

ON THE TRIBES CARDIASTETHINI AND ALMEIDINI FROM
SOUTH INDIA (HEMIPTERA : ANTHOCORIDAE)

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ABSTRACT

Ten species under eight genera belonging to Cardiaastethini and Almeidini are dealt with. A new genus *Indocoris* with type species *tarsatus* and two other new species *Physopleurella indica* and *Physopleurella loyola* are described. The new taxa belong to Cardiaastethini.

Since the excellent contributions of Reuter (1884) a few Hemipterists like Poppius (1909) and Van Duzee (1917) had attempted on the classification of Anthocoridae. Recently Carayon (1972) revised the classificatory system of Anthocoridae on the basis of anatomical, morphological and ecological characters and proposed a new subfamily and eight new tribes. The present paper deals with *Cardiaastethini* and *Almeidini*, belonging to the subfamily Lyctocorinae from South India. Our knowledge of these tribes is solely due to the studies of Distant (1906, 1910).

The members of Cardiaastethini and Almeidini are small, ranging from 2-4 mm long and commonly occurring in leaf litter and nests of birds. The material included in this study was collected from haystacks, under loose bark of trees, leaf litter, decaying vegetation and leaf galls.

CARDIASTETHINI Carayon

Cardiaastethini Carayon, 1972, *Ann. Soc. ent. Fr.*, 8 (2) : 331.

Rostrum comparatively short, reaching mid coxae, second segment straight, more than one-third of the third segment in length. Clavus devoid of round punctures. Foretibiae usually with fossula spongiosa; posterior tibiae devoid of spines. Ovipositor vestigial.

Amphiareus Distant, *Buchananiella* Reuter, *Cardiaastethus* Fieber, *Orthosolenopsis* Poppius, *Physopleurella* Reuter and a new genus *Indocoris* are reported from South India.

KEY TO THE GENERA FROM SOUTH INDIA

1. Forefemora without long spines 3
— Forefemora provided with long spines 2
2. Foreacetabula highly expanded. Rostrum not reaching fore coxae
..... *Physopleurella* Reuter
— Fore acetabula not expanded. Rostrum surpassing fore coxae
..... *Orthosolenopsis* Poppius
3. Foretarsi and claws together equal in length to foretibiae; claws very long
..... *Indocoris*, gen. nov.
— Foretarsi and claws shorter than fore tibiae 4

4. Metasternum with bifurcated projection.....
 *Amphiareus* Distant
 — Metasternum without bifurcated projection
 5
5. Rostrum short, surpassing anterior coxae.
 Scent gland canal curved posteriorly
 *Buchananiella* Reuter
 — Rostrum long, surpassing anterior coxae.
 Scent gland canal curved forward
 *Cardiastethus* Fieber

Amphiareus Distant

Amphiareus Distant, 1904, Ann. Mag. nat. Hist
 (7) 14 : 220.

Type : *Xylocoris fulvescens* Walker

1. *Amphiareus constrictus* (Stal)

Xylocoris constrictus Stal, 1860, Rio. Jan.
Hemipt., 2 : 44.

Amphiareus constrictus (Stal); Herring, 1965,
Proc. ent. Soc. Wash., 67 (3) : 202

Material : 3 ♀♀, INDIA : Kerala,
 Trivandrum, 16.i.1971 ; 6 ♀♀, 2 ♂♂, Kerala,
 Kottayam, Tekkady, 7.xii.1972, 5 ♀♀, 3 ♂♂,
 Tamil Nadu, Kallar, 6.xii.1973.

Distribution : Sri Lanka, Burma, Celebes,

India, Sumatra, Singapore, Japan, Hawaii,
 Guam, Madagascar and Tropical Africa,

Remarks : Specimens were collected from
 sheaths of coconut palms, areca palms,
 haystacks and dryleaves. In one case (Kallar)
 these bugs were found feeding on *Stigmo-*
thrips consimilis.

Buchananiella Reuter

Buchananiella Reuter, 1885, Acta. Soc. Sic.
Fenn., 14 : 668.

Type : *Cardiastethus continus* White

2. *Buchananiella crassicornis* Carayon

Buchananiella crassicornis Carayon, 1958, Bull. Mus.
Hist. nat. 30 (2) : 153

Material : 1 ♂, 5 ♀♀, INDIA : Tamil
 Nadu, Kallar, 13.iii.1973 ; 3 ♂♂, 1 ♀,

Kerala, Palghat, 31.ii.1972 ; 9 ♀♀, Tamil
 Nadu Madras, 10.i.1972 ; 2 ♀♀, Kerala,
 Devikolam 2.iv.1972.

