

ON A COLLECTION OF PENTATOMIDAE
(HEMIPTERA) FROM SILENT VALLEY
KERALA, INDIA

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(With 3 Text Figures)

This paper is the result of a study carried out on a collection of Pentatomidae from Silent Valley. Nothing was known about the pentatomid bugs of Silent Valley before the expeditions to the Valley during 1979-80. This report deals with 14 species including one new species, which was collected during three extensive surveys conducted by Zoological Survey of India. Although collection of pentatomid bugs from Silent Valley is still far from complete, this can form the basis for further detailed investigation of pentatomid fauna of this area.

Subfamily : PENTATOMINAE

Antestia cruciata (Fabr.)

Cimex cruciata Fabricious, 1775. *Syst. Ent.*, p. 714.

Material examined : 1 ♂, 1 ♀, Silent Valley, 12.xii. 1980.

General Colour : Yellowish green, corium purple.

Head : As long as wide at base ; lobes of equal length ; lateral margins, two longitudinal curved lines on the disc, two large spots behind the eyes and a spot around ocellus, piceous ; lateral margins reflexed ; ocelli black, near to the eyes than to each other ; first three antennal segments green, fourth and fifth piceous ; first segment not reaching the apex of head ; antennal formula $1 < 2 < 3 < 4 = 5$.

Pronotum Broader than long ; chrom yellow, anterior margin concave, reflexed ; two large anterior spots and six large discal spots dark green, the spots, deeply and darkly punctate. *Scutellum* : as long as wide at base, two round basal spots and two elongate angulate spots on disc dark green. Corium with three dark green

spots, darkly punctate; membrane castaneous, connexivum fuscous, lateral margins yellowish green.

Body beneath and legs flavo-virens; prosternum carinate; rostrum light green, with apex piceous, extends upto the second abdominal segment; thoracic sterna with four series of piceous spots and abdominal sterna with seven series of black spots.

Length : ♂ 12 mm.

Distribution : Sikkim, Calcutta, Bombay, Nilgiri Hills, Karapara, Sabarigiri, Mullaperiyar, Dharmapuri, Sri Lanka.

Plautia fimbriata (Fabr.)

Cimex fimbriata Fabricius, 1787, *Mant. Ins.* 2 : 295.

Material examined : 7 ♂, 8 ♀, Silent Valley. 11. xii. 1980.

General Colour : Olivaceous, corium purplish red with the lateral margins green.

Head Green, longer than wide between eyes; tapering towards apex; juga laminated, sparingly punctate; apex and base castaneous, lateral margins piceous; eyes prominent, bluish-green, ocelli near to the eyes; first antennal segment not reaching the apex of head; first two segments and basal half of the third segment green, fourth and fifth segments ochraceous; antennal formula : $1 < 2 < 3 < 4 < 5$; rostrum reaching third abdominal segment. *Pronotum* : green, twice as wide as long; finely punctate; anterior margin concave; lateral margins entire, straight; posteriolateral angles subprominent. *Scutellum* : green, as long as wide at base, apex narrow, rounded; a small spot at each basal angle piceous. Corium extends beyond the apex of scutellum; inner basal angle piceous; darkly and thickly punctate; apices of incisures piceous; membrane light brown, base dark brown; extending beyond the posterior extremity of abdomen. Dorsum castaneous, very finely punctate; abdominal sternites and legs pale green.

Length : ♂, 5.5 mm.

Host Plant : *Solanum torvum* Sw. (Solanaceae)

Distribution : Khasi Hills (Meghalaya) Naga Hills (Nagaland), Calcutta, Bombay, Nilgiri Hills, Wynad, Sabarigiri, Javadi Hills, Sri Lanka, Burma, Malaya, China, Japan and Madagascar.

***Carbula scutellata* Dist.**

Carbula scutellata Distant, 1887, *Trans. Ent. Soc. London*, p. 347.

Material examined : 5 ♂, 6 ♀, Silent Valley, 5. xii. 1980.

General Colour : Ochraceous.

