NEW AND LITTLE KNOWN WEST AFRICAN MIRIDAE (CAPSIDAE) (HEMIPTERA HETEROPTERA).

By W. E. China, M.A., F.R.E.S.

The following descriptions are based on material collected by Mr. H. E. Box in the Gold Coast, during his work on insect pests of the cocoa plantations, and submitted to me for identification by the Imperial Institute of Entomology. Owing to war-time difficulties in obtaining various scientific journals, it is not always possible to make certain that a species is undescribed, so that although Mr. Box has collected several others which may be new, they have not been described here for that reason. The species now dealt with, however, are of particular interest either from the point of view of new distribution or from remarkable structure or striking colouration. Type specimens are preserved in the British Museum.

Family Miridae.

Subfamily Mirinae.

Deraeocoris ostentans, Stål, **nigroruber,** var. nov.

Head shining black with a short longitudinal line in front and a transverse line at base of vertex, yellowish white; antennae fulvous with apex of first segment, whole of second in male and base and apex of second in female, apex of third and whole of fourth segments, black or dark brown, second segment of male distinctly thickened throughout; rostrum black. Pronotum shining black with scattered fine punctures, anterior collar and posterior lateral angles narrowly, whitish. Female with a yellowish white triangular spot anteriorly in middle and a smaller one in middle of posterior margin. Pro-, meso- and meta-sterna and pleura, also coxae, black, the margins of the propleura and prosterna and the metasternal orifices, yellowish white. Scutellum shining black without punctures. Hemielytra shining with scattered punctures becoming evanescent on apical half of corium; clavus and base of corium black; inner apical angle of corium, behind apex of clavus, dark brown, this brown area more extensive in male than in female in which it forms a more or less distinct spot, apex of cuneus dark brown to black; remainder of corium and cuneus bright blood red. Membrane smoky hyaline with the usual brown band along apices of cells and the broader brown arcuate band before apex of membrane. Femora fulvous orange, tibiae yellowish white with extreme base and two rings dark brown to black; tarsi yellowish white with apical segment and claws dark brown. Venter sanguineous with genital segments dark brown to black.

Habitat: Gold Coast, Tafo, 2♂♂, 2♀♀, 21.xii. 1942 (*H. E. Box*, Coll. No. H. 123).

This very strikingly coloured variety appears at first sight to be a distinct species with a neater, more convex, shining body. There appears to be no doubt, however, that it is specifically identical with *D. ostentans*, Stål, a very variable species widely distributed over the Ethiopian region.

Subfamily Bryocorinae.

This remarkable subfamily contains a number of species of economic importance both in Asia and Africa. The African genera and species were dealt with by Poppius in his "Die Miriden der Äthiopischen Region" 1, 1912, and 2, 1914, in which great

work he listed 13 African and Mascarene genera. In 1927, Schumacher (S. B. Ges. naturf. Freunde Berlin, **1917,** pp. 447–453) established three more Ethiopian genera of this sub-family, *Pantilioforma* with type *P. impressopunctata*, Schum., *Mandragora* with type *M. venefica*, Schum., and *Bryocoropsis* with type *B. laticollis*, Schum., all from Spanish Guinea. In 1922, Bergroth (Rev. zool. afr., **10,** pp. 51–61) published an annotated list of the African Bryocorinae in which he sunk *Mandragora*, Schum., as a synonym of *Physophoropterella*, Popp., and added two additional genera, *Tetanophleps*, Bergroth, a new genus with type *T. gibbifrons*, Bergr., and *Sthenarusoides*, Distant, transferred by Bergroth from the Phylinae to the Bryocorinae under the emended name *Sthenaroides* (type *S. montanus*, Dist.). In this paper Bergroth brought forward two queries which can be settled here. *Eucerocoris westwoodi*, White 1842 (Trans. ent. Soc. London, **3,** p. 94) described from Africa (Guinea) was queried as a *species incerti generis*. Poppius had placed this species in *Helopeltis*, but Bergroth was of the opinion that White could not possibly have overlooked the pin-like scutellar spine. However, the type is in the British Museum and it is definitely a *Helopeltis*, in fact it is identical with *H. alluaudi*, Reuter 1905, over which it takes priority. White must have overlooked the scutellar spine which is present in the type specimen. Bergroth also pointed out that *Lycidocoris thoracicus*, Distant, was probably generically distinct from *Lycidocoris*, Reuter & Poppius. I have studied this species and agree with Bergroth ; indeed *L. modestus*, Dist., is also doubtfully congeneric with *Lycidocoris* and on page 179 of this paper I have transferred both these species to the genus *Pantilioforma*, Schumacher. A careful study of Bergroth's description of *Tetanophleps* also convinces me that this genus is synonymous with *Arculanus*, Dist., the genotype of which is in the British Museum, and must fall as a synonym of Distant's genus.

