

TAXONOMY OF COREINAE (HETEROPTERA: COREIDAE)  
FAUNA FROM GORUMARA NATIONAL PARK  
AND CHAPRAMARI WILDLIFE SANCTUARY OF DOOARS,  
WEST BENGAL, INDIA

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Systematics of recorded nine species under seven genera spread in five tribes of the subfamily Coreinae of the family Coreidae from Gorumara National Park and Chapramari Wildlife Sanctuary of Dooars (West Bengal, India) is extended herewith. Of these, two species namely, *Chinadasynus orientalis* (Distant) belonging to the tribe Dasynini, and *Plinactus basilis* (Westwood) belonging to the tribe Gonocerini are recognized as new to the state of West Bengal. All recorded taxa have been taxonomically diagnosed, described and illustrated with digital images of dorsal habitus and camera lucida drawings of their different body parts. Furthermore, taxonomic keys and distributions have also been provided.

*Keywords:* Coreinae, fauna, new record, taxonomy, Dooars, West Bengal, India.

**INTRODUCTION**

The family Coreidae contained three subfamilies viz. Coreinae, Meropachyinae (restricted to New World) and Pseudophloeinae (Packauskas, 2010). Globally by having with 2320 species under 372 genera spreading in 32 tribes that reflecting more than 90% representatives, the Coreinae is recognized as the largest one (Forthman *et al.*, 2020). Being phytophagous many coreines may attack cultivated plants and definitely act as pests of economic importance.

The brief knowledge on this group have been acquired from the following literatures – China & Miller (1959), Puchkov (1962), Hsiao (1964 & 1977), Schaefer (1964 & 1965), Ahmad (1970), O’Shea & Schaefer (1980), Packauskas (1994 & 2010), Schuh & Slater (1995), Cassis & Gross (2002), Dolling (2006), Brailovsky (2007 & 2011), Dursun & Fent (2009), Aukema *et al.* (2013), Forthman *et al.* (2020).

From Indian sub-continent, the monographic work of Distant (1902) was the monumental contribution on Coreidae. Prabakar (2013, 2015) worked on biogeographical distributions of Indian Coreoidea. Notable regional studies were of Basu & Mitra (1978, 1994, 2004) for the state of Sikkim, West Bengal and Manipur respectively, Hedge (1995) for Eastern Ghats, Gupta & Singh (2013) from Northern India, Biswas *et al.* (2014) for Chhattisgarh, Bhagat (2015) for Jammu & Kashmir. Mukherjee *et al.* (2016) described a new species of the genus *Physomerus* Burmeister from Maharashtra. Apart from these, some remarkable studies from protective areas / reserves were of Ghosh *et al.* (2006), Sheikh *et al.* (2017).

Nearly 200 species of this group are known from the country (Biswas *et al.*, 2014). About 25 years of date back, 40 coreine species from West Bengal, were reported by Basu & Mitra (1994) in the state fauna series (part 5) published by Zoological Survey of India. In present communication, from Gorumara National Park and Chapramari Wildlife Sanctuary, West Bengal, the recorded nine coreine species including two new records to the state are documented here along with their detailed taxonomy.

Two side by side forests, Gorumara National Park lying in between 26°47'12.5" to 26°43'25.6"(N) and 88°52'4.2" to 88°47'7.3"(E) and the other contiguous forest, Chapramari Wildlife Sanctuary in between 26°52'28.71"(N) and 88°51'18.37"(E) are located in the Terai-Duars of Indo-Malayan biogeographic region (Olson & Dinerstein, 2002).

#### MATERIAL AND METHODS

The comprehensive surveys were carried out in the different localities – Bichabhanga, Buduram, Chandrachur, Chapramari, Chukchuki, Dhupjhora, Jatraprasad, Khunia, Medlajhora, Murti under the different beats of Gorumara National Park (GNP) and Chapramari Wildlife Sanctuary (CWLS) during 2016–2019. Month wise field visits during the survey tenure were accomplished excepting 15<sup>th</sup> June to 15<sup>th</sup> September of each calendar year when the forests remain closed. The techniques – hand picking, bush beating under inverted umbrella, net sweeping and UV light traps were used for collection of the insects. The collected samples were kept in 70% alcohol in the field and noted down the localities, collectors' name and date of collections. Getting back to the laboratory of Hooghly Mohsin College, the bugs were stretched, dried, pinned in insects' cabinet for taxonomic study.

The morphological studies of the collected samples were made with the help of stereo zoom binocular microscope (Zeiss Stemi SV6). Photos of dorsal habitus were taken with Sony CyberShot camera fitted to binocular. Drawings of body parts were made by drawing tubes attached to the microscope. All measurements are in millimetre scale.

The bugs were identified on the basis of the monographic work of Distant (1902). Classification and nomenclature suggested by Dolling (2006), Brailovsky (2007 & 2011) and CoreoideaSF Team (2020) have been followed.

*Abbreviations* (used for body parts' measurements): AbL – Abdominal length; AtL – Antennal total length, AtS1 – Antennal segment I length, AtS2 – Antennal segment II length, AtS3 – Antennal segment III length, AtS4 – Antennal segment IV length; AOL – Ante-ocular length; HdL – Head length; HdW – Head width across eyes; IOD – Inter ocular distance; IOcD – Inter ocellar distance; POL – Post-ocular length; PrL – Pronotal length; PrW – Pronotal width across humeral angles; RsL – Rostral total length, RsS1 – Rostral segment I length, RsS2 – Rostral segment II length, RsS3 – Rostral segment III length, RsS4 – Rostral segment IV length; ScL – Scutellar length; ScW – Scutellar width at base; ToL – Total body length; WnL – Wing length (Hemelytra); WnW – Wing width across membrane (Hemelytra).  
coll. – collection.

**RESULTS**

**Family COREIDAE Leach, 1815**

**Subfamily Coreinae Leach, 1815**

1815. Coreinae Leach, Brewster's Edinb. Encyc. 9: 121

**Diagnosis:** Head with a median sulcus before the eyes; antennae 4 segmented, slender but some of its segments may be expanded; bucculae extending beyond the area of antennal insertion; pronotum much longer than head; scutellum reaching or passing the base of metanotum; metathoracic scent gland ostioles prominent; macropterous or brachypterous, hind wing cell without hamus; legs generally spinose, short and thickened, tibiae sulcated or dilated above; basal margin of 4<sup>th</sup> and 5<sup>th</sup> abdominal segments lobately sinuate into preceding segments dorsally.

**Distribution:** Worldwide (Distant, 1902; Schuh & Slater, 1995; Cassis & Gross, 2002; Dolling, 2006; Brailovsky, 2011; Aukema *et. al.*, 2013).

**Key to tribes**

1. Legs with spines and/or tubercles; femora usually thickened and incrassated.....2
- Legs without spines or tubercles; femora not thickened or incrassated.....3
2. Apical margin of corium shorter than claval suture; fore femora obtusely spinose or tuberculate..... **Acanthocorini**
- Apical margin of corium longer than claval suture; fore femora distinctly and acutely spined.....**Mictini**
3. Abdominal incisures II and IV straight or very obsoletely curved at their lateral areas; antennal segment I shorter than II, rarely both equal in length.....**Homoeocerini**
- Abdominal incisures II and IV strongly curved at their lateral areas; antennal segments variable in length.....4
4. Spiracles on abdomen placed just before middle of the segment.....**Dasynini**
- Spiracles on abdomen placed much nearer to lateral of the segment.....**Gonocerini**

**Tribe Acanthocorini**

**Key to genera**

1. Central lobe of head strongly raised; femora strongly and coarsely tuberculate; hind tibiae moderately dilated.....**Acanthocoris** Amyot and Serville
- Central lobe of head deflected; femora very scarcely spinose; hind tibiae not dilated.....**Physomerus** Burmeister

### Genus *Acanthocoris* Amyot and Serville, 1843

1843. *Acanthocoris* Amyot and Serville, Hist. Nat. Hém.: 213-214

**Diagnosis:** Central lobe of head strongly raised and longer than lateral lobes; antennae hirsute and 4 segmented, segment I not clavate, segment IV shorter than III; eyes small; lateral margin of pronotum hirsute; meso-sternum not sulcate; femora strongly and coarsely tuberculate; hind femora incrassate but not clavate, with a short spine or tubercle at apices.

