

REDUVIIDAE (HETEROPTERA: HEMIPTERA) RECORDED AS NEW FROM ODISHA, INDIA

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ABSTRACT: The paper presents ten new records viz. *Rhynocoris squalus* (Distant), *Staccia diluta* (Stal), *Oncocephalus notatus* Klug, *Oncocephalus fuscinothum* Reuter, *Ectrychotes dispar* Reuter, *Androclus pictus* (Herr-Schiff), *Ectomocoris tibialis* Distant, *Lisarda annulosa* Stal, *Acanthaspis quinquespinosa* (Fabricius) and *Acanthaspis flavipes* Stal of the family Reduviidae from the state of Odisha, India. General characters of the group, keys to various taxa, diagnostic characters, synonymies, distribution in India and elsewhere under each species are also provided.

KEY WORDS: Hemiptera, Reduviidae, Odisha

The members of the family Reduviidae are commonly known as “Assassin bugs”. Most of the species of Reduviidae are nocturnal. The family Reduviidae belongs to the superfamily Reduvoidea of the suborder Heteroptera under the order Hemiptera of class Insecta. Their large size and aggressive nature enable them to predate and eat many insects. With more than 6878 described species and subspecies under 981 genera belonging to 25 subfamilies of the family Reduviidae recorded from the world (Henry, 2009) are one of the largest and morphologically most diverse group of Heteroptera or true bugs. Of which, 465 species under 144 genera belonging to 14 subfamilies are recorded from India (Biswas and Mitra, 2011). Distant (1904, 1910) recorded three species from Berhampur, Odisha viz *Acanthaspis rama* Distant of Reduviinae, *Ectomocoris ochropterus* Stal and *Peirates flavipes* (Walker) of Peiratinae. The present paper deals with 10 species under 8 genera belonging to 6 subfamilies of the family Reduviidae which are recorded as new from the state of Odisha viz. *Rhynocoris squalus* (Distant) of Harpactorinae, *Staccia diluta* (Stal), *Oncocephalus notatus* Klug, *Oncocephalus fuscinothum* Reuter of Stenopodainae, *Ectrychotes dispar* Reuter of Ectrichodiinae, *Androclus pictus* (Herr-Schiff), *Ectomocoris tibialis* Distant of Peiratinae, *Lisarda annulosa* Stal of Salyavatinae and *Acanthaspis quinquespinosa* (Fabricius), *Acanthaspis flavipes* Stal of Reduviinae.

MATERIALS AND METHODS

This study is based on the materials collected during field surveys by different survey parties of Zoological Survey of India from Odisha (1972-1986). The specimens are deposited in the National Zoological Collection of Zoological Survey of India, Hemiptera Section, Kolkata.

Measurement and photographs of the species were taken with the aid of Leica M 205A. All measurements are in millimetres.

RESULTS AND DISCUSSION SYSTEMATIC LIST

Suborder **HETEROPTERA**
Infraorder **CIMICOMORPHA**

- Family **REDUVIIDAE**
 Subfamily **HARPACTORINAE**
 Genus *Rhynocoris* Kolenati, 1857
Rhynocoris squalus (Distant, 1904)
 Subfamily **STENOPODAINAE**
 Genus *Staccia* Stal, 1866
Staccia diluta (Stal, 1859)
 Genus *Oncocephalus* Klug, 1830
Oncocephalus notatus Klug, 1830
Oncocephalus fuscintum Reuter, 1883
 Subfamily **ECTRICHODIINAE**
 Genus *Ectrychotes* Burmiester, 1835
Ectrychotes dispar Reuter, 1881
 Subfamily **PEIRATINAE**
 Genus *Androclus* Stal, 1863
Androclus pictus (Herr-Schiff, 1848)
 Genus *Ectomocoris* Mayr, 1865
Ectomocoris tibialis Distant, 1904
 Subfamily **SALYAVATINAE**
 Genus *Lisarda* Stal, 1859
Lisarda annulosa Stal, 1874
 Subfamily **REDUVIINAE**
 Genus *Acanthaspis* Amyot & Serville, 1843
Acanthaspis quinquespinosa (Fabricius, 1781)
Acanthaspis flavipes Stal, 1881