Since Bergroth's 1922 list, two other important papers on African Bryocorinae have been published, Ghesquière's " Notice monographique sur les *Helopeltis* Sign. (Miridae) éthiopiens " (Rev. zool. afr., **10,** pp. 281–300, 1922) in which two new species and a number of new varieties of *Helopeltis* were described and Schouteden's " *Sahlbergiella* nouveaux du Congo Belge " (Rev. Zool. Bot. afr., **26,** pp. 473–476, 1935) in which four new species of *Sahlbergella* (*sens. lat.*) were described.

Bergroth 1922 listed 17 African and Mascarene genera. Recent collecting by Mr. H. E. Box in the Gold Coast has helped to add five more, *viz.*,

Poppiusia, gen. n. (type *P. combretorum*, sp. n.).

Boxia, China (type *B. khayae*, China (Bull. ent. Res., **34,** pp. 287–290, 1943).

Idioaspis, gen. n. (type *I. macarangae*, sp. n.).

Stenopterocoris, gen. n. (type *S. laticeps*, sp. n.).

Distantiella, gen. n., for *Sahlbergella theobroma*, Distant.

These would bring the total number of Ethiopian and Mascarene genera to 22, but the sinking of *Tetanophleps*, Bergr. 1922, as a synonym of *Arculanus*, Distant 1904, in the present paper reduces the total number of genera to 21.*

In the following key to these 21 genera, I have attempted to avoid the use of antennal characters as a primary distinction since antennae are so frequently broken off in material to be determined.

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* The Bryocorinid genus *Monalocoris*, Dahlbom 1850, is represented in Madeira by *M. parvulus*, Reut.

Key to the African and Mascarene Genera of the Subfamily BRYOCORINAE.

1. Membrane of hemielytron with a number of auxiliary veins or vein-like impressions extending from basal cell to apex of membrane (as in Coreidae) in addition to the well marked vein (cubitus) arising from the basal angle of the cell and extending along anal margin (fig. 1).....2

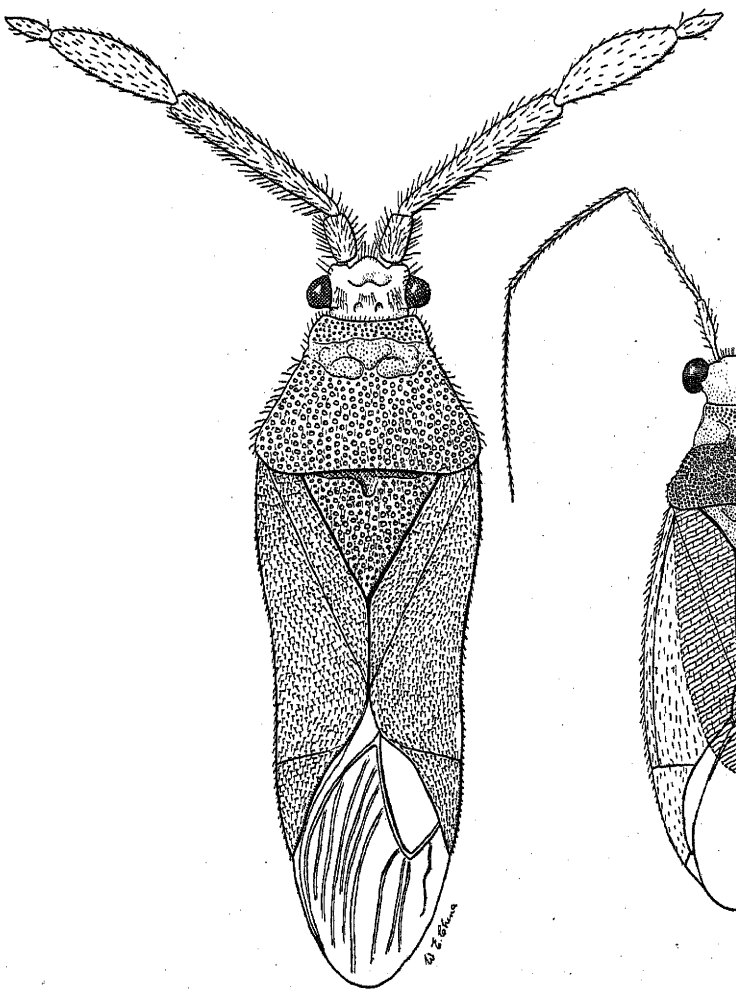

Fig. 1. *Pantilioforma impressopunctata*, Schumacher, fide China.