Remarks : This species was first recorded
 from Ivory Coast (Carayon 1958) and later
 from South India (Muraleedharan & Anantha-
 krishnan 1974). This species was also found
 feeding on the larvae of *Stigmothrips*.

Cardiastethus Fieber

Cardiastethus Fieber, 1860, Wein. ent. Monatschr.
 4 : 266.

Type : *Cardiastethus luridellus* Fieber

3. *Cardiastethus affinis* Poppius.

Cardiastethus affinis Poppius, 1909, Acta. soc.
Sci. Fenn., 37 (9) 17

Material : 3 ♂♂, INDIA : Tamil Nadu,
 Madras, 7.xii.1972.

Distribution : East Africa.

Remarks : This species is recorded from
 India for the first time.

4. *Cardiastethus pygmaeus pauliani* (Lansbury)

Cardiastethus pauliani Lansbury, 1954, Ent. mon.
Mag., 1079 (90) : 90

Cardiastethus pygmaeus pauliani (Lansbury)
 Carayon, 1957, Ann. Soc. ent. Fr., 126 : 167.

Material : 5 ♀♀, INDIA : Tamil Nadu,
 Madras, 23.ii.1971 ; 1 ♂, 3 ♀♀, Madras
 8.x.1971 ; 4 ♀♀, Madras, 15.iv.1974 ; 3 ♀♀,
 Andhra Pradesh, Tirupathy, 7.iv.1973 ; 2 ♀♀,
 Kerala, Tekkady, 2.k.1971.

Distribution : Ethiopia, Senegal, Sudan,
 Guinae, Liberia and Ivory Coast.

Remarks : This species was reported earlier
 from the nests of *Ploceus philippinus* (Mura-
 leedharan, 1975). A new record from South
 India.

Indocoris, Gen. nov.

Body elongate, oval and surface shining. Short bristles present on head and pronotum. Anterior and posterior angles of pronotum, each with a long seta and abdominal apex with macrochaetae.

Head very little produced; eyes large, ocelli situated on posterior border of eyes. Antennae with first segment short, reaching apex of head, second stouter and longer than third and fourth segments, the latter segments fusiform. Rostrum very short, reaching only anterior margin of prosternum; first segment shorter than first antennal segment; second and third equal in length.

Pronotum trapesiform, anterior collar distinct, lateral margins straight and posterior margin concave. Scutellum beset with minute setae. Hemelytra completely covering abdomen, uniformly clothed with small setae. Ostiolar canal long, moderately broad, extending outward and runs forward to reach lateral margin. Legs simple, femore neither thickened nor spinose. Claws on foretarsi enormously developed, almost as long as terminal rostral segment. Mid and hind tibiae devoid of long spines. Abdomen pubescent. Ovipositor vestigial.

Type species : *Indocoris tarsatus*, sp. nov.

Indocoris is closely allied to *Cardiastethus* Fieber in general appearance but the extremely short rostrum, highly developed claws and shape of ostiolar canal separates it from the latter.

5. **Indocoris tarsatus**, sp. nov.
(Fig. 1, A-C)

Colour : Yellowish brown. Head and pronotum yellowish brown and scutellum more yellowish. Rostrum yellowish brown; antennal

segments I, II and III pale brown, IV yellow. Clavus and corium pale yellow, embolium deep yellow and cuneus dark brown; membrane clear. Legs uniform yellow. Ventral side of thorax brown and abdomen yellowish brown.

MEASUREMENTS in mm		MALE	FEMALE
Length of head		0.23—0.25	0.27
Width of head across eyes		0.30—0.30	0.32
Length of rostrum		0.24—0.25	0.25
Length of antennal segment			
	I	0.07—0.07	0.07
	II	0.25—0.27	0.23
	III	0.13—0.13	0.13
	IV	0.20—0.20	0.18
Length of pronotum		0.22—0.24	0.24
Width of pronotum across posterior margin		0.64—0.64	0.64
Total length of body		1.75—1.82	2.20

Structure : Body mildly setose. Head distinctly broader than long. Rostrum short, reaching anterior margin of posternum. Second segment of antennae longer in males. Pronotum and scutellum with short setae. Hemelytra completely covering abdomen; membrane with three veins. Forefemora a little thickened than mid and hind femora; foretibiae with a few strong spines at apex. Ostiolar canal as in generic description. Ventral side of thorax not pubescent. Abdomen pubescent, long bristles present at apex. Ovipositor vestigial. Paramere simple. Holotype ♂, (Reg. No. 286 H 15) INDIA : Tamil Nadu, Courtallam, from leaf galls of *Vitis* sp. 14.vii.1971; Paratypes 2 ♀♀ (Reg. No. 287/H15-288/H15) data same as in holotype. (All in Z. S. I. Collection).