SYSTEMATIC ACCOUNT

Key to the subfamilies of the family Reduviidae

1. Hemelytra with a quadrangular areolet or cell at interior area of corium near base of membrane.....HARPACTORINAE
- Hemelytra without a quadrangular areolet or cell at interior area of corium near base of membrane.....2
2. Hemelytra with a discoidal areolet or cell touching base of membrane.STENOPODAINAE
- Hemelytra without a discoidal areolet or cell.....3
3. Scutellum with its apex broad and two or three-spined.....ECTRICHODIINAE
- Scutellum with its apex triangular or subtriangular.....4
4. Pronotum constricted behind middle.....PEIRATINAE
- Pronotum constricted before or near middle.....5
5. Anterior tarsi two-jointed.....SALYAVATINAE
- Anterior tarsi three-jointed.....REDUVIINAE

Subfamily HARPACTORINAE

Genus *Rhynocoris* Kolenati, 1857

1857. *Rhynocoris* Kolenati, Fascia Bulletin Moscou, 29: 419-502.

Rhynocoris squalus (Distant, 1904) (Fig. 1)

1904. *Harpactor squalus* Distant, Fauna Brit. India, Rhynchota, 2: 333.

2006. *Rhynocoris squalus*, Ambrose, Zoos' Print Journal, 21 (9): 12.

Material examined: 1 ex., INDIA: Odisha: Deogarh District: Lulang, 21.II.1975, coll. R.L. Chowdhury and party.

Diagnostic character: Species black in colour; corium, sternum, legs pitchy black; posterior lobe of pronotum and corium coarsely rugosely granulate; anterior pronotal lobe sculptured with two small distinct tubercles and centrally excavated posteriorly; head with anteocular and postocular area equal in length; first joint of antennae almost as long as anterior femora.

Length: 21 mm.

Distribution: India: Odisha (Deogarh), Chhattisgarh, Sikkim.

Subfamily STENOPODAINAE**Key to the genera of the subfamily Stenopodainae**

1. Anterior femora with two series of small spines beneath.....*Staccia* Stal
 -. Anterior femora with a single series of small spines beneath..*Oncocephalus* Klug

Genus *Staccia* Stal, 1866

1866. *Staccia* Stal, Ofv. K. Vet. Ak. Forh., 3: 150.

***Staccia diluta* (Stal, 1859) (Fig. 2)**

1859. *Oncocephalus diluta* Stal, III. Zool. Insekter., 16: p. 263.

1874. *Staccia diluta*: Stal, Kongl. Svenska Vet. Akad. Handl., 4: 86.

1904. *Staccia diluta*, Distant, Fauna Brit. India, Rhynchota, 2: 225.

2006. *Staccia diluta*, Ambrose, Zoos' Print Journal, 21 (9): 26.

Material examined: 1 ex., INDIA: Odisha: Ganjam District: Ramtha, 25.XI.1986, coll. S.S. Saha.

Diagnostic character: Body brownish yellow; first joint of antennae shorter about as long as anteocular portion of head, margins of postocular area rounded; pronotum with anterior and posterior lateral angles tuberculous; prosternal spines visible from beneath; prosternum transversely impressed at about one third from base with the anterior lobe a little rounded; hemelytra with a large cell at inner margin and reaching abdominal apex at male but not in female.

Length: 8-10 mm.

Distribution: India: Odisha (Ganjam), Tamil Nadu. **Elsewhere:** Cambodia, China, Japan, Myanmar, Philippines, Sri Lanka, Thailand and Vietnam.

