

NEW GENERA AND SPECIES OF OLD WORLD REDUVIIDAE
(HEMIPTERA-HETEROPTERA)

By

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In the present paper I have described and figured two new genera and eight new species, six of which belong to the subfamily Reduviinae and two to the subfamily Harpactorinae. Some of these are from a collection sent to me for study by Dr. A. P. Kapur of the Zoological Survey of India, Calcutta, and others from the collection of the British Museum (N.H.), London.

The types of *Raipurocoris indicus* gen. et sp. nov., *Empyrocoris kapuri* sp. nov., *Psophis brunneipes* sp. nov., and *Bergrothellus humilis* sp. nov., are in of the Zoological Survey of India, Calcutta, and the types of *Empyrocoris pelia* (Distant), *Empyrocoris annulatus* (Distant), *Empyrocoris arabicus* sp. nov., *Empyrocoris henryi* sp. nov., and *Empyrocoris salvazai* sp. nov., a paratype each of *Empyrocoris kapuri* sp. nov., *Raipurocoris indicus* gen. et sp. nov. and *Bergrothellus humilis* sp. nov., and the type and paratype of *Mastocoris dilatatus* gen. et sp. nov., are in the British Museum (N.H.), London.

I express my thanks to Dr. Kapur for the privilege of being able to study the collection of Reduviidae from the Zoological Survey of India.

Subfamily REDUVIINAE

Genus **Empyrocoris** Miller, 1953

The genus *Empyrocoris* was erected by me in 1953¹ for the species *horridus* from Anuradhapura, Ceylon. In 1954² I transferred to this genus *Edocla annulata* Distant³, and *Edocla pelia* Distant⁴.

With regard to *Edocla pelia* the distribution is given by Distant (*loc. cit.*) as Pegu, (type locality) and Aden. The specimen from Aden in the British Museum (N.H.) placed with *pelia* is not, however, conspecific. It is described and figured herein as a new species.

¹ Miller, N. C. E., *Comment. biol., Helsingf.* XII (17), pp. 12-14 (1953). The type of *horridus* is in the Museum of the University, Helsinki, Finland, and the paratype is in the British Museum (N.H.), London.

² Miller, N. C. E., *Ann. Mag. nat. Hist.* VII (12), p. 639 (1954).

³ Distant, W. L., *Ann. Mag. nat. Hist.* IV (9), p. 73 (1919).

⁴ Distant, W. L., *Fauna Brit. India, Rhyn.* II, p. 275 (1904).

Key to *Empyrocoris* species

- Preantennal elevations feeble, rounded in profile : 2.
 Preantennal elevations strong, triangular in profile 3.
2. Antennae black with basal segment pale testaceous basally
 Antennae testaceous *henryi*, sp. nov.
arabicus, sp. nov.
3. Posterior lobe of pronotum with a narrow depression medially anteriorly 4.
 Posterior lobe of pronotum without a depression. 5.
4. Posterior lobe of pronotum moderately strongly rugose ; lateral angles of collar bluntly conical . *salvazai*, sp. nov.
 Posterior lobe of pronotum feebly rugose ; lateral angles of collar acutely conical 6.
5. Posterior lobe of pronotum obscurely rugose, distinctly punctate ; lateral angles of collar conical : *annulatus* (Distant)
 Posterior lobe of pronotum moderately distinctly rugose, less distinctly punctate ; lateral angles of collar sub-rectangular . *pelia* (Distant)
6. Humeral spines thick, curved backwards somewhat . *kapuri*, sp. nov.
 Humeral spines thick, straight. . *horridus* Miller

***Empyrocoris annulatus* (Distant)**

(Text-fig. 1)

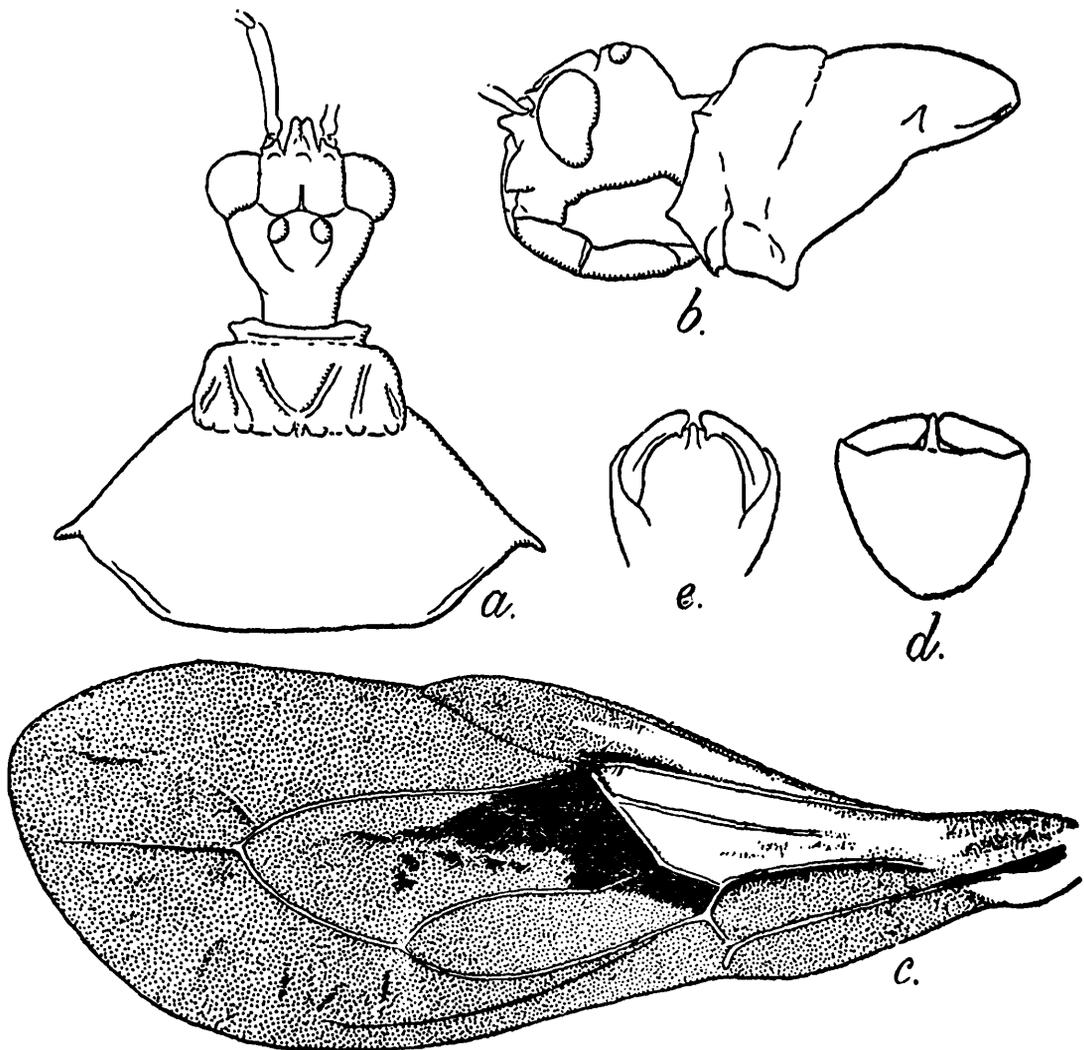
Colour.—Antennae, dorsal surface of head, testaceous. Head laterally and ventrally, rostrum, brown ; interocellar area black. Pronotum pale testaceous ; lateral angles of collar, a large spot on anterior lobe anteriorly, transverse sulcus and a transverse stripe basally on posterior lobe, brown ; acetabula, propleural epimeron, except upper area, pale testaceous ; propleural episternum, upper area of epimeron, meso- and metapleura, brown. Scutellum dark brown ; spine pale testaceous. Abdomen pale testaceous ; connexival segments 2-4 with a small spot basally, segments 5-7 with a large spot basally, segments 6 and 7 ventrolaterally with a suffused spot, dark brown or piceous. Hemelytra with infumate and fuscous pattern as in text-fig. 1. Legs pale testaceous anterior and median tibiae with a sub-basal, median and apical annulation, posterior tibiae with 2 annulations in basal half and a wide apical annulation, anterior and median femora with a wide basal and 2 more or less interrupted annulations in apical half, posterior femora with more or less half basally, wide annulation apically and a suffused spot sub-apically dark brown ; coxae and trochanters piceous. Setae pale fulvous.