**Type species:** *Coreus scabrator* Fabricius, 1803

**Distribution:** Afro-tropical, Indo-Malay, Palearctic (Distant, 1902; Dolling, 2006; Brailovsky, 2011).

#### *Acanthocoris scabrator* (Fabricius, 1803)

[Fig. 1 & 10(a-g)]

1803. *Coreus scabrator* Fabricius, Syst. Rhync.: 195

1902. *Acanthocoris scabrator* (Fabricius) Distant, Fauna Brit. India, Rhynchota 1: 385

**Measurements:** ♀: ToL= 13.27; HdL= 1.68, HdW= 1.80; AOL= 0.96; POL= 0.36; AtL= 6.93, AtS1= 1.71, AtS2= 2.07, AtS3= 1.89, AtS4= 1.26; IOD= 1.08; IOcD= 0.48; RsL= 2.40, RsS1= 0.73, RsS2= 0.53, RsS3= 0.47, RsS4= 0.65; PrL= 3.72, PrW= 5.04; ScL= 1.68, ScW= 1.44; WnL= 8.52, WnW= 2.64; AbL= 6.72.

**Description:** Body (**Fig. 1**) elongate, ovate, dark brown with numerous brownish ochraceous points and purplish suffusions, hirsute, pronotum and scutellum roughly excavated.

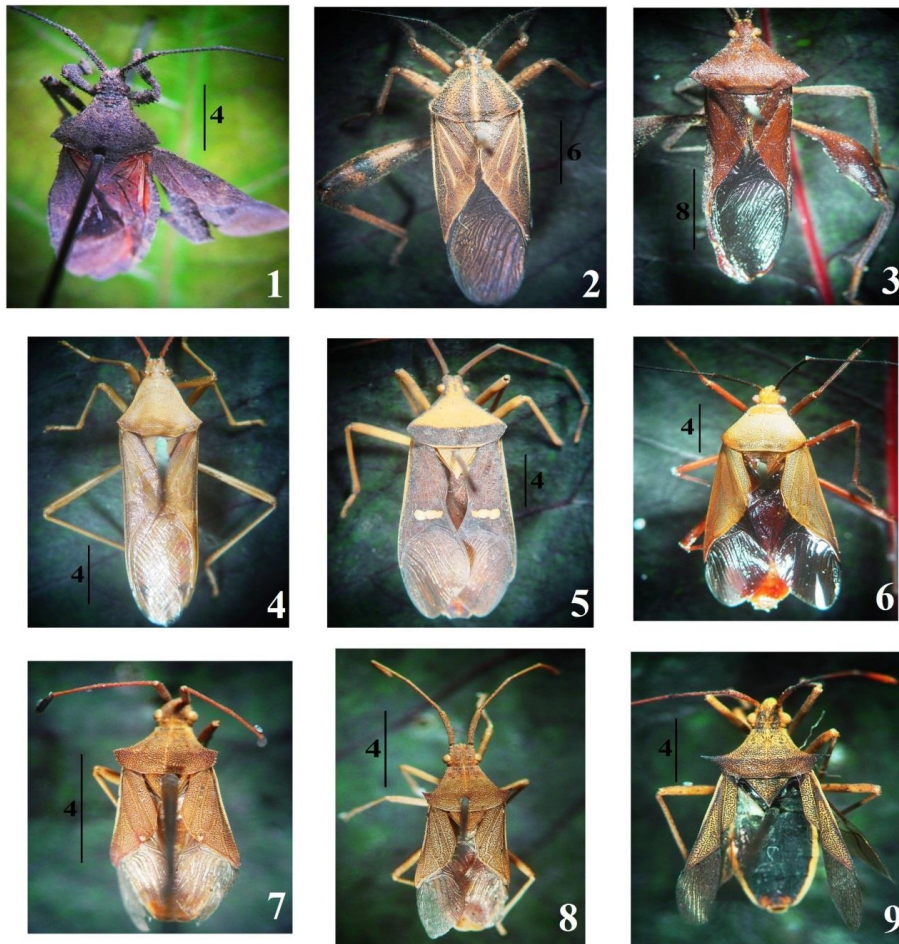
**Head:** Head (**Fig. 10a**) sub quadrate, dark brown, tuberculous, medially impressed, tylus strongly raised and longer than jugum; antennae (**Fig. 10b**) dark brown, apical segment ochraceous with brownish base, tuberculously hairy; eyes dark reddish brown with a basal paler ring; ocelli reddish and nearer to eyes; rostrum brownish, apically ochraceous, extending to posterior margin of meso-sternum.

**Thorax:** Pronotum (**Fig. 10c**) dark brown with purplish suffusions, disc strongly thickly tuberculate, hirsute, excavated, lateral margins serrate, basal margin convex, humeral angles acutely produced; scutellum (**Fig. 10d**) triangular, dark brown with purplish suffusions, tuberculous, hirsute, frena extending to the apex; hemelytra (**Fig. 10e**) – clavus and corium dark brown with purplish suffusions and numerous apical brownish ochraceous dots, basal costal margin spinously hirsute, membrane brown, basally piceous, with numerous veins; sternum dark brown, tuberculate and hirsute, metathoracic scent gland ostioles large and obliquely placed; legs dark brown, tuberculate, spinously hirsute, hind femora (**Fig. 10f**) strongly incrassate and dentate.

**Abdomen:** Dorsum moderately amplified near middle, disc oranges-red, connexivum dark brownish with tuberculous hirsute, venter (**Fig. 10g**) pale brown, hairy, female terminal genitalia – 1<sup>st</sup> gonocoxae broadly triangulate, densely hairy, 2<sup>nd</sup> gonocoxae circular, 9<sup>th</sup> paratergites elongate and lobate.

**Material examined:** 1♀, Buduram (GNP), 16.IV.2016, coll. N. Ray; 1♀, Jatraprasad (JNP), 21.V.2017, coll. N. Ray; 1♀, Chukchuki (GNP), 23.X.2018, coll. S. Dhali; 1♀, Khunia (GNP), 18.IV.2019, coll. A. Kurmi.

**Distribution:** India: Assam, Karnataka, Maharashtra, Manipur, Meghalaya, Sikkim, Tamil Nadu, West Bengal; Malayasia, Malayan Archipelago, Madagascar, Myanmar, Nepal, Sri Lanka (Distant, 1902; Basu & Mitra, 1994 & 2004; Hegde, 1995; Dolling, 2006; Brailovsky, 2011; Prabakar, 2013, 2015; Kc *et al.*, 2018).



Figs. (1–9). 1 – *Acanthocoris scabrator* (Fabricius, 1803), ♀; 2 – *Physomerus grossipes* (Fabricius, 1794), ♀; 3 – *Mictis tenebrosa* (Fabricius, 1787), ♂; 4 – *Homoeocerus (Anacanthocoris) stricornis* (Scott, 1874), ♀; 5 – *Homoeocerus (Anacanthocoris) walkeri* (Kirby, 1892), ♀; 6 – *Chinadasynus orientalis* (Distant, 1889), ♀; 7 – *Cletus bipunctatus* (Herrich-Schäffer, 1840), ♀; 8 – *Cletus calumniator* (Fabricius, 1794), ♀; 9 – *Plinactus basilis* (Westwood, 1842), ♀.

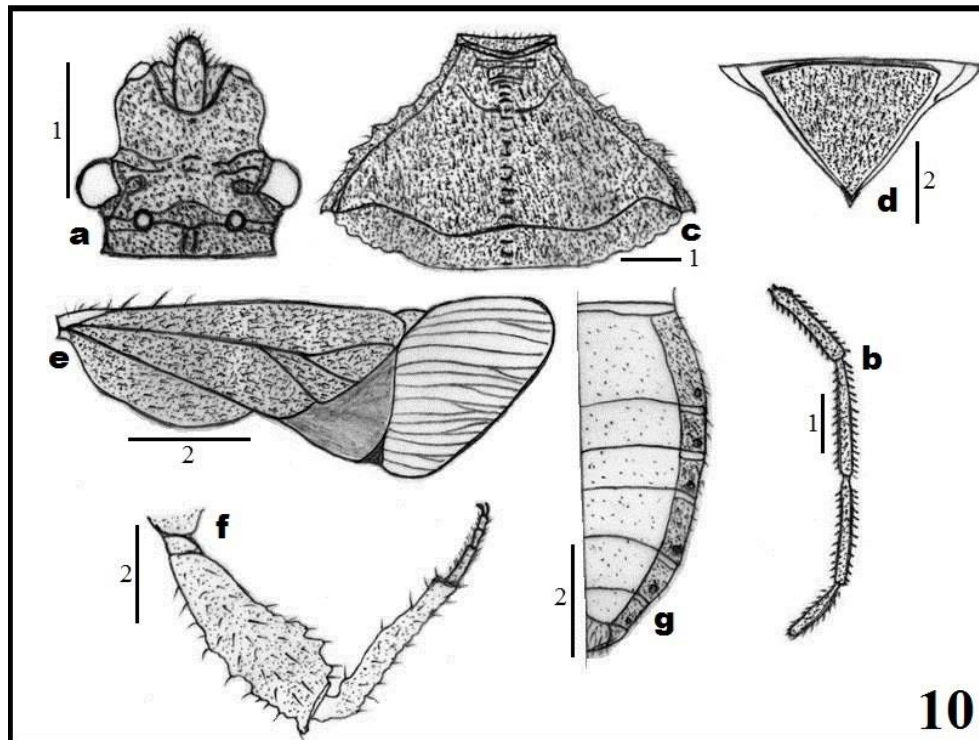


Fig. 10 (a–g). *Acanthocoris scabrator* (Fabricius, 1803), ♀; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