Genus *Oncocephalus* Klug, 1830

1830. *Oncocephalus* Klug, Symb. Phys., 2.

Key to the species of the genus *Oncocephalus* Klug

1. Anteocular and postocular areas of head almost equal in length.....*notatus* Klug
 -. Anteocular area of head longer, but not twice the length of postocular area.....
*fuscinitum* Reuter

***Oncocephalus notatus* Klug, 1830 (Fig. 3)**

1830. *Oncocephalus notatus* Klug, Symb. Phys., 2, pl.19, f. 1.

1904. *Oncocephalus notatus*, Distant, Fauna Brit. India, Rhynchota, 2: 227.

2006. *Oncocephalus notatus*, Ambrose, Zoos' Print Journal, 21 (9): 25.

Material examined: 1 ex., INDIA: Odisha: Mayurbhanj District: Bangriposi, 3.V.1972, coll. A.R. Bhaumik and party.

Diagnostic character: Body yellowish brown; a large spot on postocular area of head, three vittae to anterior lobe and five to posterior lobe of pronotum, spots to connexivum above and beneath, head beneath, lateral areas of sternum, a broad submarginal fascia to abdomen beneath, spots and other markings to anterior femora, annulations to intermediate and posterior femora and tibiae, cell at inner angle of corium and a discal oblong spot to membrane dark brown; anteocular and postocular areas of head about equal in length; pronotum with anterior angles laterally spinously prominent, posterior lateral angles rounded, centrally sulcate on disk; hemelytra in female not reaching apex of abdomen.

Length: 10-10.5 mm.

Distribution: India: Odisha (Mayurbhanj), Kashmir, Maharashtra. **Elsewhere:** Algeria, Arabia, Caucasus, Japan, North Africa, Spain and Turkey.

***Oncocephalus fuscinitum* Reuter, 1883 (Fig. 4)**

1883. *Oncocephalus fuscinitum* Reuter, Act. Soc. Sc. Fenn., 12: 371.

1904. *Oncocephalus fuscinitum*, Distant, Fauna Brit. India, Rhynchota, 2: 229.

2006. *Oncocephalus fuscinitum*, Ambrose, Zoos' Print Journal, 21 (9): 25.

Material examined: 1 ex., INDIA: Odisha: Deogarh District: Lulang, 15.II.1975, coll. R.L. Chowdhury and party.

Diagnostic character: Head, pronotum, scutellum and body beneath dark brown; hemelytra brownish yellow; rostrum, legs and apex of scutellum brownish yellow; a

testaceous spot behind each eye; apical areas of femora and somewhat obsolete medial annulations to same, basal, medial and somewhat obsolete apical annulations to tibiae and base of rostrum castaneous; membrane mottled with paler colouration; first and second segments of antennae castaneous, first segment slightly shorter than anteocular area of head, which is longer than postocular area but not twice as long; anterior and posterior lateral angles of pronotum obtuse; connexivum spotted with brownish yellow above and beneath.

Length: 11.5 mm.

Distribution: India: Odisha (Deogarh), Madhya Pradesh. **Elsewhere:** West Pakistan.

Subfamily ECTRICHODIINAE

Genus *Ectrychotes* Burmeister, 1835

1835. *Ectrychotes* Burm., Handb., 2: 237.

Ectrychotes dispar Reuter, 1881 (Fig. 5)

1881. *Ectrychotes dispar* Reuter, Act. Soc.Sc.Fenn., 12: 304.

1904. *Ectrychotes dispar*: Distant, Fauna of Brit. India, Rhynchota, 2: 315.

2006. *Ectrychotes dispar*: Ambrose, Zoos' PrintJourn., 21 (9): 2.

Material examined: 1 ex., INDIA: Odisha: Jajpur District: Purnakote, 26.II.1975, coll. R.L. Chowdhury and party; 2exs., Kandhamal District, Balliguda, Phulbani, 1.VII.1974, coll. Dr. A.K. Mandal.