Head : narrow, elongate, longer than wide between eyes ; lobes of equal length, rounded at the apex ; deeply and darkly punctate, eyes fuscous, ocelli pink ; antenna ochraceous ; first segment short, not reaching the apex of head ; antennal formula : $1 < 2 = 3 < 4 = 5$. *Pronotum* : three times as wide as long, strongly declivent ; anterior margin concave ; anterior angles prominent ; posteriolateral angles acutely produced into black spines ; lateral margins entire, reflexed ; posterior margin straight ; darkly and deeply punctate. *Scutellum* : as long as wide at base, apex rounded ; a large spot at each basal angle and the apex stramineous, impunctate ; disc sparingly and deeply punctate, base and lateral margin densely punctate. *Corium* purplish red, lateral margin ochraceous, thickly and deeply punctate. *Membrane* hyaline with a large dark brownish spot at the basal inner margin. *Connexivum* ochraceous ; very finely punctate ; apices of incisures piceous.

Body beneath and legs ochraceous ; femur and tibia spotted with brown ; abdomen unarmed at base, very sparingly punctate.

Length : ♂, 7.5 mm.

Host Plant : *Plectranthus wightii* Benth. (Labiatae)

Distribution : Khasi Hills, Meghalaya, Bombay, Wynad and Burma.

***Carbula socia* (Walk.)**

Mormidea socia Walker, 1867, *Cat. Het.* 2 : 262.

Material examined 2 ♂, 3 ♀, Silent Valley 5. xii. 1980.

General Colour Ochraceous.

Head twice as long as wide between the eyes ; lobes of equal length, jugam broad, apex rounded ; deeply and blackly punctate ; eyes prominent, fuscous ; ocelli pink, near to the eyes ; antennae ochraceous, first segment not reaching the apex of head ; antennal formula : $1 < 2 = 3 < 4 = 5$; rostrum reaching posterior coxae. *Pronotum* : greenish-yellow, thrice as wide as long ; deeply and darkly punctate ; emarginate, anterior angles acute ; lateral margins strongly raised ; postero-lateral angles produced into moderately long obtuse black spines. *Scutellum* : triangular, as long as wide at base, posterior half narrowed apically, apex rounded ; a large spot at each basal angles and the apex stramineous ; basal one third and lateral border thickly and darkly punctate ; disc sparingly punctate. *Corium* purplish-ochraceous with the lateral margins greenish yellow, densely and darkly punctate. *Connexivum* exposed, ochraceous, finely punctate ; apices of incisures piceous ; membrane hyaline, extending beyond the posterior extremity of abdomen.

Body beneath ochraceous, sparingly punctate, legs ochraceous spotted brown.

Length ♂, 8 mm.

Distribution : Bombay, Wynad, Sri Lanka.

***Carbula insocia* (Walk.)**

Eysarcoris insocia Walker, 1868, *Cat. Het.* 3 : 556.

Material examined 3 ♂, 2 ♀, 5. xii. 1980. Silent Valley.

General colour : Ochraceous.

Head : twice as long as wide between eyes ; lobes of equal length, apex rounded, deeply and darkly punctate ; margins sinuate before the eyes ; brown ; antennae ochraceous ; antennal formula $1 < 2 = 3 < 4 = 5$; rostrum extending upto the second abdominal segment. *Pronotum* : broader than long, deeply and blackly punctate, anterior margin concave ; anterior angles prominent ; lateral angles subprominent, obtuse. *Scutellum* : as long as wide at the base ; apex rounded ; a large spot at each basal angle and apex stramineous, impunctate ; disc sparingly punctate, lateral margins thickly punctate. *Corium* reddish brown, thickly and deeply punctate ; frena extends beyond the middle of scutellum ; a concolourous spot at distal

end impunctate. Connexivum ochraceous, finely punctate; apices of incisures piceous. Membrane hyaline.

Body above dark brown, finely and sparingly punctate; body beneath ochraceous; mesosternum carinate. Legs ochraceous with brown spots.

Length : ♂, 7.5 mm.

Distribution : N. W. Himalaya, Bombay, Bangalore.

***Placosternum taurus* (Fabr.)**

Cimex taurus Fabricius, 1781, *Spec. Ins.* 2 : 344.