### Genus *Physomerus* Burmeister, 1835

1835. *Physomerus* Burmeister, Handbuch der Entomologie 2: 304 & 341

**Diagnosis:** Head impressed anteriorly on either side of tylus; antennae with segment III longer than IV; meso-sternum medially sulcate; apical margin of corium straight or obtusely sinuate and sub equal to claval suture; femora very scarcely spinose; hind tibiae not dilated.

**Type species:** *Lygaeus grossipes* Fabricius, 1794

**Distribution:** Afro-tropical, Indo-Malay, Palearctic (Distant, 1902; Dolling, 2006; Brailovsky, 2011).

***Physomerus grossipes* (Fabricius, 1794)**

[Fig. 2 & 11(a-g)]

1794. *Lygaeus grossipes* Fabricius, Ent. Syst. 4: 135

1842. *Physomerus grossipes* (Fabricius) Westwood, Cat. Hem. Rev. F. W. Hope. 2: 3

**Measurements:** ♀: ToL= 23.22; HdL= 1.87, HdW= 2.55; AOL= 1.02; POL= 0.34; AtL= 14.62, AtS1= 3.91, AtS2= 4.76, AtS3= 3.40, AtS4= 2.55; IOD= 1.36; IOcD= 0.68; RsL= 4.47, RsS1= 1.39, RsS2= 1.06, RsS3= 0.87, RsS4= 1.15; PrL= 4.76, PrW= 6.29; ScL= 2.04, ScW= 1.87; WnL= 19.04, WnW= 5.10; AbL= 12.24.

**Description:** Body (Fig. 2) dark brown with ochraceous longitudinal striations and greyish pubescence.

**Head:** Head (Fig. 11a) sub quadrate, dark brown with a mid-longitudinal ochraceous striation, tylus longer than jugum, vertex tumid; antennae (Fig. 11b) piceous, pilose; eyes pale ochraceous; ocelli reddish and much nearer to eyes; rostrum fuscous, apically darker, extending just beyond the pro-sternum.

**Thorax:** Pronotum (Fig. 11c) dark brown with one medial and 2 sub-lateral longitudinal ochraceous striation and dense greyish pubescence, humeral angles rounded; scutellum (Fig. 11d) triangular, dark brown with a mid-longitudinal ochraceous striation, lateral margins ochraceous, frena almost extending its apex; hemelytra (Fig. 11e) – clavus and corium brownish with paler veins and dense greyish pubescence, lateral corial margin strongly reflexed, membrane piceous with longitudinal veins, extending beyond the apex of the abdomen; sterna brownish ochraceous with scattered black spots and dense greyish pubescence, metathoracic scent gland opening with peritreme large and transverse;

legs ochraceous, scattered tuberculate, pilose, fore and mid femora weakly thickened, hind femora (Fig. 11f) dark ochraceous with a black annulation near apex, apices of hind femora and bases of tibiae piceous, hind tibiae slightly dilated and spined beneath.

**Abdomen:** Dorsum dark brownish, lateral margins ochraceous, connexivum smooth, venter (Fig. 11g) ochraceous with greyish pubescence, spiracles sub lateral and with small black spots, female terminal genitalia – 1<sup>st</sup> gonocoxae triangular, 2<sup>nd</sup> gonocoxae somewhat linear, 9<sup>th</sup> paratergites elongate and lobe like.

**Material examined:** 1♀, Medlajhora (GNP), 20.V.2017, coll. S. Dhali; 1♀, Chukchuki (GNP), 06.VI.2018, coll. S. Dhali; 1♀, 1♂, Jatraprasad (GNP), 24.X.2018, coll. A. Kurmi.

**Distribution:** India: Andaman and Nicobar Island, Assam, Jharkhand, Kerala, Maharashtra, Manipur, Sikkim, West Bengal; China, Japan, Java, Malay Archipelago, Myanmar, Sri Lanka (Distant, 1902; Basu & Mitra, 1994, 2004; Dolling, 2006; Prabakar, 2013, 2015; Padmanaban *et al.*, 2016).



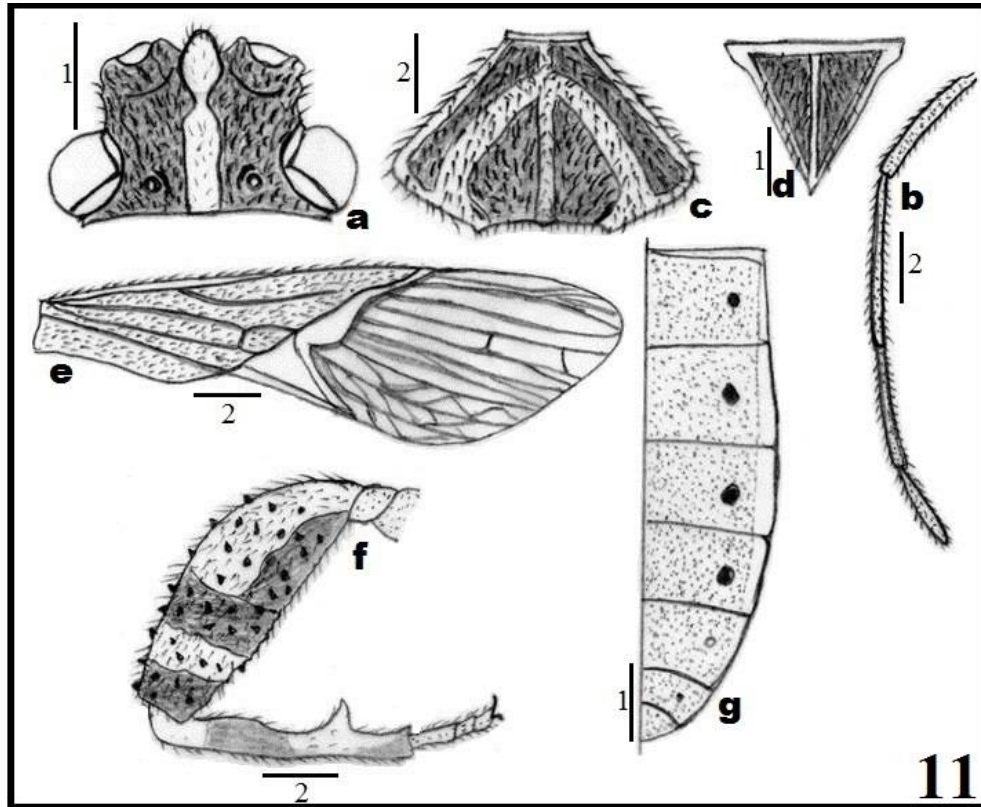


Fig. 11 (a–g). *Physomerus grossipes* (Fabricius, 1794), ♀; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

### Tribe Mictini

#### Genus *Mictis* Leach, 1814

1814. *Mictis* Leach, Zool. Misc. 1: 91-92

**Diagnosis:** Pronotum with a collar at anterior; posterior tibiae not dilated in both sides and only inwardly dentate in male; abdomen distinctly tuberculate beneath in male.

**Type species:** *Mictis crucifera* Leach, 1814

**Distribution:** Afro-tropical, Australasia, Indo-Malay, Palearctic (Distant, 1902; Cassis & Gross, 2002; Dolling, 2006).