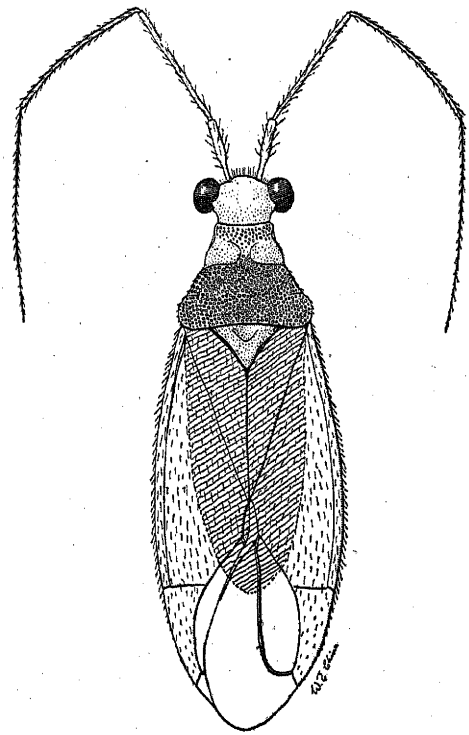

Fig. 2. *Prodromus thaliae*, sp. nov. ♀.

Outline to show structure and pubescence (legs omitted).

Membrane of hemielytron without such auxiliary veins, sometimes with a single vein arising from the apical angle of the basal cell (*Arculanus*, Dist.)...3

2. Frons distinctly swollen and produced anteriorly between bases of first antennal segments, delimited from vertex by a sinuate impression, first antennal segment short and thick, shorter than length of head with neck, twice as long as wide ; third segment very strongly thickened in middle, much thicker than first segment (fig. 1).....*Pantilioforma*, Schum. 1917. Type *P. impressopunctata*, Schum. 1917

Frons feebly swollen and not produced anteriorly between bases of antennae; not delimited from vertex by a sinuate impression, first antennal segment less thickened, slightly longer than length of head with neck, four times as long as wide, third segment not much thicker in middle than apex of second segment.....*Lycidocoris*, Reut. & Popp. 1911. Type *L. mimeticus*, R. & P. 1911

3. Scutellum armed with one or more erect spines or spine-like processes 4
Scutellum unarmed 5

4. Scutellum small, with a single long slender spine ending in a button-like knob; antennae long and slender throughout.....
Helopeltis, Sign. 1858. Type *H. antonii*, Sign. 1858 (=*Aspicellus*, Costa 1864)

Scutellum distinctly swollen, with a pair of short pointed spurs; antennae with the apices of first three segments strongly inflated or clubbed .....
Physophoropterella, Popp. 1914. (=*Mandragora*, Schum. 1917). Type *P. bondroiti*, Popp. 1914

5. Apex of corium, above base of cuneus, raised in a shield-shaped elevation.....
Physophoroptera, Popp. 1910. Type *P. mirabilis*, Popp. 1910

Apex of corium without a shield-shaped elevation.....6

6. Frons in front with three strong anteriorly or upwardly directed spines; first antennal segment densely beset with long erect hairs or scale-like hairs.....7

Frons without three such spines, sometimes with two tubercular processes in which case first antennal segment without hairs or only sparsely hairy.....8

7.* Last three antennal segments with long erect hairs; femora with long hairs, body above not granulate.....*Chamus*, Dist. 1904. Type *C. wealei*, Dist. 1904

Last three antennal segments almost without hairs; femora without hairs; body above granulate.....*Chamopsis*, Reut. & Popp. 1911. Type *C. conradti*, R. & P. 1911

8. Embolium (costal cell) distinct, percurrent to base of cuneus, narrow, sometimes very narrow (*Prodromus*) parallel sided; sometimes suddenly widened at apex (*Felisacus*) in which case antennae slender and scutellum simple.....9