Diagnostic character: Species violet in colour, antennae and hemelytra piceous; lateral areas of posterior lobe of pronotum, scutellum, base of clavus, corium, lateral margins of corium, connexivum, apices of coxae, trochanters, basal half of posterior femora, bases of tarsi and abdomen beneath, violaceous.

Length: 12-14 mm.

Distribution: India: Odisha (Jajpur, Kandhamal), Chhattisgarh, West Bengal, Maharashtra, Bangalore, Tamil Nadu.

Subfamily PEIRATINAE

Key to the genera of the subfamily Peiratinae

1. Anterior tibiae amplified and incrassated; lateral angles of posterior lobe of pronotum amplified and incrassated.....*Androclus* Stal
- . Anterior tibiae normal, not amplified and incrassated; lateral angles of posterior lobe of pronotum obtusely prominent, not amplified rounded.....*Ectomocoris* Mayr

Genus *Androclus* Stal, 1863

1863. *Androclus* Stal, Ann. Soc. Ent. Fr., 4: 58.

Androclus pictus (Herr-Schiff, 1848) (Fig. 6)

1848. *Pirates pictus* Herr-Schiff, Wanz. Ins., 8: 63.

1904. *Androclus pictus*, Distant, Fauna Brit. India, Rhynchota, 2: 290.

2006. *Androclus pictus*, Ambrose, Zoos' Print Journ., 21 (9): 15.

Material examined: 1 ex., INDIA: Odisha: Debagarh District: Bhutel, 27.XII.1972, coll. Dr. A.K. Mandal.

Diagnostic character: Body reddish brown; membrane and clavus (excluding base) pale smoky brown; a large central spot to clavus, a large rounded spot on corium outside claval apex, three or four small spots at base, a very large irregularly shaped discal spot to membrane, spots to connexivum above and beneath, sternum, a series of transverse segmental spots on each lateral area of abdomen and posterior legs dark black; apices of posterior femora and bases of posterior tibiae, brownish yellow; antennae pilose, second segment longest; anterior pronotal lobe straight; anterior and intermediate femora incrassated.

Length: 10.5- 11 mm.

Distribution: India: Odisha (Debagarh), Maharashtra. **Elsewhere:** Africa DUTCHEAST and Oriental, Cameroon, Southern Mozambique, Guinea, Indonesia, South Africa and Transvala.

Genus *Ectomocoris* Mayr, 1865

1865. *Ectomocoris* Mayr, Verh. Zool. Bot. Ges. Wien., 15: 438.

Ectomocoris tibialis Distant, 1904 (Fig. 7)

1904. *Ectomocoris tibialis* Distant, Fauna Brit. India, Rhynchota, 2: 293.

2006. *Ectomocoris tibialis*, Ambrose, Zoos' Print Journal, 21 (9): 17.

Material examined: 1 ex., INDIA: Odisha: Ganjam District: Ganjam, 17.VIII.1973, coll. Dr. A.K. Mandal.

Diagnostic character: Body black, opaque; first segment and base of second segment of antennae, rudimentary hemelytra (excluding base and spot at apex), tibiae and tarsi ochraceous; head anteriorly produced, as long as anterior lobe of pronotum; hemelytra only reaching base of first abdominal segment; spongy furrow to anterior tibiae occupying three-fourths of their under surface.

Length: 17 mm.

Distribution: India: Odisha (Ganjam), Bihar, Kerala, Maharashtra, Punjab, Sikkim, Tamil Nadu.

Subfamily SALYAVATINAE

Genus *Lisarda* Stal, 1859

1859. *Lisarda* Stal, Ofv. Vet.-Ak. Forh., 16: 192.

Lisarda annulosa Stal, 1874 (Fig. 8)

1874. *Lisarda annulosa* Stal, En. Hem., 4: 83.

1904. *Lisarda annulosa*, Distant, Fauna Brit. India, Rhynchota, 2:237.

