Dall.)



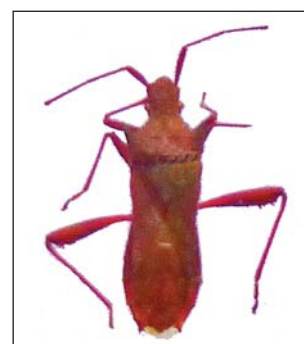
Figs. 9. *Cletus bipunctatus* (Westw.)



Figs. 10. *Cletus punctulatus* (Westw.)



Figs. 11. *Cletus punctiger* (Dall.)



Figs. 12. *Chavigralla concolor* (Dohrn)

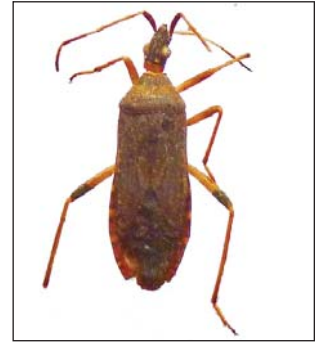
PLATE II



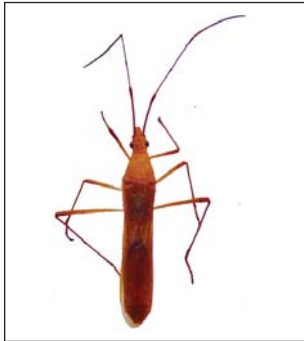
Figs. 13. *Chavigralla gibbosa*
Spinola



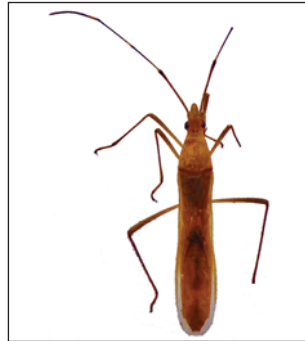
Figs. 14. *Hoplolomia*
scabricula Stal



Figs. 15. *Dicranocephalus*
laterallis (Signoret)



Figs. 16. *Leptocoris*
oratorius (Fabr.)



Figs. 17. *Leptocoris*
acuta (Thunb.)



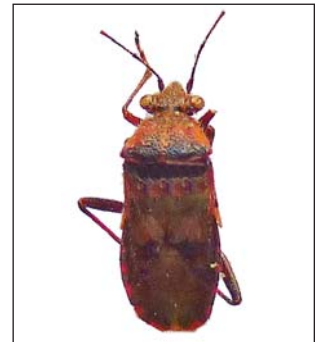
Figs. 18. *Nariscus fisheri*
(Distant)



Figs. 19. *Riptortus pedestris*
(Fabr.)



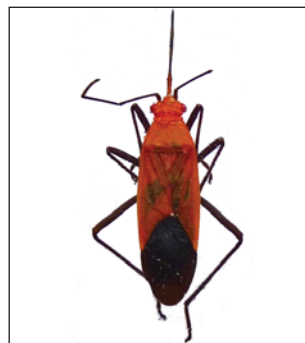
Figs. 20. *Riptortus linearis*
(Fabr.)



Figs. 21. *Liorhyssus*
rubicundus (Signoret)



Figs. 22. *Liorhyssus hylinus*
(Fabr.)



Figs. 23. *Leptocoris augur*
(Fabr.)