Embolium less distinct, not percurrent to base of cuneus, broader, widening from base to apex (fig. 6).....14

9. Embolial and claval sutures both with a row of close set punctures (high magnification) (figs. 4, 5).....12

Embolial and claval sutures devoid of punctures (figs. 2, 3) 10

10. Claval vein distinct usually with a row of punctures; eyes seen from above circular; corium hyaline.....*Felisacus*, Dist. 1904. Type *Liocoris glabratus*, Motsch. 1863 (=*Liocoris*, Motsch. 1863 *nec* Fieb. 1859) (=*Hyaloscytus*, Reuter 1904)

Claval vein indistinct or absent, without punctures; eyes seen from above distinctly longer than wide; corium sometimes translucent but not hyaline... 11

* See note under *Chamus boxi*, sp. nov. page 181.

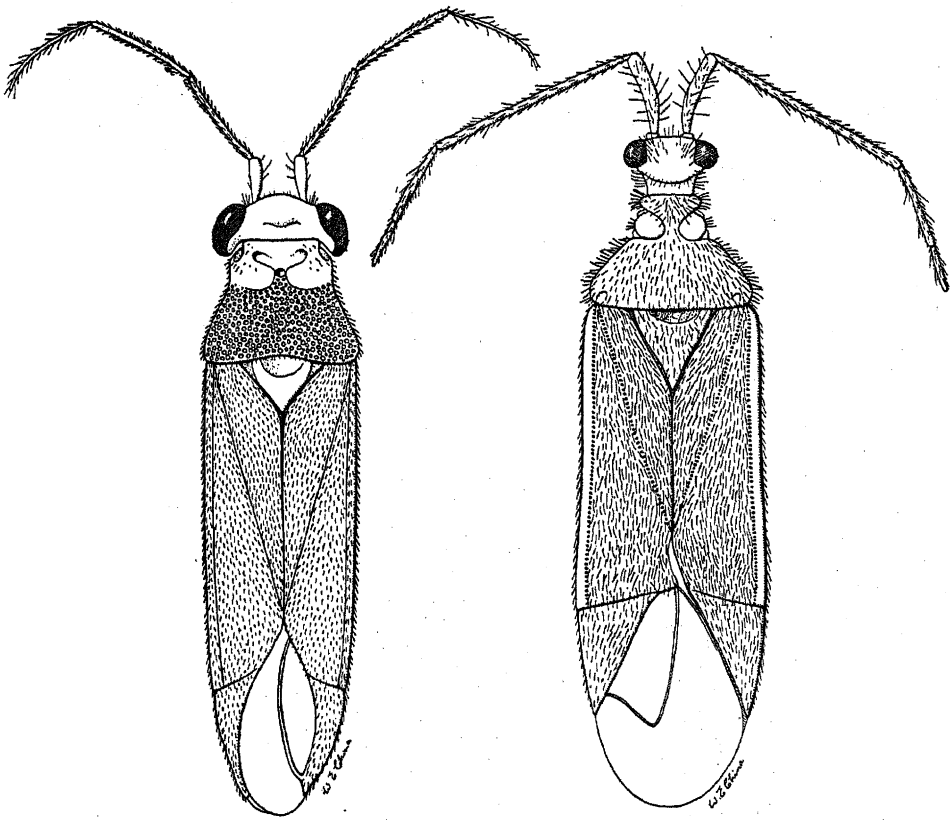

Fig. 3. *Stenopterocoris laticeps*, gen. et sp. nov. ♂.
Fig. 4. *Poppiusia combretorum*, gen. et sp. nov. ♂.
Outline to show structure and pubescence (legs omitted).

11. Head behind eyes narrowed to form a distinct neck, so that the posterior margin of eyes is well in front of anterior margin of pronotum; costal margins of hemielytra convexly curved (fig. 2)..... *Prodromus*, Dist. 1904
Type *P. subflavus*, Dist. 1904

Head without a neck, the eyes contiguous with and extending posteriorly beyond anterior lateral angles of pronotum; costal margins of hemielytra straight, parallel sided (fig. 3).....*Stenopterocoris*, **gen. nov.** Type *S. laticeps*, **sp. nov.**