***Mictis tenebrosa* (Fabricius, 1787)****[Fig. 3 & 12(a-g)]**1787. *Cimex tenebrosa* Fabricius, Mant. Insecto. 2: 2881843. *Mictis tenebrosa* (Fabricius) Amyot and Serville, Hist. Nat. Hém: 190

**Measurements:** ♂: ToL= 26.64; HdL= 1.82, HdW= 2.80; AOL= 0.84; POL= 0.14; AtL= 18.94, AtS1= 6.92, AtS2= 4.87, AtS3= 3.33, AtS4= 3.82; IOD= 1.12; IOcD= 0.70; RsL= 3.91, RsS1= 1.11, RsS2= 1.04, RsS3= 0.57, RsS4= 1.19; PrL= 5.88, PrW= 9.52; ScL= 2.94, ScW= 2.66; WnL= 19.46, WnW= 5.46; AbL= 14.14.

**Description:** Body (**Fig. 3**) glossy brown with scarce greyish pubescence.

**Head:** Head (**Fig. 12a**) almost square, brown with its apex and a transverse depression just behind the ocellus ochraceous, tylus much shorter than juga, vertex medially weakly raised;

antennae (**Fig. 12b**) piceous brown, pilose, originating from the in front of the head; eyes brownish ochraceous; ocelli yellowish, transparent, much nearer to eyes; rostrum piceous, apically paler, extending to the base of meso-sternum.

**Thorax:** Pronotum (**Fig. 12c**) brown with scarce pubescence, finely punctate, anterior  $\frac{1}{3}$ rd area with 2 somewhat triangular pale callosities on either side, posteriorly the pronotal disc strongly tumid, humeral angle acute; scutellum (**Fig. 12d**) triangular, brown, apically ochraceous and pointed, finely punctate, frena extending to the apex; hemelytra (**Fig. 12e**) – clavus and corium brown with scarce pubescence, finely punctate, inner lateral margin of clavus ochraceous, apical angle of corium acute, membrane black with simple veins; sterna brownish ochraceous, metathoracic scent gland opening with peritreme small, almost triangular and oblique; legs dark brown with thick pubescence, pilose, base of femora, apices of tibiae and tarsi ochraceous, in male fore and mid femora moderately thickened and spined beneath, and hind femora (**Fig. 12f**) strongly thickened, curved, incrassate and inwardly dentate, hind tibia with a inwardly projected strong dentation.

**Abdomen:** Dorsum blackish, connexivum brownish with ochraceous spots, venter (**Fig. 12g**) brownish ochraceous, finely punctate, 2<sup>nd</sup> abdominal sternite with a distinct large tubercle, male terminal genitalia – pygophore dilated lobular.

**Material examined:** 1♂, Chapramari (CWLS), 22.IX.2016, coll. S. Dhali; 2♀♀, Gorumara (GNP), 20.V.2017, coll. S. Dhali; 1♂, Khunia (GNP), 08.VI.2018, coll. N. Ray; 1♀, Medlajhora (GNP), 17.IV.2019, coll. S. Dhali.

**Distribution:** India: Assam, Nagaland, Sikkim, West Bengal; China, Indonesia (Sumatra), Malaysia (Distant, 1902; O'Shea & Schaefer, 1980; Basu & Mitra, 1994; Dolling, 2006; Prabakar, 2013, 2015).

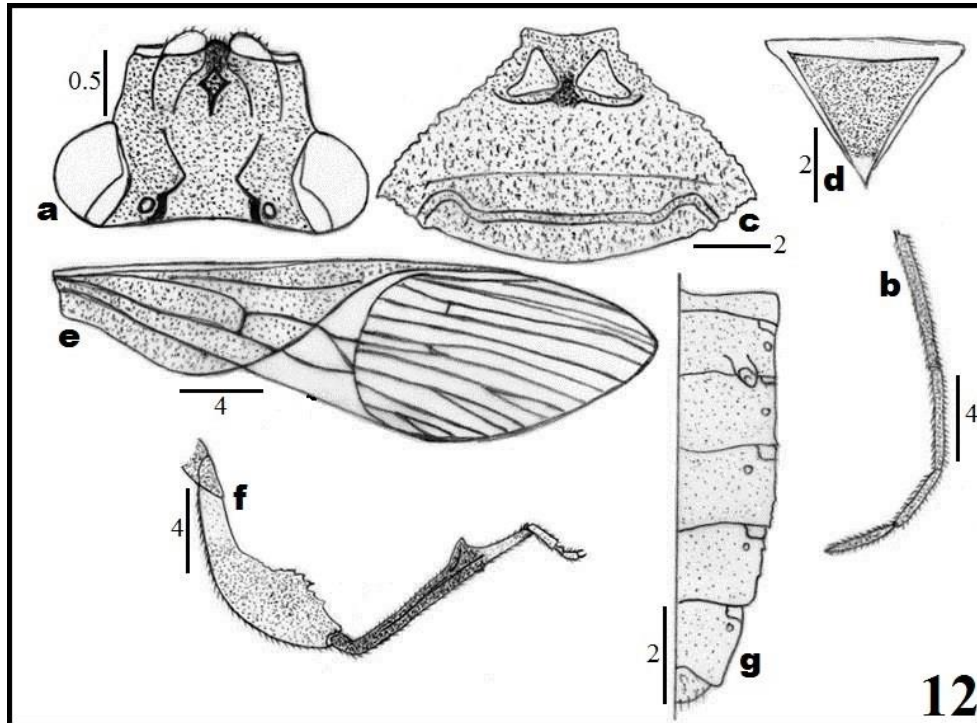


Fig. 12 (a–g). *Mictis tenebrosa* (Fabricius, 1787), ♂; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

### Tribe Homoeocerini

#### Genus *Homoeocerus* Burmeister, 1835

1835. *Homoeocerus* Burmeister, Handbuch der Entomologie: 300, 303, 316

**Diagnosis:** Body elongated, straight, sometimes short, little broad; tylus deflected anteriorly; humeral angle well developed, prominent, but in some specimens it is obtusely rounded, not anteriorly produced.

**Type species:** *Homoeocerus puncticornis* Burmeister, 1835

**Distribution:** Afro-tropical, Indo-Malay, Palearctic (Distant, 1902; Dolling, 2006).

#### Key to species:

1. Pronotum uni-colour and coarsely punctate; corium brownish ochraceous and without any luteous spot.....*stricornis* (Scott)
- Pronotum bi-colour and finely punctate; corium chocolate brown with luteous spot on apical area.....*walkeri* (Kirby)

*Homoeocerus (Anacanthocoris) striicornis* (Scott, 1874)

[Fig. 4 &amp; 13(a-g)]

1874. *Homoeocerus striicornis* Scott, Ann. Mag. Nat. Hist. 4 (14): 3622006. *Homoeocerus (Anacanthocoris) striicornis* (Scott) Dolling, Cat. Het. Palearctic, Auke. Rieg. 5: 83

**Measurements:** ♀: ToL= 17.33; HdL= 1.28, HdW= 1.92; AOL= 0.64; POL= 0.16; AtL= 16.63, AtS1= 4.21, AtS2= 4.68, AtS3= 3.21, AtS4= 4.53; IOD= 0.96; IOcD= 0.32; RsL= 3.44, RsS1= 0.96, RsS2= 0.83, RsS3= 0.58, RsS4= 1.07; PrL= 3.36, PrW= 4.48; ScL= 2.40, ScW= 1.76; WnL= 12.48, WnW= 3.20; AbL=9.23.

**Description:** Body (Fig. 4) dull ochraceous, with thick, coarse and fine punctures, antennae reddish, corium unspotted.

**Head:** Head (Fig. 13a) sub quadrate, tylus medially raised and slightly longer than jugum, with a short mid-longitudinal sulcation and a transverse sulcation just above the each ocellus, vertex almost flat; antennae (Fig. 13b) reddish, originating from the apex of lateral lobes of the head, scarcely pilose; eyes brownish ochraceous; ocelli large, reddish and nearer to eyes, ocellar area weakly elevated; rostrum brownish ochraceous, apically paler, extending to the posterior margin of meso-sternum.

**Thorax:** Pronotum (Fig. 13c) with a mid-longitudinal obscure levigate line, disc medially weakly elevated, lateral margins black and crenulate, humeral angle acute, basal margin convex but distinctly truncate at middle; scutellum (Fig. 13d) triangular, apically pointed, frena extending near to apex; hemelytra (Fig. 13e) – clavus and corium brownish ochraceous, with thick, coarse and fine punctures, basally reddish, lateral margin of corium darker, membrane opaque with simple veins, extending beyond the apex of abdomen; sterna ochraceous, punctate, metathoracic scent gland opening with peritreme large and oblique; legs long, slender, pilose, dull ochraceous, femora weakly thickened, tibiae slender, hind leg (Fig. 13f) – much longer, hind coxae much wide apart.