Structure.—Median sulcus on vertex and transverse sulcus deep narrow ; vertex with a feeble, rounded elevation anteriorly ; ocelli moderately large ; interspace somewhat wider than an ocellus. Posterior lobe of pronotum punctate and with obscure transverse sulci ; humeral spines short, thick, curved upwards somewhat ; disc of scutellum with a deep oval depression ; apical spine acute, slender. Prosternum feebly conically produced. *Fossula spongiosa* on anterior tibiae a little more than one-third as long, on median tibiae a little less than one-third as long as tibia.

Measurements.—Total length ♂ 8.80 mm, ♀ 7.50 mm ; Hemelytra ♂ 6.50 mm, ♀ 2.00 mm ; Greatest pronotal width (including spines) ♂ 3.20 mm, ♀ 2.80 mm.

In the female which is brachypterous, the hemelytra extend almost to the apex of the 3rd abdominal segment. It differs in colouration from the male in having the connexival segments 4-7 piceous, except a testaceous spot at external apical angle.

Specimens examined.—1 ♂, (holotype), 8 ♂♂, 1 ♀, S. India, Nandidrug. T.V Campbell. (B.M. 1930-599.)



TEXT-FIG. 1.—*Empyrocoris annulatus* (Distant).

a. Head and pronotum (dorsal view); b. Head and pronotum (lateral view); c. Hemelytron; d. Pygophore (terminal view); e. Pygophore (dorsal view).

Empyrocoris pelia (Distant)

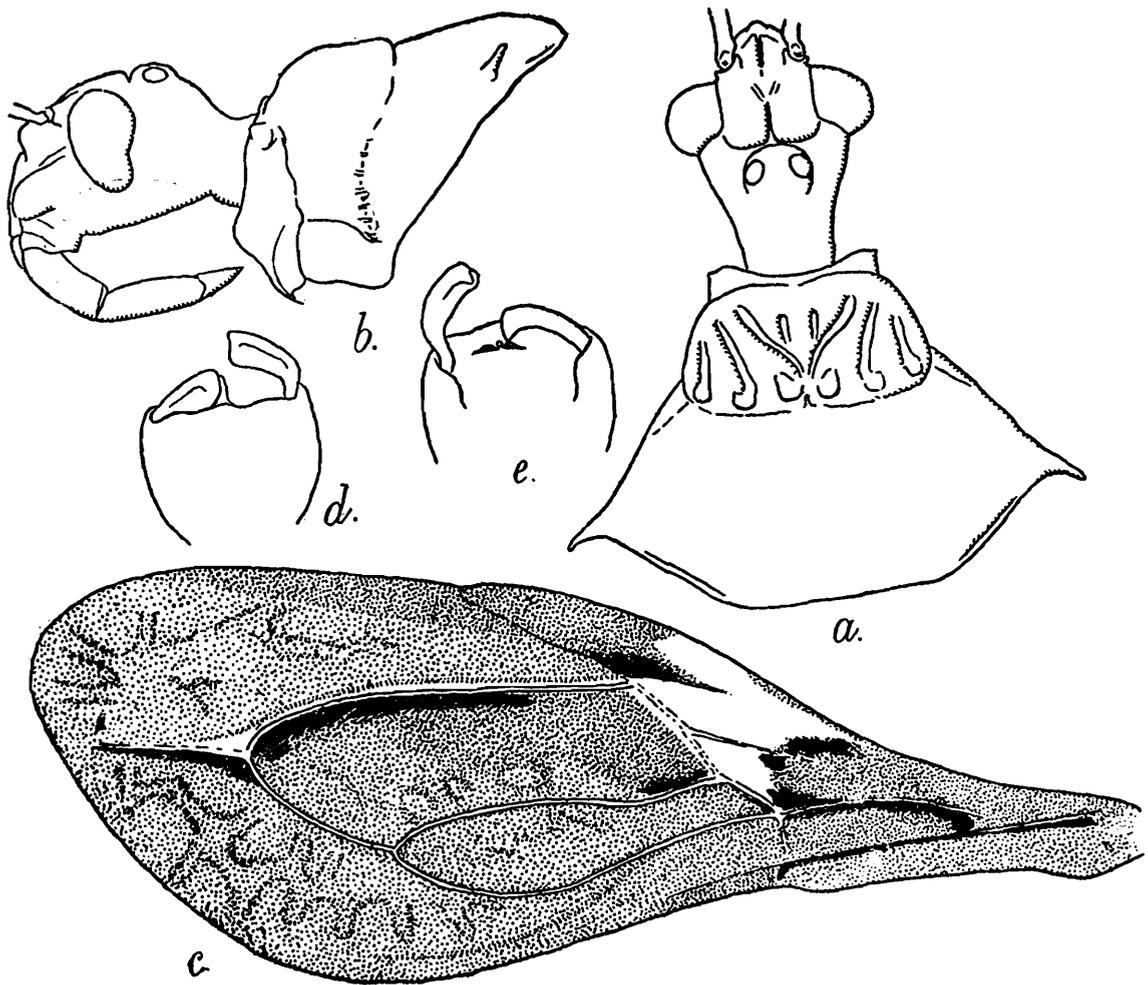
(Text-fig. 2)

Colour.—Antennae pale testaceous. Head, rostrum, anterior lobe of pronotum, propleura, except epimeron, meso and metapleura and sterna, piceous; collar, except lateral angles, elevated areas of anterior pronotal lobe, laterally, posterior lobe, propleural epimeron, anterior acetabula, testaceous; acetabula of meso and metapleura, brown; scutellum piceous; apical spine brown. Hemelytra as in text-fig. 2. Abdomen dark brown ventrally suffused with piceous ventro-laterally; connexival segments testaceous with a quadrate black spot in basal half. Legs pale testaceous; anterior and median tibiae with a basal, median and apical annulation; posterior tibiae narrowly basally and broadly apically, brown; femora broadly basally and narrowly apically and with interrupted narrow stripes, brown; coxae and trochanters piceous.