12. Pronotum strongly wrinkled..... *Pararculanus*, Popp. 1912
Type *P. piperis*, Popp. 1912

Pronotum smooth and shining.....13

13. Frons strongly swollen, as seen from above, produced well in front of eyes above base of clypeus, first antennal segment strongly thickened but without hairs; membrane cell with a supernumerary vein extending from its apical angle to apex of membrane.....*Arculanus*, Dist. 1904 (=*Tetanophleps*, Bergr. 1922).
Type *A. marshalli*, Dist. 1904

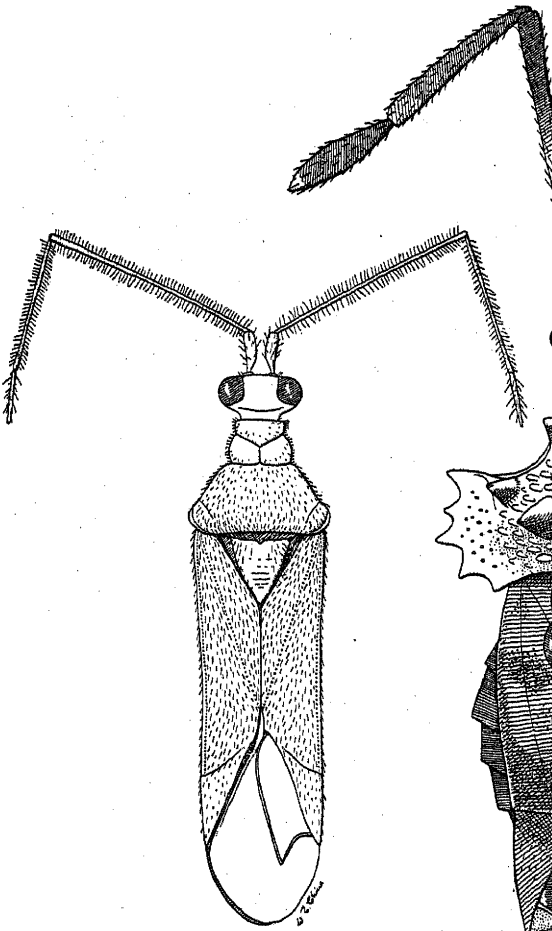

Fig. 5. *Pachypeltis humeralis*, Walker, ♂. Outline to show structure and pubescence (legs omitted).

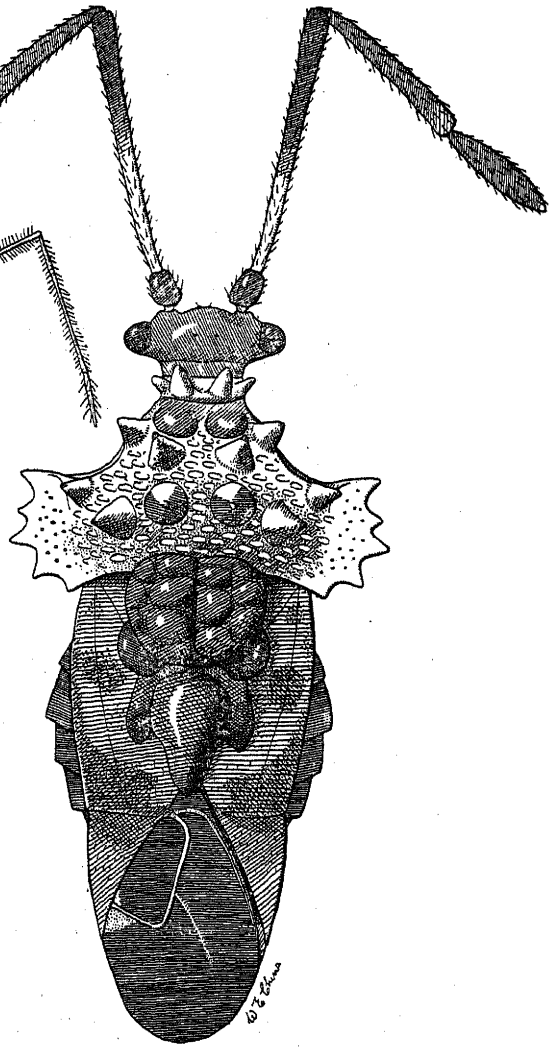

Fig. 6. *Idioaspis macarangae*, gen. et sp. nov. Outline shaded to show structure, pubescence and colour pattern (legs omitted).