Material examined : 1 ♂, 4. v. 1980. Silent Valley.

General Colour : Ochraceous.

Head : longer than wide at base; apex broad, rounded; juga longer than tylus separate at their apices; deeply and blackly punctate; ocelli very close to the eyes; antenna ochraceous, apical half of third, fourth and fifth segments piceous; first segment not reaching the apex of head; antennal formula : $1 < 2 < 3 < 4 = 5$; rostrum passing anterior coxae; *Pronotum* : broader than long; anterior margin concave, anterior angles acute; lateral margins serrate; postero-lateral angles prominently produced, bisinuate; darkly and deeply punctate, punctures confluent and form two irregular black patches on the disc. *Scutellum* slightly longer than wide at base, apex rounded; darkly and deeply punctate. *Corium* finely and darkly punctate; frena extending the middle of scutellum. Connexivum exposed; darkly punctate. Membrane light brown.

Length : ♂, 25 mm.

Distribution : Sikkim, Khasi Hills, Cochin, Iddikki (Kerala) Burma, Siam.

***Nezara viridula* (Linn.)**

Cimex viridula Linne, 1758, *Asst. Nat. ed.* 10, p. 444.

Material examined : 3 ♂, 7 ♀, 10. xii. 1980. Silent Valley.

General Colour : Apple green, three small spots at the base of scutellum stramineous (in two specimens anterior two thirds of head and anterior one third of pronotum, stramineous).

Head : slightly longer than wide between eyes ; lobes of equal length ; thickly punctate ; lateral margins dark brown, first three antennal segments green ; fourth and fifth segments ochraceous ; antennal formula : $1 < 2 = 3 \leq 4 = 5$; eyes large, dark brown, ocelli red, near to the eyes than to each other ; rostrum extending to third abdominal segment.

Pronotum : twice as wide as long ; thickly punctate ; anterior margin concave, anterior angles acute ; lateral margins dark brown ; posteriolateral angles rounded ; posterior margin straight.

Scutellum : slightly longer than wide at base ; tapering towards the apex ; finely and thickly punctate ; three spots at base, yellow ; a small spot at each basal angle piceous. Corium finely and thickly punctate, frena extending beyond the middle of scutellum, apices of incisures piceous, membrane hyaline.

Body beneath pale green, convex ; a median longitudinal line stramineous ; very finely punctate ; legs green ; abdominal spine obtuse.

Length : ♂ 15 mm.

Distribution : throughout India, Burma, Sri Lanka, Pakistan, Neartic, Palearctic Ethiopian Neotropical and Australian region.

***Spermatodes variolosa* (Walk.) Bergrowth**

Caemina variolosa, Walker, 1867, *Cat. Het.*, 1 : 82.

Material examined : 3 ♂, 2 ♀, 21. i. 1980. Silent Valley

General Colour : head except the apex, anterior margin of pronotum, a central basal spot on scutellum, body beneath and coxae piceous ; a spot before the eye, two discal spots and three basal spots on pronotum, antennae, legs and spots around spiracular openings, ochraceous ; eyes dark brown.

Head : longer than wide between eyes ; lobes of equal length ; deeply and darkly punctate ; lateral margins sinuate before the eyes ;

apex rounded, impunctate; eyes prominent, extending beyond the anterior margin of pronotum; first segment of antenna not reaching the apex of head; antennal formula: $1 < 2 < 3 < 4 < 5$. *Pronotum*: three times as wide as long; anterior margin concave, reflexed; lateral angles subprominent; deeply punctate. *Scutellum*: large, extending to the apex of abdomen; deeply punctate.

Body beneath piceous, thickly punctate, lateral margins and a series of segmental spots near the lateral margins luteous.

Length: ♂, 4 mm.

Distribution: Tenmala, Wynad (Kerala), Madras, Shencottah, Pudukotta (Tamil Nadu)

Host Plant: *Mitracarpum scaber* Z. (Rubiaceae)

***Menida formosa* (Westw.)**

Pentatoma formosa Westwood, 1837, *Hope Cat.* 1: 34.