Structure.—Median sulcus on vertex basally and transverse sulcus very deep; vertex medially with two moderately wide, diagonal depressions; ocelli moderately large; interspace about twice as wide as an ocellus. Posterior lobe of pronotum with somewhat obscure, irregular, transverse sulci; humeral spines feebly curved, moderately thick; median sulcus between lobes deep. *Fossula spongiosa* on anterior and median tibiae a little more than one-third as long as tibia.

Measurements.—Total length 9.50 mm; Hemelytra 8.00 mm; Greatest pronotal width (including spines) 3.00 mm.

Specimen examined.—1 ♂, (holotype), Burma, Pegu. (Distant coll. B.M.. 1911-383).



TEXT-FIG. 2.—*Empyrocoris pelia* (Distant).

a. Head and pronotum (dorsal view); b Head and pronotum (lateral view); c. Hemelytron; d. Pygophore (terminal view); e. Pygophore (dorsal view).

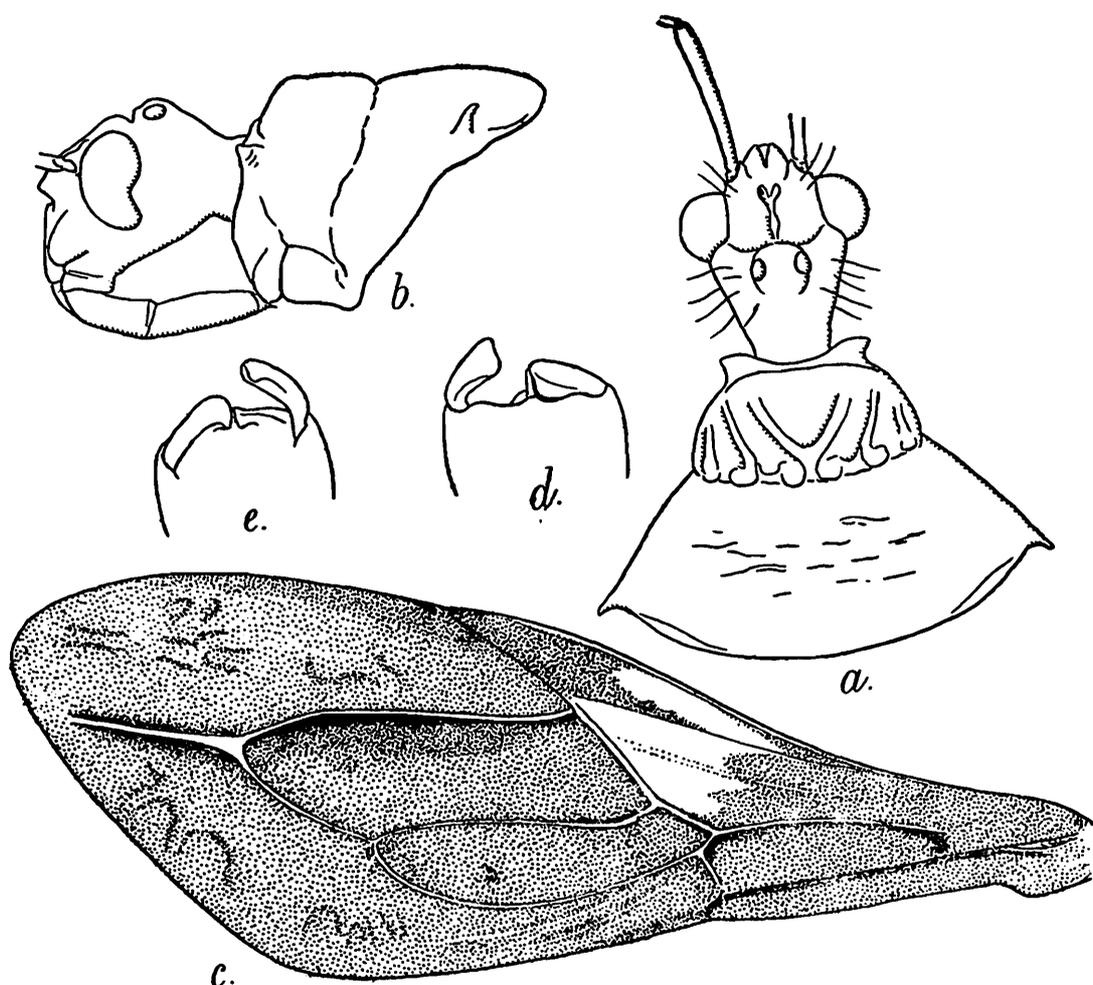
***Empyrocoris arabicus*, sp. nov.**

(Text-fig. 3).

Colour.—Antennae pale testaceous. Head piceous with tylus, a spot on each side of postocular and at base of postocular, pale testaceous. Anterior lobe of pronotum, except collar, and elevated areas, greater part of propleural episternum, meso- and metapleura and sterna, piceous; anterior acetabula, propleural epimeron, testaceous; meso- and metapleural acetabula brown; posterior lobe of pronotum pale testaceous with transverse brown suffusion basally; scutellum piceous; spine testaceous. Hemelytra with fuscous pattern as in text-fig. 3. Abdomen

brown, mid-ventrally suffused with yellow; connexivum pale yellow with a piceous spot basally on each segment. Anterior and median tibiae with a basal, median and apical annulation, posterior tibiae with two annulations in basal half and an apical annulation, anterior and median femora with a little less than half basally and narrowly apically, posterior femora with basal half and apex broadly, dark brown; coxae and trochanters dark brown. Setae pale fulvous.

Structure.—Median sulcus on vertex basally and transverse sulcus deep; vertex medially with two narrow, shallow, diagonal depressions; ocelli moderately large; interspace a little wider than an ocellus. Lateral



TEXT-FIG. 3.—*Empyrocoris arabicus*, sp. nov.

a. Head and pronotum (dorsal view); b. Head and pronotum (lateral view); c. Hemelytron; d. Pygophore (terminal view); e. Pygophore (dorsal view).

angles of collar more or less rectangular; posterior lobe of pronotum with obscure, irregular transverse sulci; humeral spines curved upwards and backwards. Scutellar spine sub-acute and with feeble annular constrictions. *Fossula spongiosa* on anterior and median tibiae a little more than one-third as long as tibia.