Frons not swollen nor produced in front of eyes above base of clypeus, anterior margin seen from above almost straight between and level with anterior margins of eyes; first antennal segment not inordinately thickened, with long erect hairs; membrane cell without a supernumerary vein extending from its apical angle to apex of membrane (fig. 4).....*Poppiusia*, **gen. nov.**
Type *P. combretorum*, **sp. nov.**

14. First antennal segment much longer than broad, as long as head seen from above; vertex posteriorly carinate (as in many species of *Lygus*), small species *circa* 3 mm.....15

First antennal segment about as broad as long, much shorter than head seen from above; vertex posteriorly not carinate; larger species 5 mm. or more 16

15.* Pronotum and hemielytra distinctly though finely and rather sparsely punctate .....*Sthenarusoides*, Dist. 1913 (=*Sthenaroides*, Bergr. 1922). Type *S. montanus*, Dist. 1913

Pronotum and hemielytra not punctate.....*Monalocoropsis*, Popp. 1912 Type *M. madagascariensis*, Popp. 1912

16. Frons, above base of clypeus between antennae, with a pair of distinct conical protuberances, these rarely minute or fused into one in which case apex of second and the third and fourth antennal segments strongly swollen; sometimes tubercles minute and setigerous and rather indistinct in which case pronotum, posterio-laterally, strongly dilated, its margin serrate and pronotal collar armed with four tubercular processes (fig. 6) 17

Frons, above base of clypeus between antennae without a pair of conical protuberances or setigerous tubercles, the frons sometimes prominent between antennae in which case apex of second antennal segment not or only slightly thickened 20

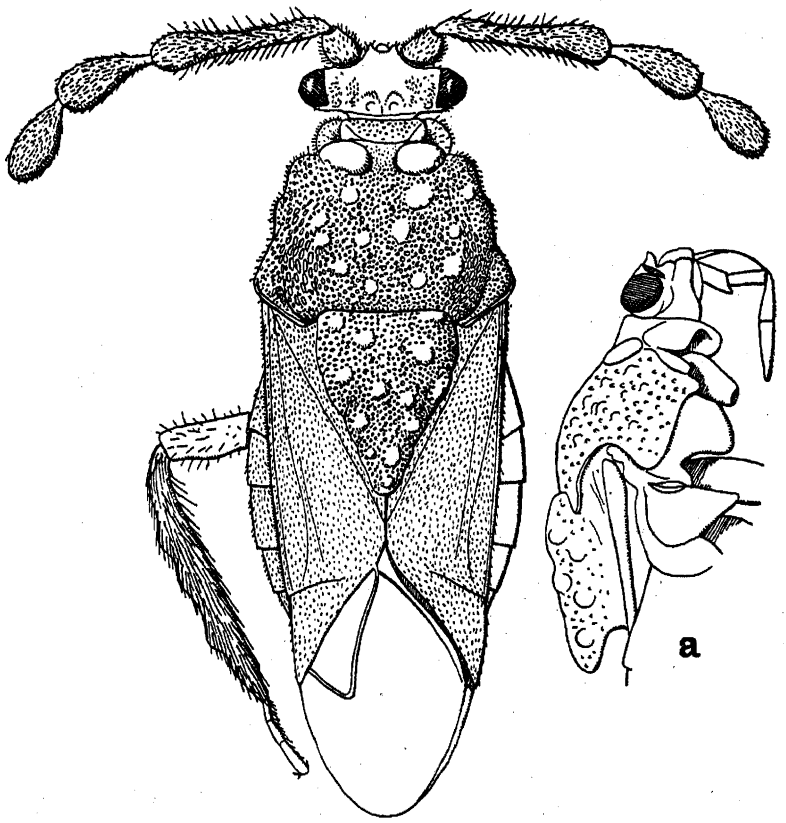

Fig. 7. *Distantiella theobroma*, Distant. Outline to show structure and pubescence; only one hind leg shown to indicate presence of nodular swellings on tibia. *a*, lateral view of head and thorax.

* I have not seen *Monalocoropsis*, Popp., and the differential characters here are based on Poppius' description. It is possible that these two genera are synonymous.