Material examined: 2♂, 5. xii. 1980.

General Colour: dark brown with yellow markings.

Head: as long as wide between eyes; three apical longitudinal lines, two basal longitudinal lines, a large spot before the eye and lateral margins, brassy yellow; sinuate before the eyes; lobes of equal length, apex rounded, eyes dark brown, prominent; ocelli pink, near to the eyes; first three antennal segments ochraceous, fourth and fifth segments fuscous; antennal formula: $1 < 2 < 3 < 4 = 5$. *Pronotum*: castaneous, deeply punctate; thrice as wide as long; anterior margin concave, reflexed; two small spots at the anterior margin, a curved horizontal fascia on the disc, an irregular spot below the posteriolateral angle, anterior and lateral margins stramineous. *Scutellum*: as long as wide at base; a large spot at the basal angle, a small central spot at the base, a large anchorshaped apical spot stramineous, impunctate; rest deeply punctate. *Corium* castaneous, deeply punctate. *Connexivum* exposed, alternately dark brown and stramineous; finely punctate. Body beneath ochraceous, margins punctate; legs ochraceous; rostrum reaching the posterior coxae.

Length : ♂, 7 mm.

Distribution : Sikkim, Bombay, Burma, Malaya.

Eysarcoris montivagus Distant,

Brit. India, Rhynchota 1 : 166.

Material examined : 1 ♂, 10. xii. 1980. Silent Valley.

General Colour : Luteous.

Head : dark brown ; longer than wide between eyes ; lobes of equal length ; lateral margins sinuate before the eyes ; eyes large, dark brown, ocelli nearer to the eyes than to each other, antennae ochraceous ; first segment of antenna short, not reaching the apex of head ; antennal formula : $1 < 2 = 3 < 4 = 5$. *Pronotum* : much wider than long : anterior margin concave, anterior angles acute ; posteriolateral angles bluntly produced. *Scutellum* : dark brown ; as long as wide at base, tapering towards, the apex ; a large spot at each basal angle and apical margins luteous. Corium deeply and thickly punctate. Connexivum not exposed. Membrane hyaline.

Abdomen beneath with a central angulate fascia piceous ; rostrum reaching the posterior coxae.

Length : ♂, 6 mm.

Distribution : Assam, Garo Hills, Naga Hills, Mullaperiyar, Madras.

Subfamily : ASOPINAE

Cazira verrucosa (West)

Pentatoma verrucosa Westwood, 1835, *Zool. Jour.* 5 : 445.

Material examined : 1 ♂, 1 ♀, 26. iv. 1980, Silent Valley.

General Colour : Ochraceous.

Head : longer than wide between the eyes ; lobes of equal length, sinuate before the eyes ; sparingly punctate ; apex rounded ; lateral margins before the eyes, a spot around the ocellus, piceous ; first segment of antenna very short, not reaching the apex of head ; antennal formula ; $1 < 2 = 3 = 4 < 5$; eyes prominent. *Pronotum* :

twice as wide as long ; narrow anteriorly, deeply and densely punctate, anterior margin concave, anterior angles acute ; lateral margins curved and finely serrate ; posteriolateral angles spinously produced, bifid ; posterior margin straight ; *Scutellum* : as long as wide at base ; two small tubercles at the base impunctate ; posterior half of scutellum dark brown, deeply punctate ; posterior half narrow, ochraceous, deeply depressed ; apex rounded, notched, margins strongly raised. *Corium* : lateral margins deeply and sparingly punctate, rest finely punctate ; two large discal spots piceous. *Connexivum* smooth, membrane pale brown, extending beyond the posterior extremity of abdomen.

Abdomen beneath piceous, deeply punctate ; lateral margins and apex ochraceous ; 4th abdominal segment in male depressed ; abdominal spine reaching posterior coxae ; legs ochraceous, anterior legs with two yellow spots and with a pair of spines one long and acute and the other short and obtuse ; intermediate and posterior femora each with a spine and annulated with yellow ; rostrum just passing intermediate coxae.

Length : ♀ , 9 mm.

Distribution : Sikkim, Assam, Khasi Hills, Naga Hills, Calcutta. The bug is found feeding on the beetle *Aulacophora* sp.