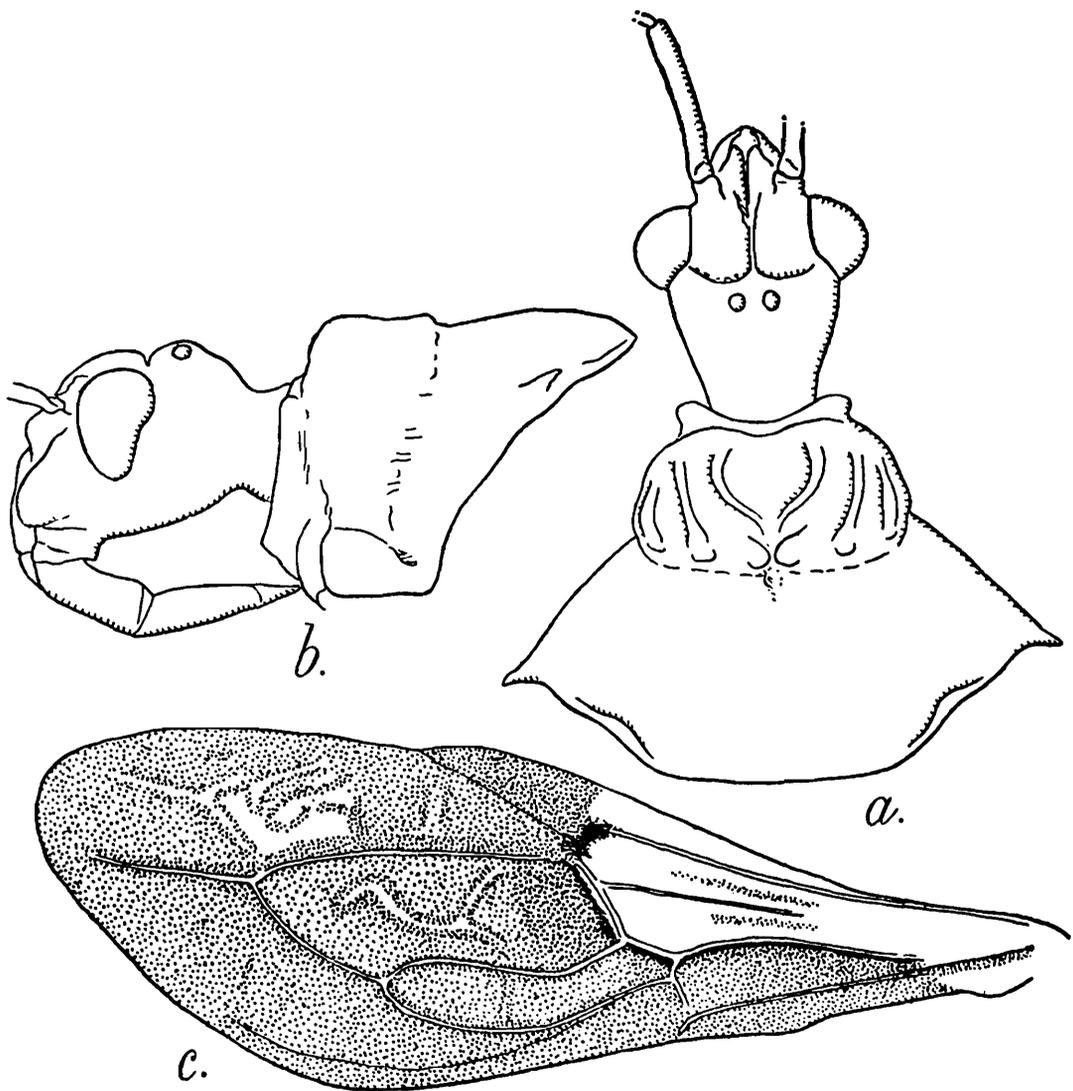
Measurements.—Total length 10.00 mm; Hemelytra 7.50 mm; Greatest pronotal width (including spines) 3.50 mm.

Specimen examined.—1 ♂, (holotype), Aden, Yerbury. (Distant coll. B.M. 1911-383).

Empyrocoris henryi¹, sp. nov.

(Text-fig. 4)

Colour.—Antennae black; basal segment narrowly pale testaceous basally. Head black with vertex basally and laterally, postocular except inter-ocular area, pale testaceous; interocular area with a median, pale, testaceous stripe; segments 1 and 2 of rostrum piceous; segment 3 light brown. Pronotum testaceous; lateral angles of collar, a spot on anterior lobe of pronotum anteriorly, a transverse stripe on posterior lobe basally, median depression on posterior lobe, a spot sub-dorsally basally on anterior lobe, piceous. Pleura piceous; propleural acetabula, a faint spot on propleural epimeron, testaceous. Abdomen black; connexival segments 2 and 3 pale yellow; segment 3 with a small piceous spot at external basal angle, segments 4 and 5 with basal half,

TEXT-FIG. 4.—*Empyrocoris henryi*, sp. nov.

a. Head and pronotum (dorsal view); b. Head and pronotum (lateral view); c. Hemelytron.

segments 6 and 7 with more than half basally, black; segments 3-5 mid-ventrally with a yellow spot. Hemelytra as in text-fig. 4. Legs pale yellowish; anterior and median tibiae with a basal, median and apical annulation, posterior tibiae with 2 wide annulations in basal half and a wide apical annulation, piceous; anterior and median femora black

¹ Dedicated to G. M. Henry, formerly Curator of the Colombo Museum.

with a spot sub-apically and an annulation in apical half, pale yellowish ; posterior femora piceous with a sub-apical pale yellowish annulation ; coxae and trochanters piceous.

Structure.—Preantennal elevations feebly prominent, feebly divergent apically ; median sulcus on vertex deep, wider and shallower anteriorly ; ocelli small ; interspace sub-equal in width to an ocellus. Posterior lobe of pronotum rugose, the rugosities more or less transverse medially ; humeral spines thick. Scutellar spine thick, sub-acute apically. *Fossula spongiosa* on anterior and median tibiae nearly half as long as tibia.

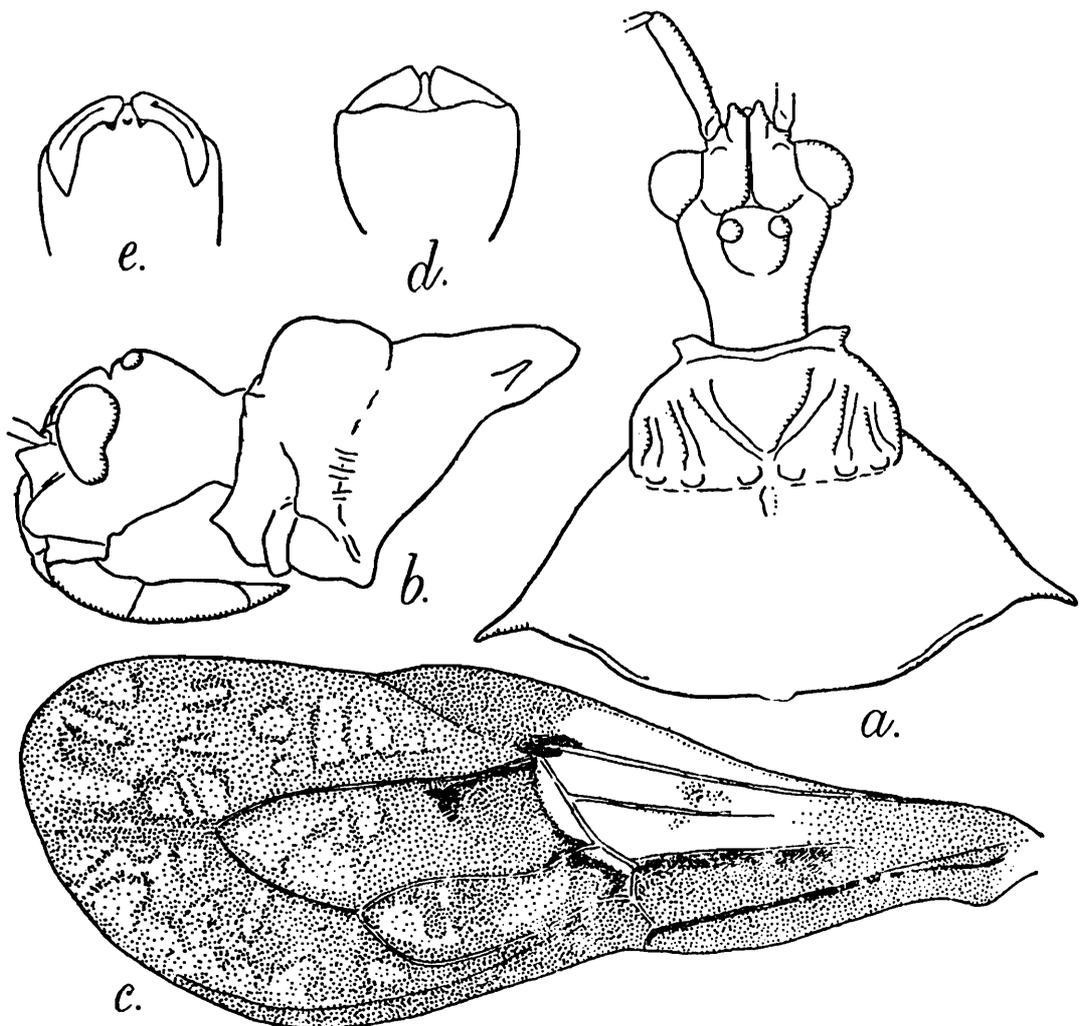
Measurements.—Total length 9.00 mm ; Hemelytra 5.50 mm ; Greatest pronotal width (including spines) 3.00 mm.