2006. *Lisarda annulosa*: Ambrose, Zoos' PrintJourn., 21 (9): 23.

Material examined: 1 ex., INDIA: Odisha: Deogarh District: Lulang, 19.II.1975, coll. R.L. Chowdhury and party.

Diagnostic character: Species brownish-yellow in colour; base and annulations to second joint of antennae, mottlings to hemelytra and abdomen, connexivum and legs brownish yellow; subocellate spots to connexivum, head beneath, sternum, a broad fasciae on each side of abdomen joining a spot on apical segment and a few smaller linear central spots dark reddish brown; tibiae and femora annulated with brownish yellow; femora with a spine on apex, anterior femora with a medial spine, spine to scutellum short and obtuse.

Length: 11 mm.

Distribution: India: Odisha (Deogarh), Chhattisgarh, Tamil Nadu. **Elsewhere:** China, Myanmar, Sri Lanka.

Subfamily REDUVIINAE

Genus *Acanthaspis* Amyot & Serville, 1843

1843. *Acanthaspis* Amyot & Serville, Histoire Naturelle des Insectes Hemipteres Libraire Encyclopedique de Roret, Paris: Fain et Thunot., 336 pp.

Key to the species of the genus *Acanthaspis* Amyot & Serville

1. Posterior lobe of pronotum with two long discal spines.....*quinquespinosa* (Fabricius)
- . Posterior lobe of pronotum with two short but prominent discal tubercles.....*flavipes* Stal

Acanthaspis quinquespinosa (Fabricius, 1781) (Fig. 9)

1781. *Reduvius quinquespinosa* Fabr., Spec. Ins., 2: p. 382.

1904. *Acanthaspis quinquespinosa*: Distant, Fauna Brit. India, Rhynchota, 2:257.

2006. *Acanthaspis quinquespinosa*: Ambrose, Zoos' PrintJourn., 21 (9): 20.

2007. *Acanthaspis quinquespinosa*: Biswas and Bal, Fauna of Andhra Pradesh, State fauna series, 5 (3): 342.

Material examined: 1 ex., INDIA: Odisha: Jajpur District: Purnakote, 1.III.1975, coll. R.L. Chowdhury and party; 1 ex., Keonjhar District, Ghatgaon, 22.VIII.1972, coll. S.K. Mitra and party.

Diagnostic character: Body black; two lateral and two discal spines to pronotum; a transverse discal spot to corium and spot to connexivum above and beneath luteous; anterior lobe of pronotum strongly sculptured, posterior lobe rugose with a long lateral spine on each side and with two shorter erect discal spines between them; scutellar spine long, obliquely ascending.

Length: 15.5-19 mm.

Distribution: India: Odisha (Jajpur, Keonjhar), Chhattisgarh, Assam, Madhya Pradesh, Tamil Nadu, Maharashtra, Meghalaya and West Bengal. **Elsewhere:** China, Sri Lanka, Myanmar.

***Acanthaspis flavipes* Stal, 1881** (Fig. 10)

1855. *Acanthaspis flavipes* Stal, Ofv. Vet.-Ak. Forh., 12: 187.

1904. *Acanthaspis flavipes*: Distant, Fauna Brit. India, Rhynchota, 2: 262.

2006. *Acanthaspis flavipes*: Ambrose, Zoos' Print Joun. 21 (9): 19.

Material examined: 1 ex., INDIA: Odisha: Puri District: Konark: P.H.D.L.B. compound, 18.III.1973, coll. Dr. V.K. Prem Kumar.

Diagnostic character: Body brown; large transverse spot to the middle of corium, spot to connexivum; rostrum, legs, apex of scutellar spine luteous; pronotum with anterior lobe strongly sculptured, lateral angle spinously produced; scutellar spine obliquely ascendant.

Length: 15.5-16 mm.