Subfamily CORIDINAE

Coridius singhalanus Distant. 1900, *A.M.N.H.* (7) 6 : 222.

Material examined : 5 ♂ , 2 ♀ , 16. 1. 1980, Silent Valley.

General Colour : Ochraceous.

Head as long as wide between eyes ; juga longer than tylus, cleft between their apices ; lateral margins sinuate before the eyes ; densely punctate ; eyes prominent ; ocelli pink ; antennae piceous, fifth segment ochraceous, first segment incrassate, short, extending upto the apex of the head ; antennal formula : $1 < 2 = 3 < 4 < 5$. *Pronotum* : much wider than long, densely punctate ; posteriolateral angles not prominent. *Scutellum* : as long as wide at base, apex rounded ; membrane brown. *Connexivum* exposed, deeply punctate ; segmental angles acute. Body beneath ochraceous, finely punctate ;

spiracles piceous ; mesosternum sulcate ; metasternum carinate. Hind tibiae of female each with an oval-shaped tympanum.

Length ♂, 18 mm.

Distribution : Sri Lanka (reported for the first time from India).

Subfamily : TESSARATOMINAE

Dalcantha dilatata Amyot & Serville, 1843, Hem. 171 ; Distant. 1900, *A.M.N.H.*, (7) 6 : 61.

Material examined : 1 ♀, 4. xii. 1980. Silent Valley.

General Colour fuscous with a tinge of olive green.

Head : short, as long as wide between eyes, juga broad, longer than tylus, meeting at the apex ; anterior angles round ; lateral margins sinuate ; eyes prominent ; ocelli near to the eyes ; antennae piceous ; first segment of antenna extending beyond the apex of head ; second segment longer than third, rest mutilated. *Pronotum* : twice as wide as long, finely punctate ; anterior angles round ; posteriolateral angles broadly and subtruncately produced upwards ; lateral margins serrate. *Scutellum* : wider than long ; strongly concave, ochraceous, finely punctate ; apex narrow, rounded ; *Corium* : distal end extending beyond the apex of scutellum ; anterior lateral margin ochraceous, finely punctate. Membrane brown, extending beyond the posterior extremity of abdomen, connexivum exposed, segmental angles rounded.

Body beneath : aspersus ; spiracles piceous ; legs fuscotestaceous.

Length : ♀, 29 mm.

Distribution : North India, Cachar.

Subfamily : PHYLLOCEPHALINAE

Genus *Gellia* Stal 1864, *Hem. Afr.* 1 : 243.

Type : *G. albivittis* Germ. African species.

Head : large, dilated ; lateral lobe longer than central lobe ; lateral margins incised and amplified before the eyes ; apex rounded, lateral lobes not widely separated ; posterior margin of pronotum not broader than base of scutellum ; anterior angles of pronotum laminately produced.