Specimen examined.—1 ♀, (holotype), S. India, Top Slip Camp, Nelliampathi Hills, 26. IV. 1937. (British Museum-Colombo Museum Exped. to S. India, April-May 1937.)

***Empyrocoris kapuri*¹, sp. nov.**

(Text-fig. 5)

Colour.—Testaceous. Head laterally, rostrum, brown. Pleura piceous except propleural epimeron, acetabula, a spot on mesopleura posteriorly testaceous. Posterior pronotal lobe with a transverse brown stripe



TEXT-FIG. 5.—*Empyrocoris kapuri*, sp. nov.

a. Head and pronotum (dorsal view) ; b. Head and pronotum (lateral view) ; c. Hemelytron ; d. Pygophore (terminal view) ; e. Pygophore (dorsal view).

¹ Dedicated to Dr. A. P. Kapur, Zoological Survey of India, Calcutta.

basally. Anterior lobe of pronotum with lateral angles of collar and spot anteriorly brown. Scutellum piceous; spine brown. Hemelytra with fuscous pattern as in text-fig. 5. Abdomen ventrally suffused with brown; connexival segments 4-7 pale testaceous with a large piceous spot basally; segment 3 with a small piceous spot basally. Anterior and median tibiae with a sub-basal, median and apical annulation, posterior tibiae with an apical and 2 annulations in basal half, anterior and median femora broadly basally and with 2 interrupted annulations, posterior femora with a little less than half basally, apex moderately broadly piceous; coxae and trochanters brown.

Structure.—Preantennal elevations widely separated. Median sulcus on vertex and transverse sulcus moderately deep. Ocelli relatively small; interspace a little wider than an ocellus. Posterior lobe of pronotum obscurely rugose and with a moderately deep depression medially anteriorly; humeral spines moderately thick. *Fossula spongiosa* on anterior tibiae nearly half as long, on median tibiae a little more than one-third as long as tibia.

Measurements.—Total length 7.40 mm; Hemelytra 5.50 mm; Greatest pronotal width (including spines) 3.00 mm.

Specimens examined.—1 ♂, (holotype), 1 ♂, (para type) India, Barkuda Id., Chilka Lake, Ganjam Dist., Orissa. 3-19. VIII. 1919.

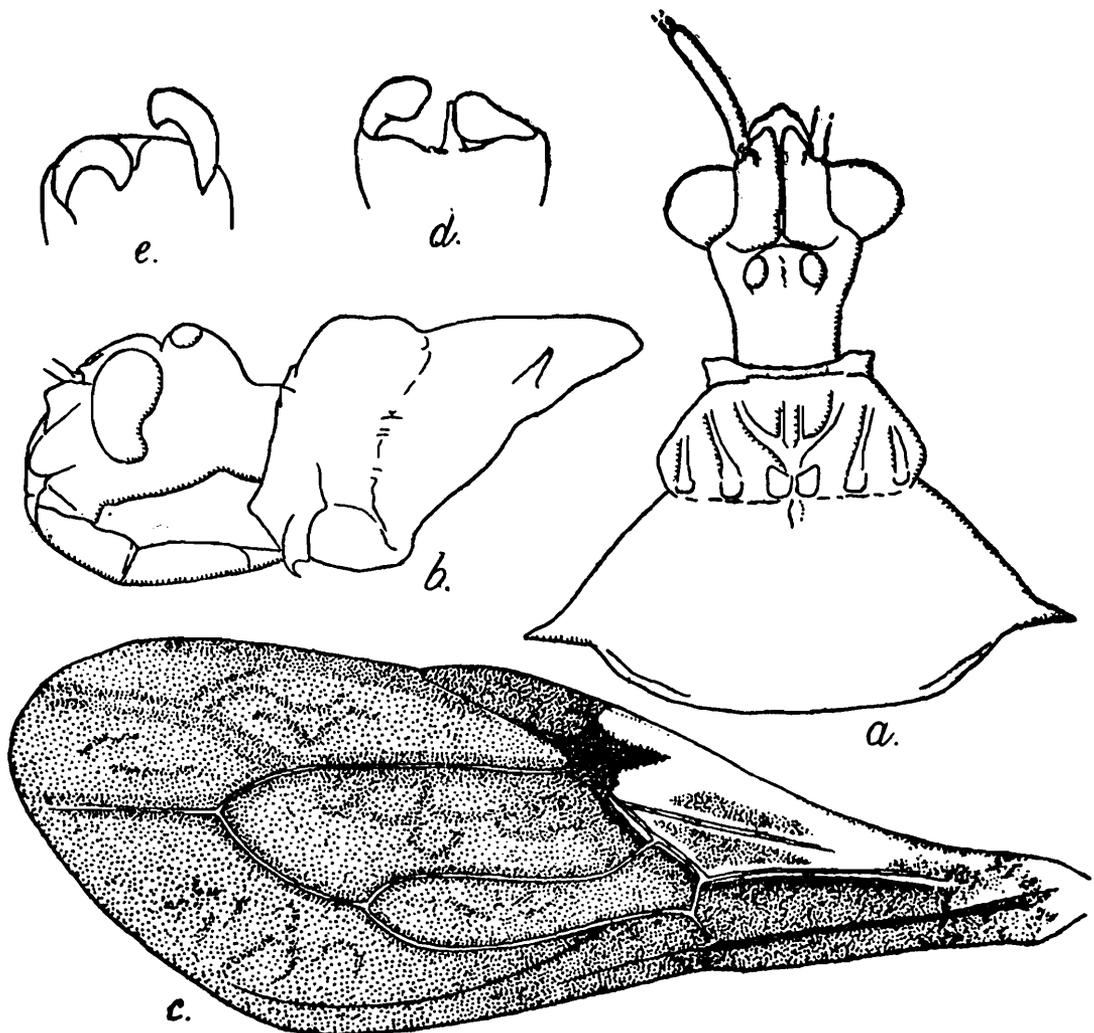
***Empyrocoris salvazai*, sp. nov.**

(Text-fig. 6)

Colour.—Antennae pale testaceous; segment 2 narrowly suffused with brown apically. Head and rostrum dark testaceous; postocular laterally piceous. Pronotum testaceous; lateral angles of collar black; pleura dark brown, except propleural epimeron posteriorly, testaceous. Scutellum dark brown, spine paler. Hemelytra with fuscous and infumate pattern as in text-fig. 6. Abdomen dark brown with testaceous suffusion mid-ventrally; connexivum pale testaceous; segments 4-7 with a piceous spot basally. Legs pale yellowish; anterior tibiae missing; median tibiae broadly apically and with a somewhat indefinite median annulation, posterior tibiae broadly apically and with a narrow suffusion basally, femora with a little less than half basally, posterior femora with apex, piceous; coxae and trochanters dark brown.