**Abdomen:** Dorsum reddish ochraceous with transverse piceous band distally, connexivum smooth and weakly reflexed, venter (Fig. 13g) dull ochraceous with scarce pilose; female terminal genitalia – 1<sup>st</sup> gonocoxae triangulate, 2<sup>nd</sup> gonocoxae transversely ovate, 9<sup>th</sup> paratergites broadly lobate.

**Material examined:** 2♀♀, Murti (GNP), 18.IV.2016, coll. N. Ray; 1♀, Bichabhanga (GNP), 20.IX.2016, coll. S. Dhali; 1♀, Buduram (GNP), 06.VI.2018, coll. N. Ray.

**Distribution:** India: Assam, Chhattisgarh, Karnataka, Maharashtra, Manipur, Meghalaya, Uttarakhand, Uttar Pradesh; Sikkim, Tamil Nadu, West Bengal; Japan, Nepal, Sri Lanka (Distant, 1902; Basu & Mitra, 1978, 2004; Hegde, 1995; Dolling, 2006; Prabakar, 2013, 2015; Biswas *et al.*, 2014; Kc *et al.*, 2018).

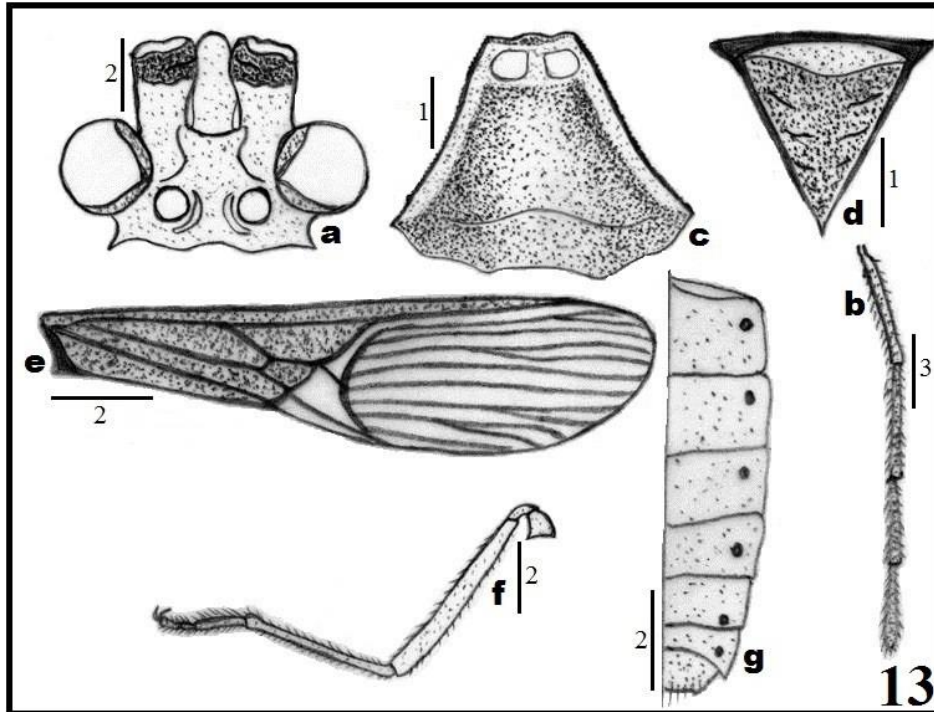


Fig. 13 (a–g). *Homoeocerus (Anacanthocoris) striicornis* (Scott, 1874), ♀; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

***Homoeocerus (Anacanthocoris) walkeri* (Kirby, 1892)**

[Fig. 5 & 14(a–g)]

1892. *Homoeocerus walkeri* Kirby, J. Linn. Soc. Zool. 24: 91

2006. *Homoeocerus (Anacanthocoris) striicornis* (Scott) Dolling, Cat. Het. Palearctic, Auke. Rieg. 5: 84

**Measurements:** ♀: ToL= 18.11; HdL= 1.26, HdW= 1.96; AOL= 0.56; POL= 0.28; AtL= 13.16, AtS1= 3.22, AtS2= 4.48, AtS3= 2.66, AtS4= 2.80; IOD= 1.12; IOcD= 0.70; RsL= 3.50, RsS1= 0.81, RsS2= 0.72, RsS3= 0.93, RsS4= 1.04; PrL= 4.06, PrW= 5.74; ScL= 2.38, ScW= 2.24; WnL= 13.02, WnW= 4.34; AbL= 10.34.

**Description:** Body (Fig. 5) chocolate brown and with greyish pubescence, head, anterior region of pronotum, transverse spot on corium and legs ochraceous.

**Head:** Head (Fig. 14a) sub quadrate, ochraceous with piceous fasciae at laterals, with a distinct mid-longitudinal chocolate brown sulcation in between the eyes, tylus deflected anteriorly and shorter than jugum, vertex weakly raised; antennae (Fig. 14b) reddish ochraceous, pilose, segment II and III apically black, segment IV apically luteous; eyes large, ochraceous; ocelli red, nearer to eyes; rostrum ochraceous, apically piceous, extending to the base of meso-sternum.

**Thorax:** Pronotum (**Fig. 14c**) with anterior disc ochraceous and with a obtuse mid-longitudinal sulcation forming 2 calosities near to anterior margin, anterolateral margins and posterior disc along with humeri chocolate brown, basal margin ochraceous, humeral angles obtusely tuberculate; scutellum (**Fig. 14d**) triangular, apically pointed, ochraceous, with thick and fine punctures, frena extending near to apex; hemelytra (**Fig. 14e**) – clavus and corium chocolate brown, with a transverse corial luteous spot, membrane bronzy brown with simple veins; sterna ochraceous, metathoracic scent gland opening with peritreme small and oblique; hind femora (**Fig. 14f**) weakly thickened.

**Abdomen:** Dorsum chocolate brown, connexivum brownish ochraceous, venter (**Fig. 14g**) dull ochraceous, female terminal genitalia – 1<sup>st</sup> gonocoxae broadly triangular, 2<sup>nd</sup> gonocoxae transverse, 9<sup>th</sup> paratergites lobate.

**Material examined:** 1♀, 1♂, Gorumara (GNP), 17.IV.2016, coll. A. Kurmi; 1♀, Khunia (GNP), 18.IV.2019, coll. N. Ray.

**Distribution:** India: Assam, Manipur, Meghalaya, Nagaland, Sikkim, West Bengal; Myanmar, Sri Lanka (Distant, 1902; Basu & Mitra, 1994; Dolling, 2006; Prabakar, 2013, 2015).

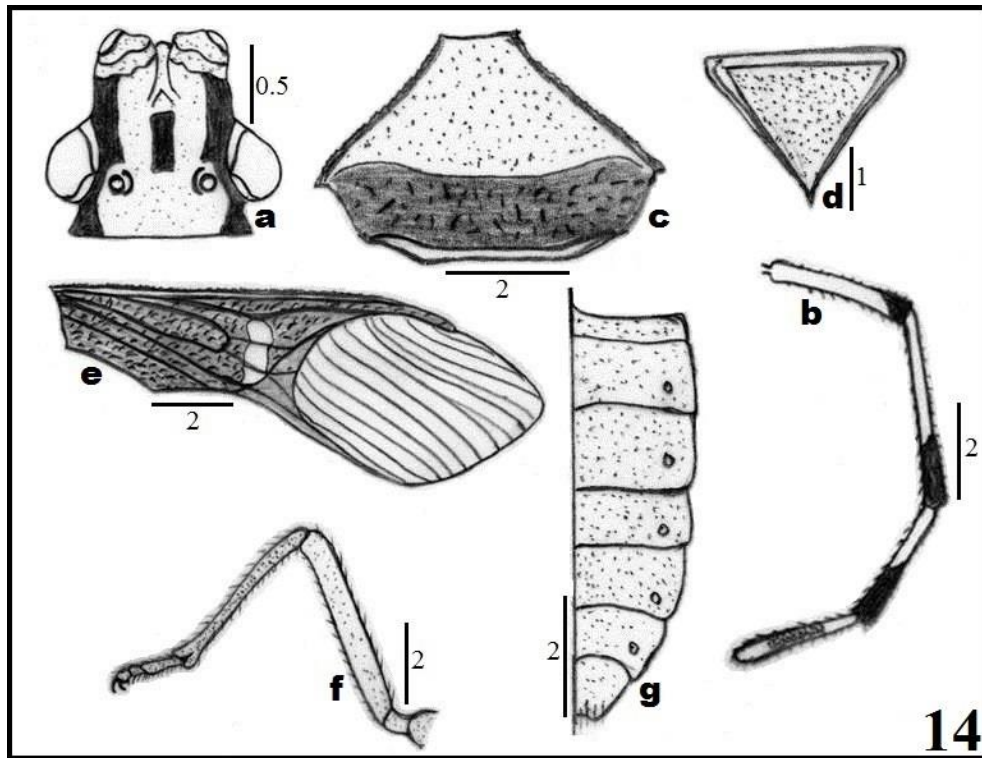


Fig. 14 (a–g). *Homoeocerus (Anacanthocoris) walkeri* (Kirby, 1892), ♀; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