In the shape of male paramere this species shows some resemblance to *Cardiastethus affinis* Poppius.

Orthosolenopsis Poppius

Orthosolenopsis Poppius, 1909, *Mcta. soc. Sci. Fenn.*, 37 (9) : 21.

Type : *Orthosolenopsis australis* Poppius.

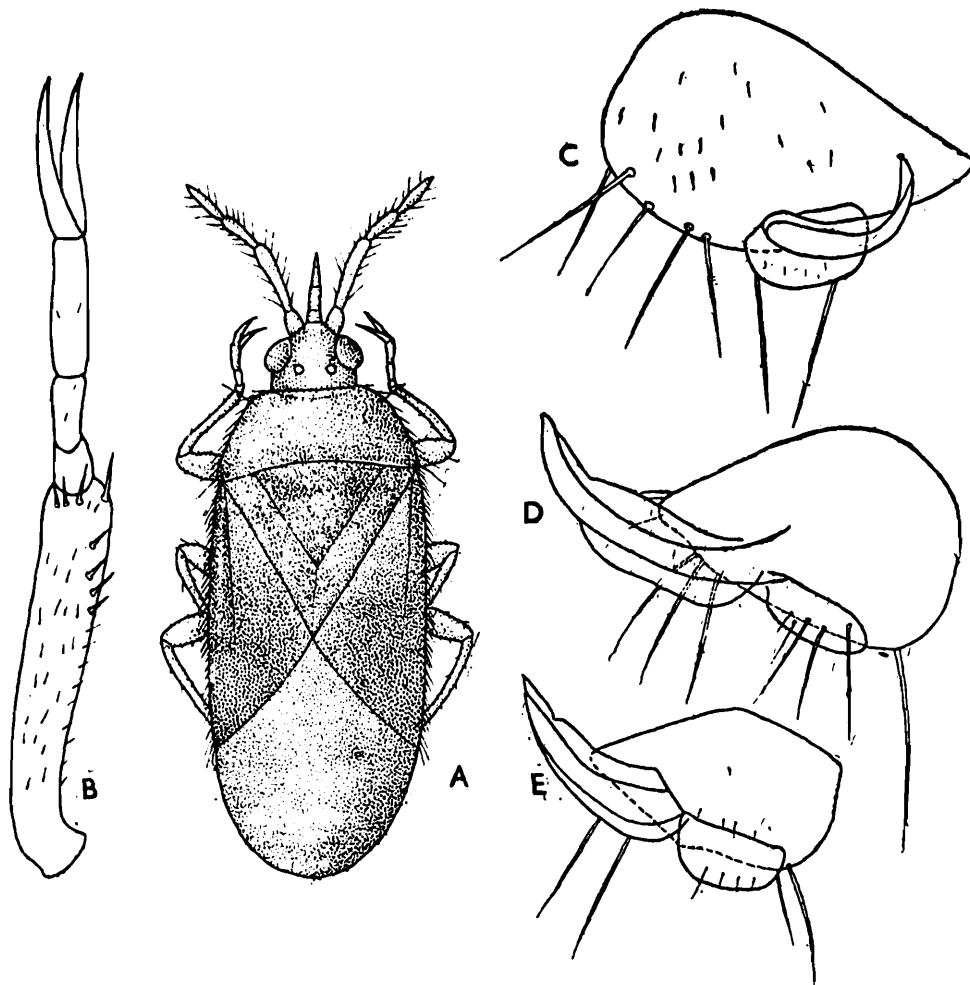


Fig. 1. (A-C) *Indocotis tarsatus*: A. female, dorsal view; B. male genitalia; C. foretibia and tarsus, D. *Physopleurella loyola*: male genitalia. E. *Physopleurella indica*: male genitalia.

6. *Orthosolenopsis carayoni* (Muraleedharan & Ananthakrishnan) Comb. nov.

Bucananiella carayoni Muraleedharan & Ananthakrishnan, 1974, *Oriental Ins.* 8 (1) : 34.

This is the second species to be known under the genus which was first reported from Australia (Poppius, 1909).

Physopleurella Reuter

Physopleurella Reuter, 1884, *Acta. soc. Sci. Fenn.*, 14 : 678

Type: *Cardiastethus mundulus* Buchanan & White.

7. *Physopleurella loyola*, sp. nov.

(Fig. 1, D)

Colour: Body yellow; head and pronotum

pale brownish yellow. Rostrum yellow; antennal segments I and II yellow and III and IV pale yellow. Scutellum yellowish brown. Hemelytra uniformly yellow; membrane clouded. Legs brownish yellow.