Structure.—Preantennal elevations feebly elevated and feebly divergent. Median sulcus on vertex in basal half and transverse sulcus deep; vertex with two shallow diagonal sulci anteriorly; ocelli large; interspace feebly sulcate, about one and a half times wider than an ocellus. Anterior margin of collar feebly concave; lateral margins of anterior pronotal lobe posteriorly rounded, sub-angulate; posterior lobe rugulose and with a median depression anteriorly; humeral spines thick, triangular sub-acute. Disc of scutellum rugose. *Fossula spongiosa* on median tibiae a little more than one-third as long as tibia.

Measurements.—Total length, 10.00 mm; Hemelytra 7.50 mm; Greatest pronotal width (including spines) 3.50 mm.



TEXT-FIG. 6.—*Empyrocoris salvazai*, sp. nov.

a. Head and pronotum (dorsal view); b. Head and pronotum (lateral view); c. Hemelytron; d. Pygophore (terminal view); e. Pygophore (dorsal view).

Specimen examined.—1♂, (holotype) Indo-China, Tonkin, Kampong Kedig, Juillet 1914. R.V de Salvaza. (B.M. 1917-98).

Raipurocoris, gen. nov.

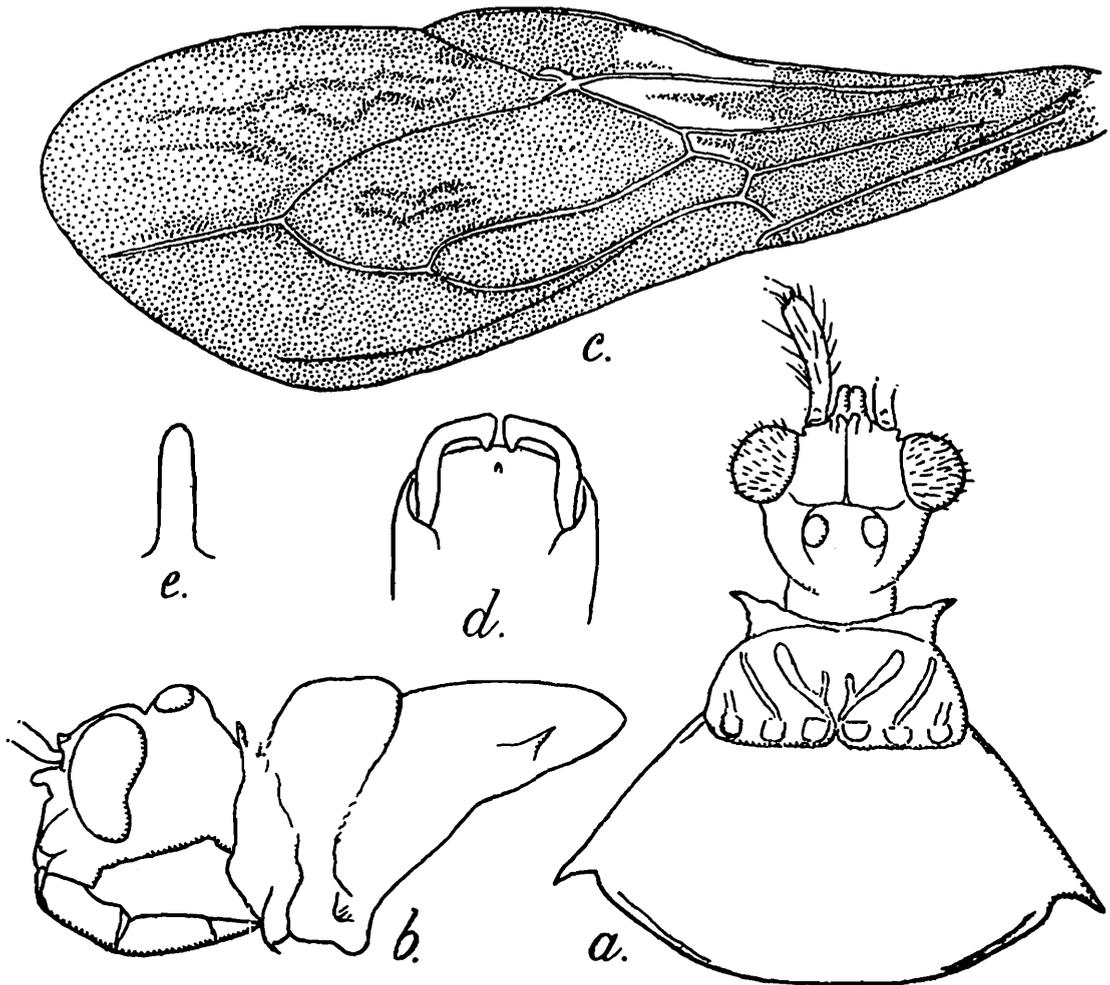
Size small. Basal segment of antennae longer than anteocular. Head with a bifurcate elevation between antennal tubercles and tubercles in front of antennal tubercles. Anteocular declivous, shorter than postocular; eyes prominent; vertex longitudinally sulcate. Segments 1 and 2 of rostrum sub-equal in length. Anterior and posterior pronotal lobes, pleura, granulose; lateral angles of collar and humeral angles produced; anterior lobe shorter than posterior lobe. Scutellum with an apical spine. Connexivum of segment 2 of abdomen with a spine at external apical angle; segments 3 and 4 with angle conically produced. Hemelytra extending beyond apex of abdomen. Anterior and median tibiae with a *fossula spongiosa*.

Type species: **Raipurocoris indicus**, gen. et sp. nov

(Text-fig. 7)

Colour.—Antennae, head and legs pale testaceous. Rostrum brown. Postocular laterally with a wide piceous stripe. Pronotum and pleura piceous; produced humeral angles testaceous. Scutellum piceous, spine somewhat paler than disc. Hemelytra as in text-fig. 7. Abdomen

brown; connexivum piceous with a small testaceous spot on each segment apically. Anterior femora and tibiae with a median, basal and apical annulation, posterior femora with a basal and 2 annulations in apical half, posterior tibiae with an apical annulation and 2 annulations in basal half, brown. Setae pale fulvous. Coxae and trochanters brown.