### Tribe Dasynini

#### Genus *Chinadasynus* Hsiao, 1964

1964. *Chinadasynus* Hsiao, Acta Scientiarum Naturalium Universitatis Nankaiensis 5(1): 19, 21, 28, 35

**Diagnosis:** Head distinctly produced between the antenniferous tubercles; ocelli placed wide apart; antennae with segments I and II sub equal or I longer than II; rostrum reaching or passing the mid coxae; scutellum either scarcely longer than broad or equilateral; spiracles on abdomen placed before middle of the segments.

**Type species:** *Pendulinus orientalis* Distant, 1889

**Distribution:** Afro-tropical, Australasia, Indo-Malay, Palearctic (Distant, 1902; Hsiao, 1964; Cassis & Gross, 2002; Dolling, 2006).

#### *Chinadasynus orientalis* (Distant, 1889)

[Fig. 6 & 15(a-g)]

1889. *Pendulinus orientalis* Distant, Ent. Mon. Mag. 25: 231

1977. *Chinadasynus orientalis* (Distant) Hsiao and Ren, A handbook for the determination of the Chinese Hemiptera-Heteroptera 1: 241

**Measurements:** ♀: ToL= 17.22; HdL= 1.51, HdW= 2.16; AOL= 0.86; POL= 0.11; AtL= 14.34, AtS1= 4.61, AtS2= 3.84, AtS3= 2.69, AtS4= 3.20; IOD= 1.19; IOcD= 0.65; RsL= 4.86, RsS1= 0.46, RsS2= 1.65, RsS3= 1.89, RsS4= 0.86; PrL= 3.56, PrW= 5.08; ScL= 2.32, ScW= 2.48; WnL= 12.64, WnW= 3.97; AbL= 10.26.

**Description:** Body (Fig. 6) yellowish ochraceous with thick, coarse and fine brown punctures.

**Head:** Head (Fig. 15a) projecting scarcely in front of antenniferous tubercles, with a transverse sulcation in between the antenniferous tubercles, tylus longer than jugum, vertex medially impressed and with a small groove just above the ocellus; antennae (Fig. 15b) piceous black excluding reddish basal area of segment I; eyes pale reddish; ocelli reddish, nearer to eyes; rostrum reddish brown, apical segment black, extending to the middle of the meso-sternum.

**Thorax:** Pronotum (Fig. 15c) pale ochraceous with anterior foveate area just behind the anterior margin and lateral angular area yellowish ochraceous, disc medially weakly carinate, lateral margins nearly straight, black and crenulate, humeral angles somewhat rounded; scutellum (Fig. 15d) weakly rugulose, frena extending to the apex; hemelytra (Fig. 15e) – un-spotted, membrane bronzy and with simple longitudinal veins; sterna pale ochraceous, sternal sutures black, metathoracic scent gland osteioles obliquely produced; hind femora (Fig. 15f) weakly thickened and shorter than hind tibiae.

**Abdomen:** Dorsum dark orange, venter (**Fig. 15g**) dull ochraceous, with black transverse fasciae on either side; female terminal genitalia – 1<sup>st</sup> gonocoxae somewhat squarish, 2<sup>nd</sup> gonocoxae transverse, 9<sup>th</sup> paratergites lobe like.

**Material examined:** 1♀, Murti (GNP), 18.IV.2016, coll. S. Dhali; 1♀, Khunia (GNP), 22.V.2017, coll. S. Dhali.

**Distribution:** India: Assam, Sikkim, **New to West Bengal**; China, countries of Palearctic regions (Distant, 1902; Dolling, 2006; Prabakar, 2013, 2015).

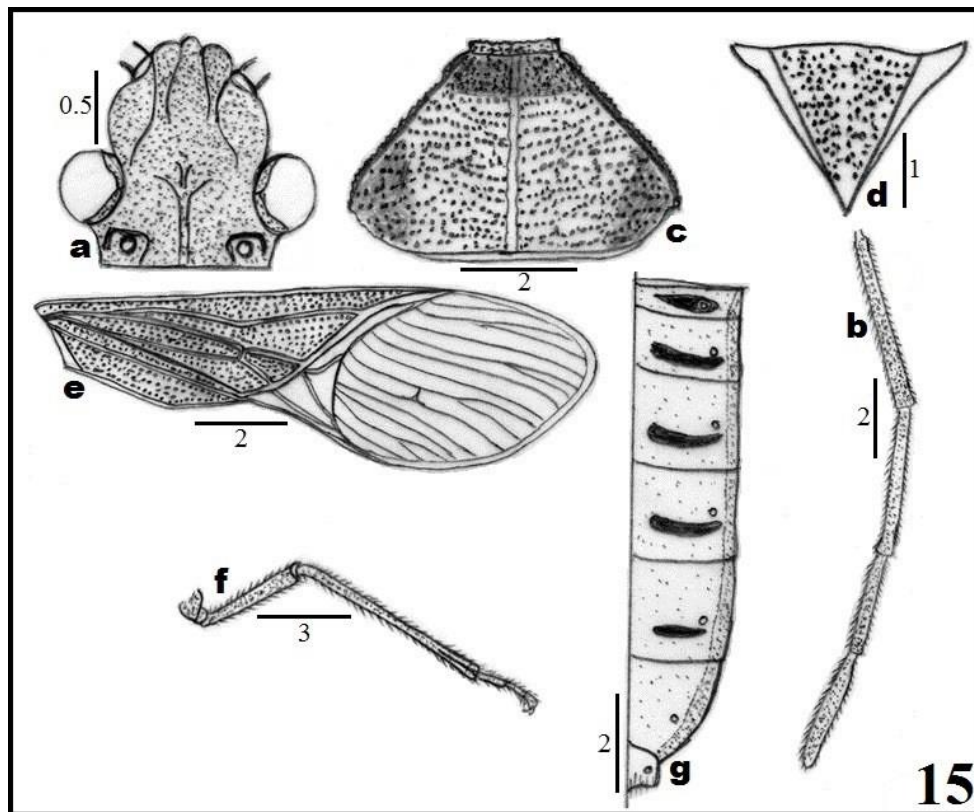


Fig. 15 (a–g). *Chinadasynus orientalis* (Distant, 1889), ♀; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

### Tribe Gonocerini

#### Key to genera

1. Head not prominently produced before the antenniferous tubercles and anteriorly deflected; humeral angle acutely produced ..... *Cletus* Stål
- Head distinctly produced before the antenniferous tubercles, anteriorly weakly raised; humeral angle with long acute spine..... *Plinactus* Stål



### Genus *Cletus* Stål, 1859

1859. *Cletus* Stål, Freg. Eng. Resa. Ins. Hem.: 236

**Diagnosis:** Head not prominently produced before the antenniferous tubercles and anteriorly deflected; humeral angles acutely produced; lateral margin of corium minutely crenulated anteriorly; lateral margins of abdomen very minutely crenulated or serrate.

**Type species:** *Cimex trigonus* Thunberg, 1783

**Distribution:** Afro-tropical, Australasia, Indo-Malay, Nearctic, Palearctic (Distant, 1902; Dolling, 2006; Brailovsky, 2007).