MEASUREMENTS in mm		MALE	FEMALE
Length of head		0.40—0.43	0.45—0.48
Width of head across eyes		0.35—0.37	0.35—0.39
Length of rostrum		0.33—0.36	0.36—0.40
Length of antennal segment			
	I	0.09—0.10	0.10—0.10
	II	0.35—0.38	0.38—0.38
	III	0.21—0.23	0.23—0.23
	IV	6.24—0.24	0.24—0.24
Length of pronotum		0.35—0.38	0.37—0.41
Width of pronotum		0.75—0.79	0.80—0.84
Total length of body		2.25—2.32	2.51—2.67

Structure: Body longly setose; head beset with long hyaline setae. Eyes large, protrude

ding; rostrum short, reaching anterior margin of prosternum. Antennal segment II longest, III subequal to IV. Lateral margins of pronotum sinuate and posterior border deeply concave. Scutellum with a posterior depression. Forefemore incrassate and with two rows of spines; foretibiae curved and devoid of spines. Hemelytra uniformly clothed with long setae; membrane with three veins. Male genital clasper simple. Ovipositor vestigial.

Holotype : ♂, (Reg. No. 289/H 15) INDIA : Madras, Loyola College Campus 10.i.1972; Paratypes 4 ♂♂, 20 ♀♀, H 15 data same for holotype. (Reg. No. 299/H15-313/H15)

This species is closely similar to *Physopleurella pessonii* Carayon in the general appearance but can be readily recognised by the shape of male genitalia and presence of a deep depression on pronotum.

8. *Physopleurella indica* sp. nov. (Fig. 1, E)

Colour : Head brown, antennae and rostrum pale yellow. Thorax brown with legs uniformly pale yellow. Hemelytra yellow except dark cuneus.

MEASUREMENTS in mm.	MALE
Length of head	0.42—0.42
Width of head	0.35—0.37
Length of rostrum	0.39—0.39
Length of antennal segment	1 0.10—0.10
	2 0.37—0.39
	3 0.20—0.20
	4 0.20—0.20
Length of pronotum	0.37—0.39
Greatest pronotal width	0.73—0.75
Total length of body	2.38—2.42

Structure : Body elongate and setose. Head a little broader than long. Rostrum very short, reaching anterior margin of prosternum. Antennae shorter than width of pronotum, second segment longest, third and fourth equal in length. Pronotum setose, lateral margins sinuate and posterior margin deeply concave. Lateral margins of scutellum crenu-

late. Hemelytra uniformly clothed with long setae; membrane with three veins. Forefemore incrassate, beset with two rows of spines, each row bearing 23-25 spines; foretibiae curved. Mid and hind legs simple. Paramere simple.

Holotype : ♂ (Reg. No. 314/H 15) INDIA, Kerala, Thenmalai, 24.vi.1972; Paratype ♂ (Reg. No. 315/H 15), data same for holotype.

Physopleurella indica closely resembles the preceding species in general appearance, shape of pronotum and colour, but the two species can be separated by the differences in the shape of paramere.

ALMEIDINI Carayon

Almeidini Carayon, 1972, *Ann. Soc. ent. Fr.*, 8 (2) : 339

Rostrum long, slightly curved at base, second segment twice as long as third, surpassing intermediate coxae.

Terminal segments of antennae filiform. Clavus, posterior border of pronotum and scutellum provided with rounded punctures. Paramere simple; ovipositor well developed. Ectospermalege absent.

The tribe is represented in India by two genera, *Almeida* and *Lippomanus* both being recorded from South India for the first time.

Almeida Distant

Almeida Distant, 1910, *Fauna Brit. India*. Rhynch. 5 : 300

Type : *Cardiastethus pilosus* Poppius

9. *Almeida pilosa* (Poppius)

Cardiastethus pilosus Poppius, 1909, *Acta. Soc. Sci. Fenn.*, 37 (9) : 21.

Almeida pilosa (Poppius) : Distant 1910 : *Fauna Brit. India* Rhynch. 5 : 301.

Material : 1 ♀ (brachypterous) INDIA : Andhra Pradesh, Tirupathy, 22.i.1973.

Distribution : Calcutta ; Tropical Asia (Carayon. 1972).

Remarks : Alary polymorphism is met with in this species.

Lippomanus Distant

Lippomanus Distant, 1904, *Ann. Mag. nat. Hist.* (7) 14 : 221.

Type : *Lippomanus hirsutus* Distant.

10. *Lippomanus hirsutus* Distant

Lippomanus hirsutus Dist, 1904, *Ann. Mag. nat. Hist.* (7) 14 : 221.

Material : 2 ♀ ♀, INDIA, Tamil Nadu, Kodaikanal, 4.iv.1972.

Distribution : Burma and India.

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