TEXT-FIG. 7.—*Raipurocoris indicus*, gen. et sp. nov.

a. Head and pronotum (dorsal view); b. Head and pronotum (lateral view); c. Hemelytron; d. Pygophore (dorsal view); e. Median apical process of pygophore.

Structure.—Basal segment of antennae moderately thick, feebly curved half as long as segment 2. Tubercles in front of antennae moderately long, contiguous. Ocelli large; interspace somewhat wider than an ocellus. Lateral spines on collar slender, acute, feebly curved; spines on humeral angles almost smooth. *Fossula spongiosa* on tibiae about one-fourth as long as tibia.

Measurements.—Total length 7.50 mm; Hemelytra 6.50 mm; Greatest pronotal width (including spines) 3.00 mm. Another specimen which I designate as a paratype has the abdomen missing. It appears to be a male and was collected at Sonder, Rhandaru, C.P., India on 8.XII. 1912 by A.D. Imms.

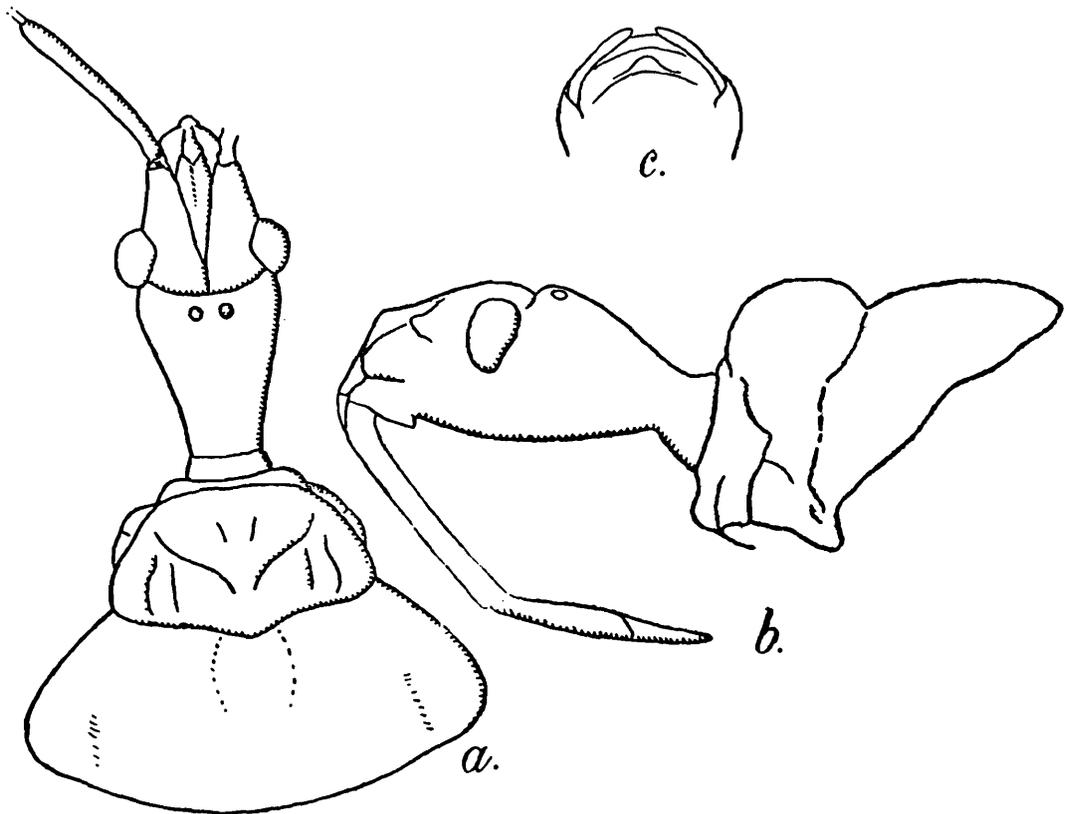
Specimen examined.—1 ♂, (holotype), Raipur, C.P., India, XII. 1939. H.S. Rao.

Remarks.—Allied to *Empyrocoris* Miller (*loc. cit.*) from which it differs in having the antecocular shorter than postocular, tubercles in front of and between antennal tubercles, segments 2-4 of connexivum and lateral angles of collar produced. It also differs in the sculpturation of the pronotum, which is granulose not smooth.

***Psophis brunneipes*, sp. nov.**

(Text-fig. 8)

Colour.—Coral red. Antennae, rostrum and legs piceous; coxae coral red. Clavus, except basal half, membrane, infumate. Setae on tibiae apically pale fulvous.



TEXT-FIG. 8.—*Psophis brunneipes*, sp. nov.

a. Head and Pronotum (dorsal view); b. Head and pronotum (lateral view); c. Pygophore (dorsal view).

Structure.—Sulci on anterior pronotal lobe somewhat shallow; median depression on posterior lobe shallow. Corium minutely, vermiculately rugose.

Measurements.—Total length 10.00 mm; Hemelytra 7.50 mm; Greatest pronotal width 2.50 mm.

Specimen examined.—1 ♂, (holotype), India, Kalimpong, Darjiling Dist., E. Himalayas, 600-4500 ft. 24. IV-10-V 1915. F. H. Gravely.

Remarks.—Differs from all other known species in having piceous legs. Allied to *Psophis consanguinea* Distant (1903). Differs in having relatively longer hemelytra, less globose postocular and the lateral angles of the collar not produced and rounded.

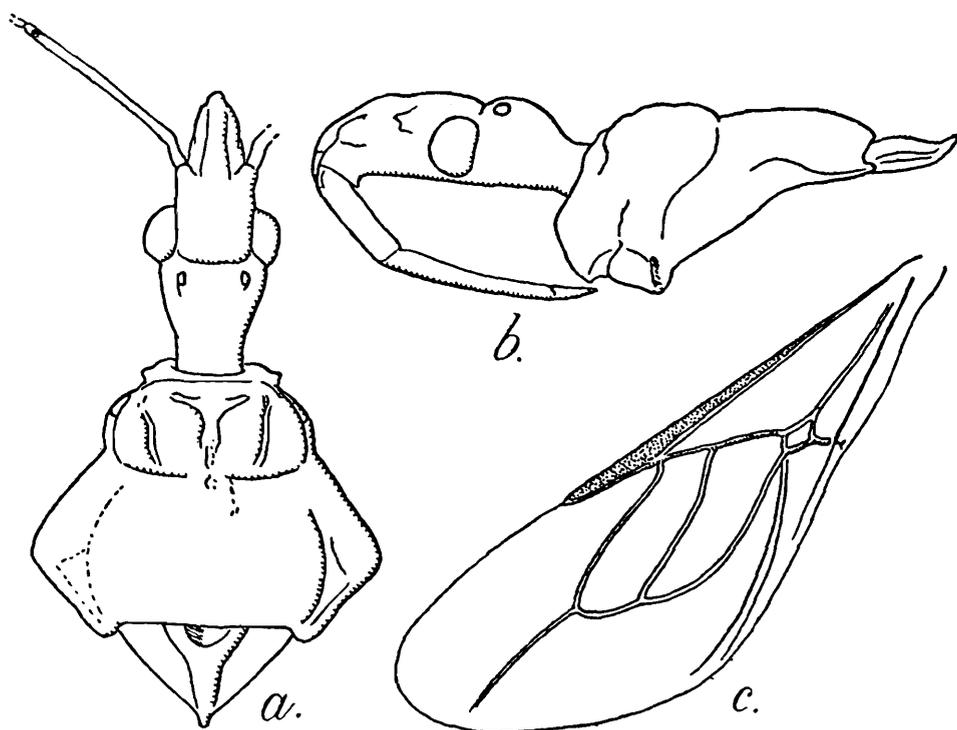
Subfamily *HARPACTORINAE*.***Bergrothellus humilis*, sp. nov.**

(Text-fig. 9)

Colour.—Brown. Greater part of corium, membrane, infumate; veins of membrane piceous; membrane also faintly cupreous. Setae very pale fulvous.