#### Key to species:

1. Corium with a small creamy white spot near apical margin; abdominal venter with few scattered black spots.....*bipunctatus* (Herrich-Schäffer)
- Corium without any such spots; abdominal venter with 6 series of small black spots.....*calumniator* (Fabricius)

#### *Cletus bipunctatus* (Herrich-Schäffer, 1840)

[Fig. 7 & 16(a-g)]

1840. *Gonocerus bipunctatus* Herrich-Schäffer, Die wanzenartigen Insecten 6: 9

1866. *Cletus bipunctatus* (Herrich-Schäffer), Stål, Hém. Afr. 2: 77

**Measurements:** ♀: ToL= 8.42; HdL= 1.13, HdW= 1.27; AOL= 0.54; POL= 0.26; AtL= 4.51, AtS1= 1.03, AtS2= 1.37, AtS3= 1.13, AtS4= 0.98; IOD= 0.78; IocD= 0.26; RsL= 2.61, RsS1= 0.79, RsS2= 0.74, RsS3= 0.49, RsS4= 0.59; PrL= 1.76, PrW= 2.94; ScL= 1.08, ScW= 1.27; WnL= 5.68, WnW= 1.81; AbL= 4.70.

**Description:** Body (Fig. 7) brownish ochraceous with reddish tinge and with thick and coarse dark brown punctures, corium with a small creamy white spot near apical margin.

**Head:** Head (Fig. 16a) sub quadrate, apically deflected and somewhat rounded, with black speckles excluding its lateral marginal areas, tylus medially raised and longer than jugum; antennae (Fig. 16b) reddish ochraceous and with fuscous apical segment; eyes dull ochraceous relatively large; ocelli reddish brown, nearer to eyes; rostrum ochraceous, extending to the mid-coxae.

**Thorax:** Pronotum (Fig. 16c) with a mid-longitudinal entire paler laevigate line, anterolateral margins 40renulated, humeral angles acute; scutellum (Fig. 16d) triangular, apically pointed, frena extending beyond its middle; hemelytra (Fig. 16e) with a small creamy white spot near apical margin of corium, costal margin luteous and 40renulated, membrane fuliginous and with simple veins; sterna yellowish ochraceous, metathoracic scent gland ostioles broad and obliquely produced; legs brownish ochraceous with minute black spots at base of coxae and femora, moderately pilose, hind femora (Fig. 16f) moderately granulated and weakly thickened.

**Abdomen:** Dorsum oranges, venter (**Fig. 16g**) yellowish ochraceous, with few scattered black spots; female terminal genitalia – 1<sup>st</sup> gonocoxae triangular, 2<sup>nd</sup> gonocoxae transversely ovate, 9<sup>th</sup> paratergites elongate and lobate.

**Material examined:** 1♀, Dhupjhora (GNP), 17.IV.2016, coll. S. Dhali; 1♂, Dhupjhora (GNP), 21.IX.2016, coll. A. Kurmi; 2♀♀, Buduram (GNP), 19.V.2017, coll. A. Kurmi; 1♀, Chapramari (CWLS), 18.IV.2019, coll. S. Dhali; 1♀, Chapramari (CWLS), 18.IV.2019, coll. N. Ray.

**Distribution:** India: Assam, Bihar, Chhattisgarh, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Myanmar, Sikkim, Tamil Nadu, Uttarpradesh, West Bengal; Australia, China, Indonesia, Japan, Java, Nepal, Sri Lanka, Taiwan, Vietnam (Distant, 1902; Basu & Mitra, 1978 & 1994; Dolling, 2006; Ghosh *et al.*, 2006; Brailovsky, 2007; Gupta & Singh, 2013; Prabakar, 2013, 2015; Biswas *et al.*, 2014; Sheikh *et al.*, 2017; Kc *et al.*, 2018).

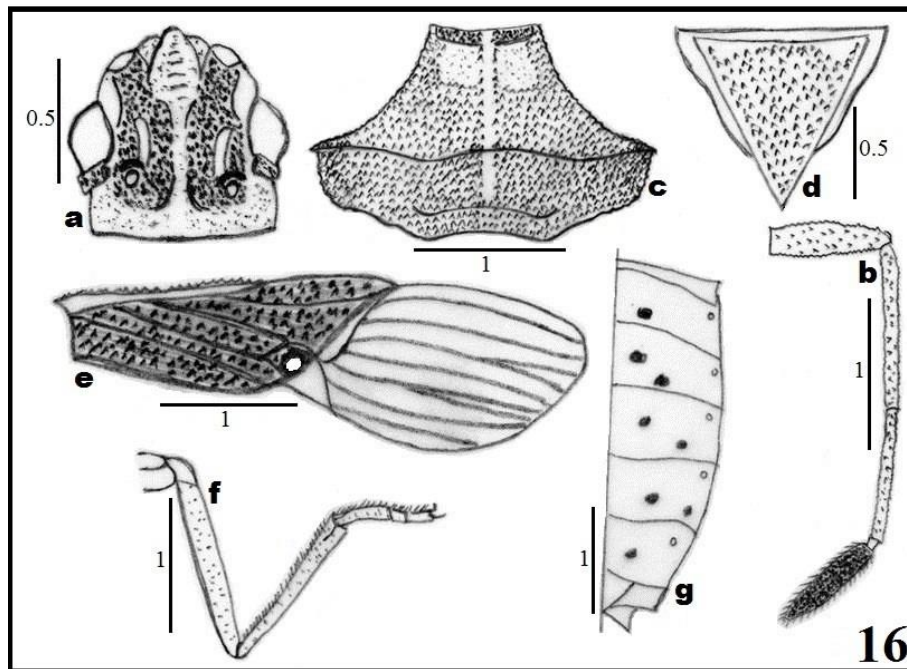


Fig. 16 (a–g). *Cletus bipunctatus* (Herrich-Schäffer, 1840), ♀; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

### *Cletus calumniator* (Fabricius, 1794)

[Fig. 8 & 17(a–g)]

1794. *Coreus calumniator* Fabricius, Ent. Syst. 4: 131

1868. *Cletus calumniator* (Fabricius) Stål, K. Svens. Vet.-Akad. Hand. 7(11): 60

**Measurements:** ♀: ToL= 10.39; HdL= 1.32, HdW= 1.68; AOL= 0.66; POL= 0.24; AtL= 7.28, AtS1= 1.75, AtS2= 2.17, AtS3= 1.82, AtS4= 1.54; IOD= 0.96;

IocD= 0.42; RsL= 3.73, RsS1= 1.13, RsS2= 1.07, RsS3= 0.71, RsS4= 0.82; PrL= 2.46, PrW= 3.30; ScL= 1.26, ScW= 1.44; WnL= 7.26, WnW= 1.92; AbL= 4.44.

**Description:** Body (**Fig. 8**) brownish ochraceous, with thick and coarse dark punctures, 3 spots in the lateral area of pro and meta sternum and 6 series of minute spots on the abdomen black.

**Head:** Head (**Fig. 17a**) not prominently produced in front of the antenniferous tubercles, speckled with few black markings excluding lateral marginal areas, tylus scarcely longer than jugum; antennae (**Fig. 17b**) brownish ochraceous with reddish brown apical segment; eyes yellowish ochraceous, relatively large; ocelli reddish ochraceous, nearer to eyes; rostrum dull ochraceous, apical segment distally piceous, extending to the middle of meta-sternum. **Thorax:** Pronotum (**Fig. 17c**) with a longitudinal sulcation, humeral angle acute spinous; scutellum (**Fig. 17d**) triangular, apically pointed, frena extending near to its apex; hemelytra (**Fig. 17e**) unspotted, basal  $\frac{2}{3}$ rd lateral margin of corium creamy white and finely 42 renulated, membrane fuliginous with simple veins; sterna pale ochraceous, thickly and coarsely punctuate, metathoracic scent gland ostioles obliquely produced; hind leg (**Fig. 17f**) moderately longer than others.

**Abdomen:** Dorsum reddish, connexivum black, venter (**Fig. 17g**) pale ochraceous, punctuate and pilose; female terminal genitalia – 1<sup>st</sup> gonocoxae triangular, 2<sup>nd</sup> gonocoxae transverse, 9<sup>th</sup> partatergites elongate and dilated near middle.