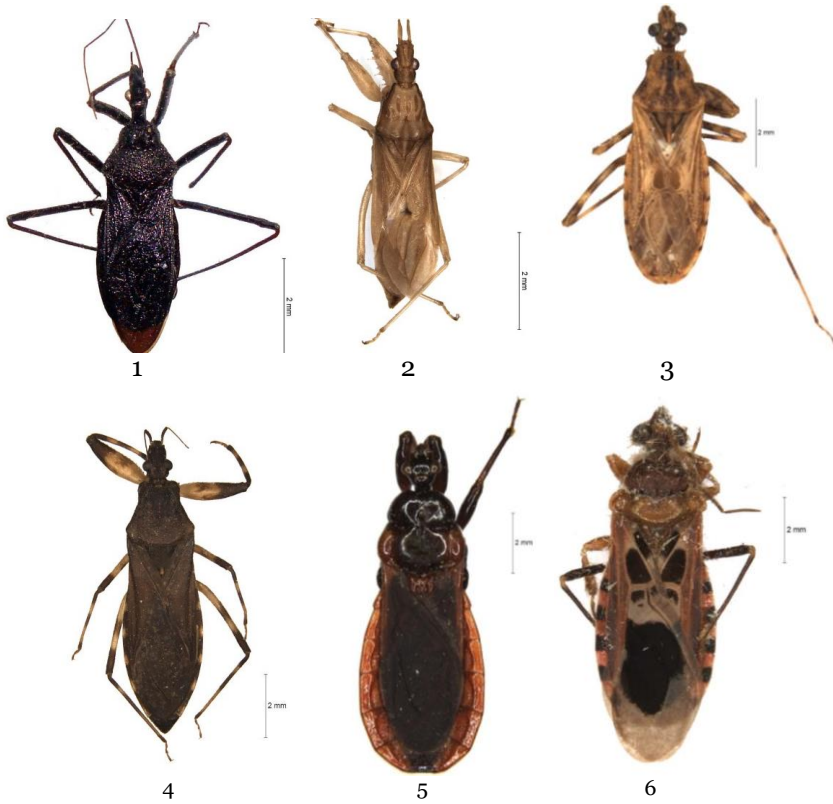
Distribution: India: Odisha (Puri), Chhattisgarh, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu and West Bengal.

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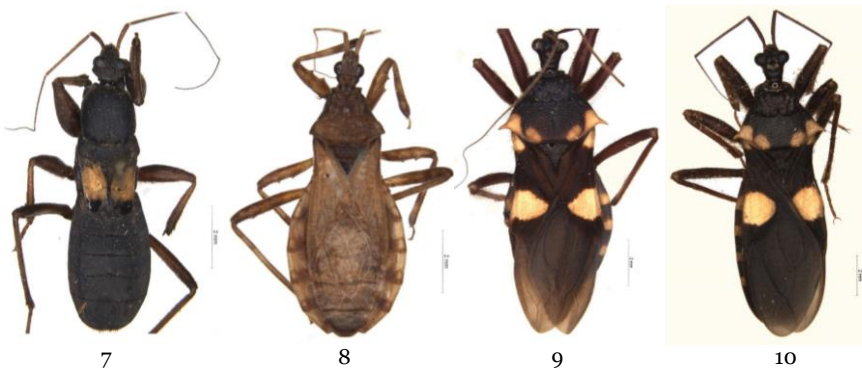
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Figures 1-6. 1. *Rhynocoris squalus* (Distant), 2. *Staccia diluta* (Stal), 3. *Oncocephalus notatus* Klug, 4. *Oncocephalus fuscinotum* Reuter, 5. *Ectrychotes dispar* Reuter, 6. *Androclus pictus* (Herr-Schiff).



Figures 7-10. 7. *Ectomocoris tibialis* Distant, 8. *Lisarda annulosa* Stal, 9. *Acanthaspis quinquispinosa* (Fabricius), 10. *Acanthaspis flavipes* Stal.