Measurements.—Total length ♂ 9.70 mm, ♀ 9.80 mm; Hemelytra ♂ 5.50 mm, ♀ 6.20 mm; Greatest pronotal width ♂ 3.20 mm, ♀ 3.20 mm.

Specimens examined.—1 ♂ (holotype), India, Chiplun, Vashisti Valley, Ratnagiri Dist., 300 ft. 3-5. V 1912. 1 ♀ (paratype), 3-5. V 1913, I.Z.S. lot No. 150, 1955. F.H. Graveley.



TEXT-FIG. 9.—*Bergrothellus humilis*, sp. nov.

a. Head, pronotum and scutellum (dorsal view); b. Head, pronotum and scutellum (lateral view); c. Hemelytron.

Remarks.—Allied to *Bergrothellus rufipes* Miller, (1953). Differs in colouration in having the antennae brown, no spot between ocelli, the pronotum entirely brown and the connexivum without spots.

The difference in the structure of the hemelytra in the sexes is interesting. In the female the corium is coriaceous except the clavus and area between claval suture and *Cu*, while in the male only the costal area is narrowly coriaceous. The connexivum of the female has a pale yellow spot on each segment apically and the tibiae are paler than the femora.

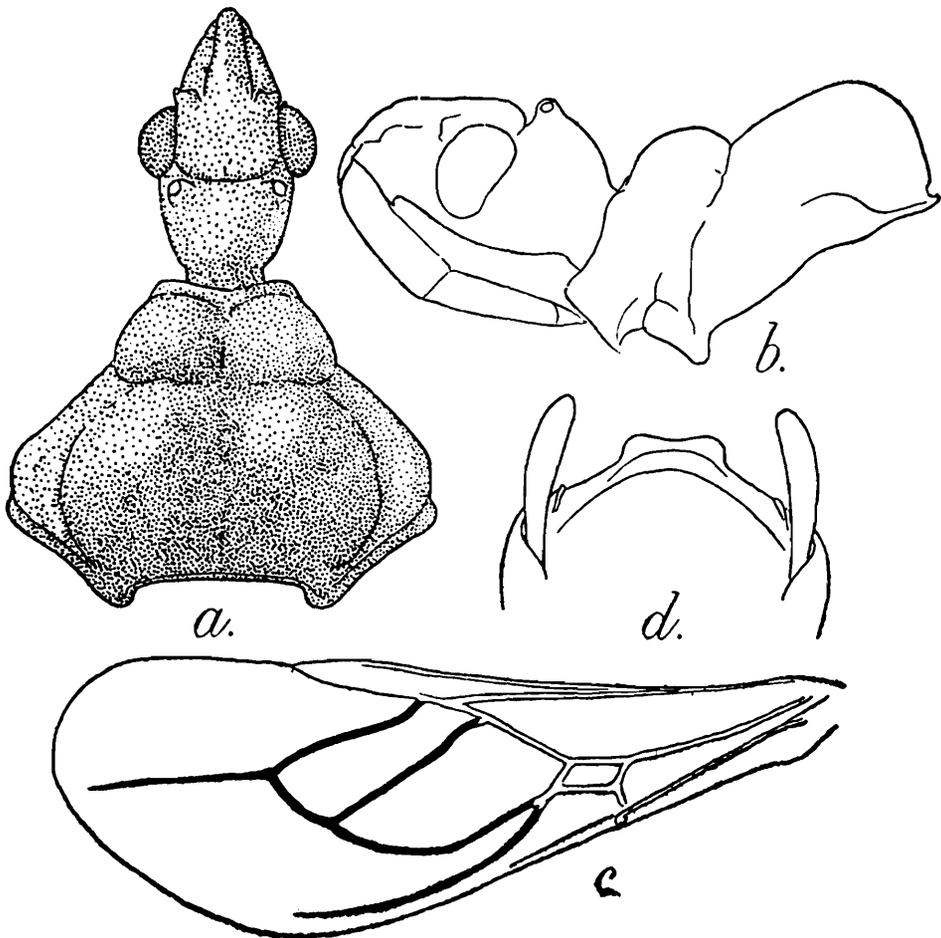
Mastocoris, gen. nov.

Size small. Antennae thick ; basal segment shorter than antecular ; postocular longer than antecular, the former globose with a short neck ; ocelli widely separated, pedunculate ; tylus somewhat elevated. Rostrum thick ; basal segment extending to posterior margin of eyes, equal in length to remaining segments together. Anterior lobe of pronotum shorter than posterior lobe, medially longitudinally sulcate, the sulcus extending to transverse sulcus and continuous with median sulcus on posterior lobe ; lateral angles of collar not produced ; posterior lobe strongly elevated, bilobate. Apex of scutellum elevated. Hemelytra hyaline ; base of internal cell of membrane wider than base of external cell. Abdomen ventrally with inter-segmental sutures obsolescent laterally ; spiracles small, located at middle of connexival segments. Legs moderately thick ; femora nodulose with spinous setae ; tarsi with 2 segments.

Type species : **Mastocoris dilatatus**, gen et sp. nov.

(Text-fig. 10)

Colour.—Light brown ; posterior lobe of pronotum, pleura and antennae, venation of corium, testaceous ; venation of membrane piceous. Abdomen ventrally piceous ; connexival segments with a yellowish spot in apical half ; pygophore yellowish.



TEXT-FIG. 10.—*Mastocoris dilatatus*, gen. et sp. nov.

a. Head and pronotum (dorsal view) ; b. Head and pronotum (lateral view). c. Hemelytron ; d. Pygophore (dorsal view).

Structure.—Basal segment of antennae somewhat constricted basally ; segment 2 a little less than half as long as 1. Vertex smooth, about twice as wide as an eye and with a very feeble, median, longitudinal sulcus basally ; distance between external margins of ocelli equal in width to vertex. Lateral angles of collar rounded ; postero-lateral margins of posterior pronotal lobe strongly dorso-ventrally compressed ; posterior lobe obscurely rugose. Hemelytra extending just beyond apex of abdomen.

Measurements.—Total length 5.40 mm ; Hemelytra 3.50 mm ; Greatest pronotal width 3.00 mm.

Specimens examined.—1 ♂ (holotype), 1 ♂ (paratype), India, Tranquebar. 6. V. 1915. G.R. Dutt.

Remarks.—This new genus would appear to be allied to *Sphedanolestes* Stal, (1866, *Öfvers. Vetensk Akad. Förh., Stockh.*, pp. 248, 288).