**Material examined:** 2♀♀, Chukchuki (GNP), 19.V.2017, coll. S. Dhali.

**Distribution:** India: Nagaland, West Bengal (Distant, 1902; Prabakar, 2013, 2015).

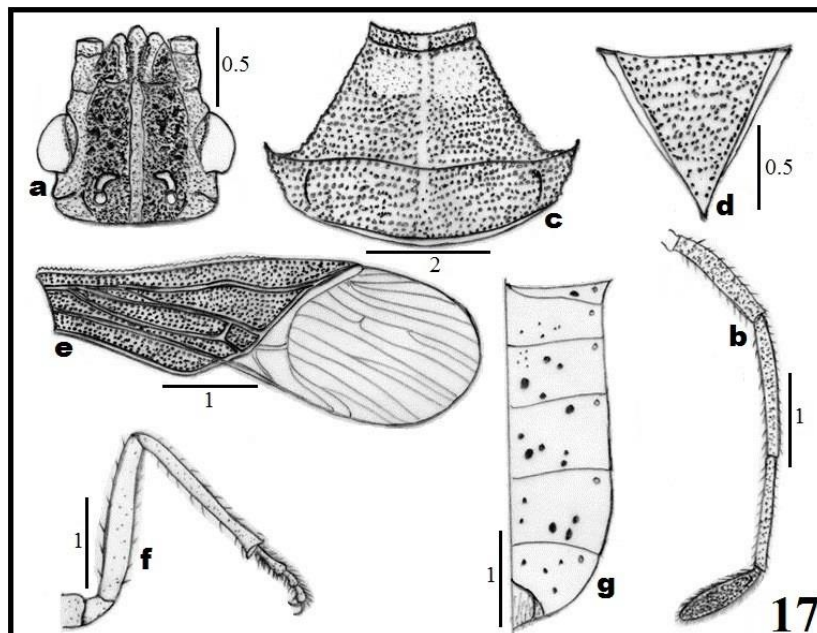


Fig. 17 (a–g). *Cletus calumniator* (Fabricius, 1794), ♀; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

**Genus *Plinactus* Stål, 1859**

1859. *Plinactus* Stål, Öfv. Vet.-Ak. Förh. 16: 470

**Diagnosis:** Head distinctly produced in front of the antenniferous tubercles; antennae with segment IV longer than III; humeral angle with a long acute spine, slightly directed forward; spiracles on abdomen about equidistant from the basal and apical segmental margins or nearer to apical margin, but much nearer to their lateral margins.

**Type species:** *Plinactus spinosus* Stål, 1859

**Distribution:** Afro-tropical, Indo-Malay, Palearctic (Distant, 1902; Dolling, 2006).

***Plinactus basilis* (Westwood, 1842)**

[Fig. 9 & 18(a-g)]

1842. *Coreus basilis* Westwood, Hope. Cat. 2(6): 24

1863. *Plinactus basilis* (Westwood) Stål, Öfv. Af Kongliga Vet.-Akad. Förh. 19: 502

**Measurements:** ♀: ToL= 13.67; HdL= 1.96, HdW= 2.18; AOL= 0.91; POL= 0.32; AtL= 10.38, AtS1= 2.55, AtS2= 3.28, AtS3= 1.73, AtS4= 2.82; IOD= 1.18; IocD= 0.36; RsL= 5.12, RsS1= 1.61, RsS2= 1.52, RsS3= 0.87, RsS4= 1.12; PrL= 3.09, PrW= 4.91; ScL= 1.73, ScW= 2.00; WnL= 10.56, WnW= 3.09; AbL= 7.83.

**Description:** Body (Fig. 9) yellowish ochraceous with purplish tinge and thick and coarse dark brown punctures.

**Head:** Head (Fig. 18a) distinctly produced in front of the antenniferous tubercles, yellowish ochraceous and speckled with black, tylus longer than jugum, with 2 small depressions just above the ocelli; antennae (Fig. 18b) reddish, apical segment paler; eyes yellowish ochraceous, relatively large; ocelli large and transparent; rostrum dull ochraceous, apically piceous, extending a little beyond the hind coxae.

**Thorax:** Pronotum (Fig. 18c) with a levigate mid-longitudinal line, anterior area with few black speckles, and with 2 circular almost flat callosities on either side of the laevigate line, humeral angle acutely and forwardly produced into a black spine; scutellum (Fig. 18d) triangular, apically pointed, frena extending near to apex; hemelytra (Fig. 18e) – clavus and corium yellowish ochraceous with thick and coarse dark brown punctures, basal 2/3rd costal area creamy white, impunctate, finely 43renulated, membrane fuliginous with simple veins; sterna ochraceous, with thick and coarse brown punctures and black speckles, metathoracic scent gland osteioles sub ventrally and obliquely produced; legs slender, femora weakly thickened, hind leg (Fig. 18f) longer than others.

**Abdomen:** Dorsum black, apical segment reddish ochraceous with black patch, connexivum pale ochraceous, venter (Fig. 18g) yellowish ochraceous, with

few scattered black spots, pilose; female terminal genitalia – 1<sup>st</sup> gonocoxae triangulate, 2<sup>nd</sup> gonocoxae transverse, 9<sup>th</sup> paratergites elongate and lobate.

**Material examined:** 1♂, Bichabhanga (BTR), 20.IX.2016, coll. A. Kurmi; 1♀, Jatraprasad (GNP), 07.VI.2018, coll. S. Dhali; 1♀, Chapramari (CWLS), 08.VI.2018, coll. S. Dhali.

**Distribution:** India: Karnataka, Kerala, Maharashtra, Tamil Nadu, **New to West Bengal**; China, Myanmar, Pakistan, Sri Lanka (Distant, 1902; Hsiao, 1964; Hegde, 1995; Dolling, 2006).

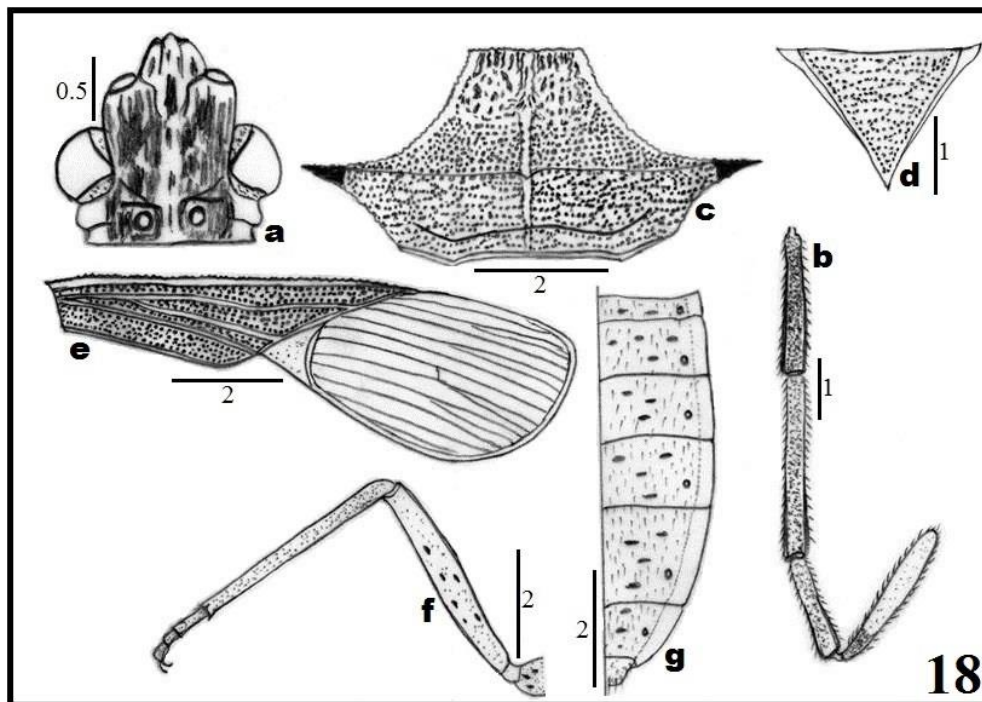


Fig. 18 (a–g). *Plinactus basilis* (Westwood, 1842), ♀; a – Head, b – Antenna, c – Pronotum, d – Scutellum, e – Hemelytra, f – Hind leg, g – Abdomen (ventral view).

#### CONCLUSION

During this study, 33 individuals (27 females and six males) of the subfamily Coreinae (Heteroptera: Coreidae) were collected, examined, identified and placed them according to the current systematics. As a result, nine species belonging to seven genera from five tribes were recorded. Of these, two species, namely, *Chinadasynus orientalis* (Distant) belonging to the tribe Dasynini, and *Plinactus basilis* (Westwood) belonging to the tribe Gonocerini, are recognized as new to the state of West Bengal.

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\*\*\*[https://en.wikipedia.org/wiki/Gorumara\\_National\\_Park](https://en.wikipedia.org/wiki/Gorumara_National_Park)

\*\*\* [https://en.wikipedia.org/wiki/Chapramari\\_Wildlife\\_Sanctuary](https://en.wikipedia.org/wiki/Chapramari_Wildlife_Sanctuary)

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