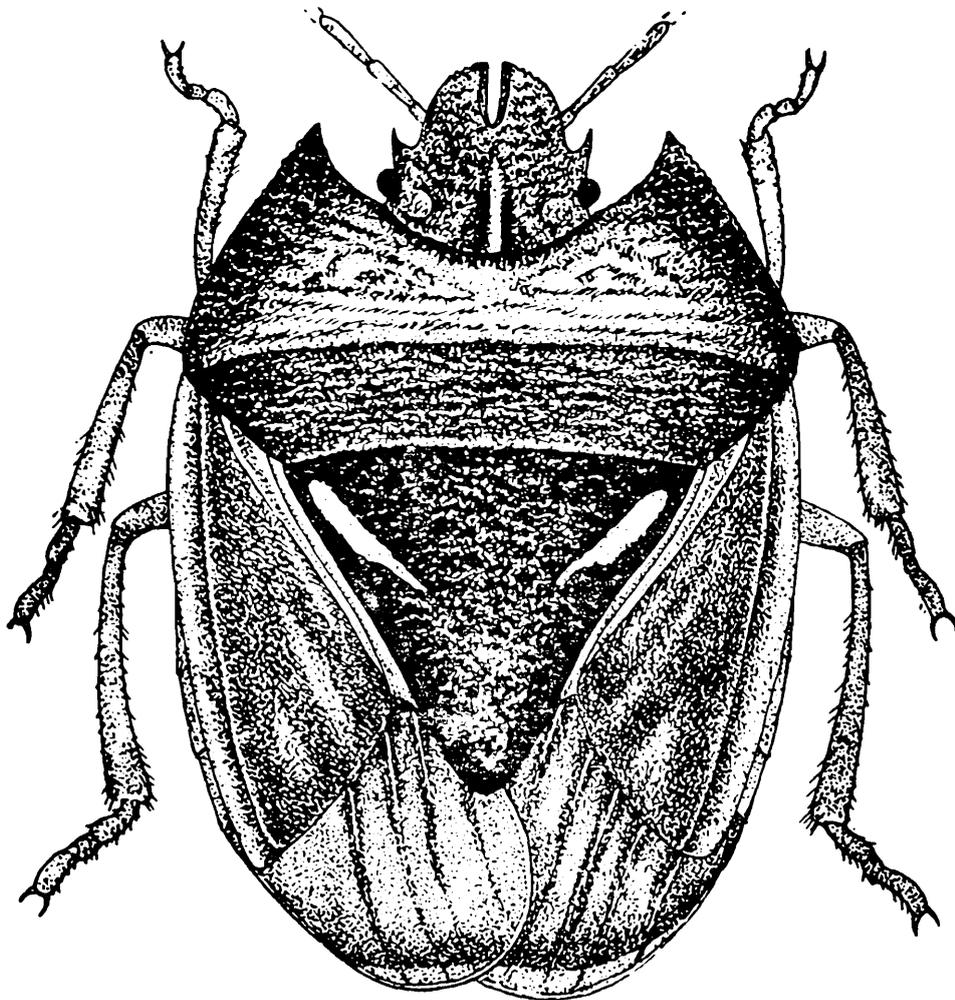
Distribution Ethiopian and Oriental Region.

***Gellia kuntiae* (Sp.n.)**

(Figs. 1—3)

General shape of the body oval, ochraceous, 1.75 times as long as wide ; densely punctate.

Head : as long as wide. between eyes ; jugae surpassing tylus, separate at apices ; margins of tylus blackly punctate ; lateral margins of head, incised in front of the eyes, (Fig. 2B) anteriolateral margins serrate ; a mid-dorsal line pale ochraceous ; first segment of antenna not reaching the apex of head, ochraceous ; first, second and third



0.3mm

Fig-1

Fig. 1. *Gellia kuntiae* Sp. nov., female, Holotype

segments subequal, (Fig. 3B) rest mutilated; eyes small, ocelli near to the eyes than to each other. *Pronotum*: maximum width of pronotum almost twice its median length; anteriorly declivent, central disc, arched; anterior half thickly punctate with brown punctures and posterior half with black punctures; anterior angles laminately produced forwardly into acute processes; lateral margins serrate, lateral angles rounded. *Scutellum*: triangular, slightly longer than wide at base; apex rounded; darkly and thickly punctate; two large linear spot at the base stramineous, impunctate. *Corium*: reddish ochraceous, finely punctate; frena extending beyond the middle of scutellum; membrane hyaline; extending slightly beyond the posterior extrimity of abdomen; veins dark brown. *Connexivum* ochraceous, margins exposed, ventral surface of the body and legs ochraceous; rostrum dark brown, just passing anterior coxae;

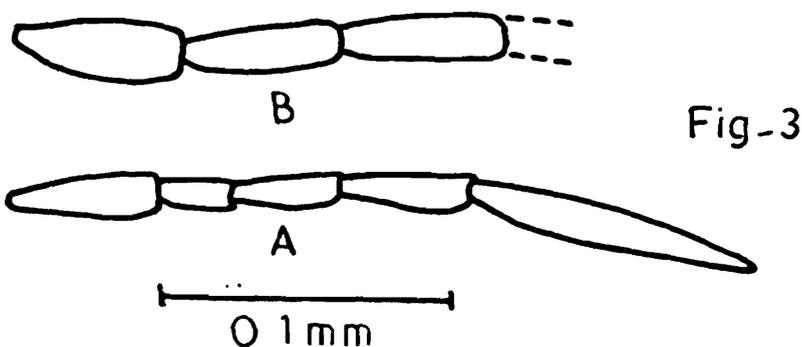
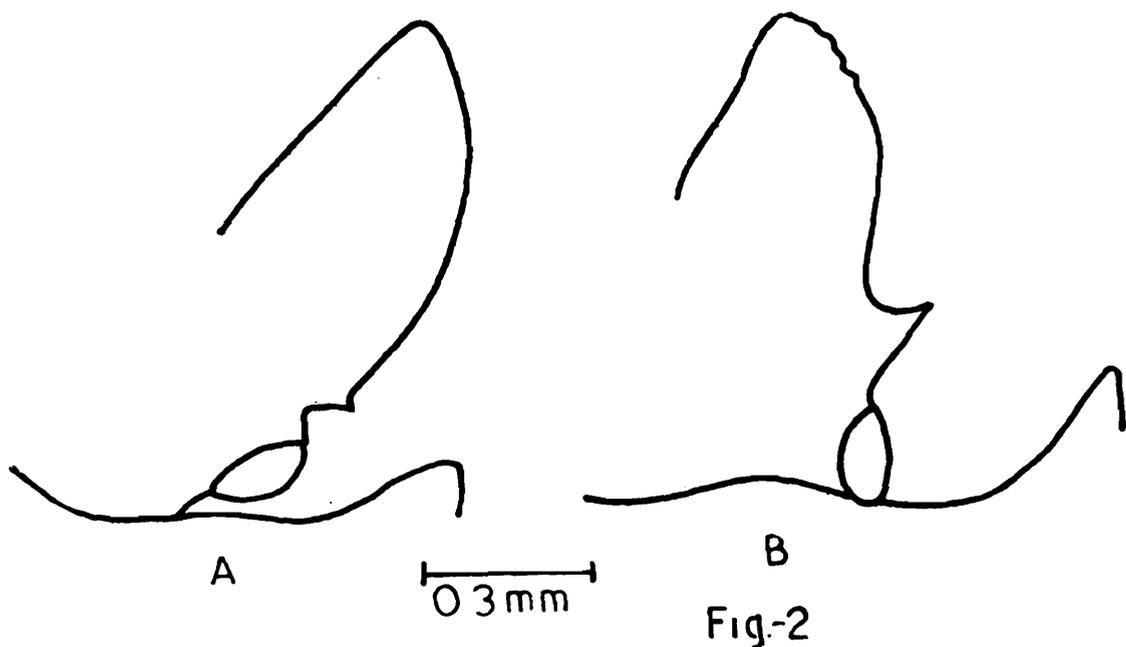


Fig. 2. A. *Gellia nigripennis*, dorsal view of right jugum. B. *Gellia kuntiae* Sp. nov., dorsal view of right jugum.

Fig. 3. A. *Gellia nigripennis*, antenna; B. *Gellia kuntiae* Sp. nov. antenna.

metasternum carinate ; each spiracular opening bordered by a stramineous spot ; abdomen unarmed at base. Holotype ♀, India, Kerala, Silently Valley, 15. 1. 1980, K. R. Rao, Zoological Survey of India, Southern Regional Station, Madras.

The new species can be separated from *G. nigripennis* Dall., the only other species known from India, by the following characters :—

<i>Gellia kuntiae</i> (Sp.n.)	<i>Gellia nigripennis</i> Dall
1. Anteriolateral margin of head serrate.	Anteriolateral margin of head not serrate.
2. Lateral margins of head before eyes deeply incised.	Lateral margins of head before eyes not deeply incised.
3. Lateral margins of pronotum serrate.	Lateral margins of pronotum not serrate.
4. First and second antennal segments subequal.	First antennal segment twice as long as second segment.
5. Scutellum with two linear stramineous spots at the base.	Scutellum without spots at base.

Length : ♂, 12 mm.

Distribution : Known only from the type locality in Kerala,

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