17. Pronotal collar with 4 erect tubercular processes, the inner pair elongate; surface of pronotum with 10 erect conical processes in two rows, the two centre ones of posterior row of 6, much longer and bigger than others; posterior lateral margins of pronotum dilated and serrate; scutellum split up into 6 lobes (fig. 6) .....*Idioaspis*, **gen. nov.** Type *I. macarangae*, **sp. nov.**

Pronotal collar without erect tubercular processes; surface of pronotum strongly punctate without erect conical processes arranged regularly but sometimes with irregular scattered tubercles of moderate elevation in which case posterior-lateral margins of pronotum not serrate and scutellum not multi-lobate 18

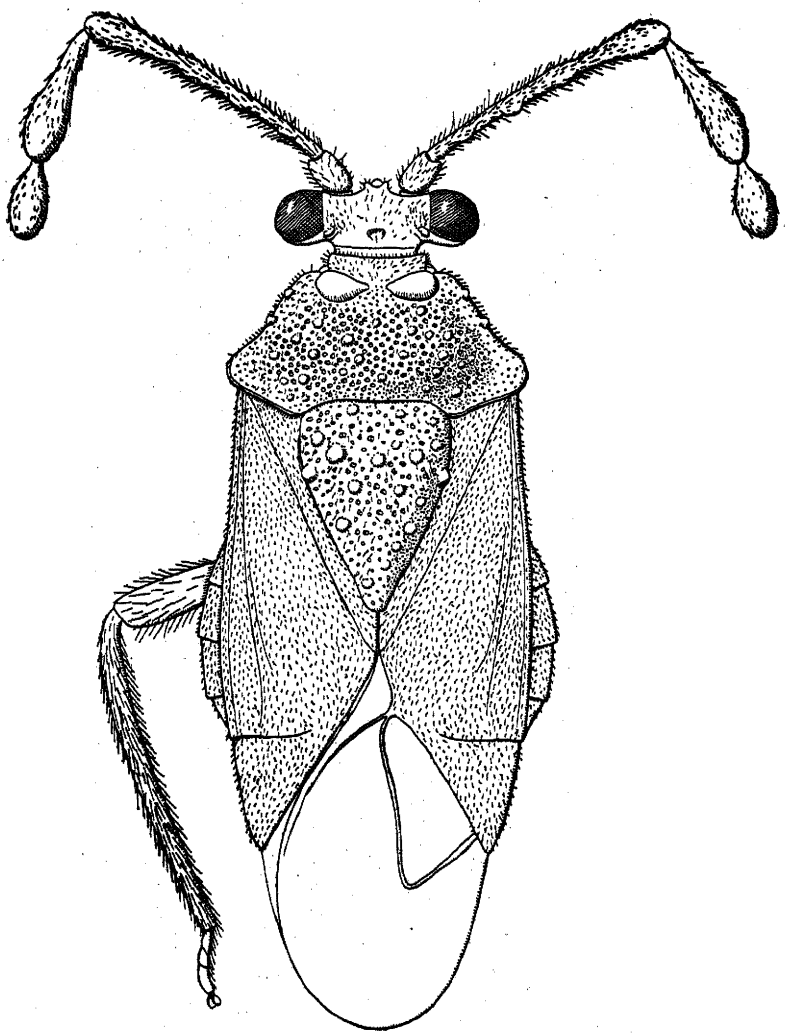

Fig. 8. *Sahlbergella singularis*, Haglund, ♂. Outline to show structure and pubescence; only one hind leg shown to indicate absence of nodular swellings on tibia.

18. Posterior lateral margins of pronotum on each side of base of scutellum dilated and broadly convexly rounded, puncturation of pronotum deep and more or less regular, the surface without small tubercular swellings ; apex of second and the third and fourth antennal segments only slightly thickened.....
Bryocoropsis, Schum. 1917. Type *B. laticollis*, Schum. 1917

Posterior lateral margins of pronotum on each side of base of scutellum not dilated, straight or slightly concave ; puncturation less deep, rugosely confused, surface with small irregularly placed tubercular swellings ; apex of second and the third and fourth antennal segments strongly swollen or clubbed 19

19. Hind tibiae distinctly nodulosely swollen ; eyes small, only one-quarter width of vertex ; acetebula of anterior legs large, visible from above on each side of anterior collar (fig. 7).....*Distantiella*, **gen. nov.**
Type *Sahlbergella theobroma*, Dist. 1909

Hind tibiae simple, not nodulosely swollen ; eyes large, about one-half width of vertex seen from above ; acetebula of front legs small, not visible from above (fig. 8).....*Sahlbergella*, Hagl. 1895
Type *S. singularis*, Hagl. 1895 (=*Deimatostages*, Kuhlg. 1906)

20. Rostrum extending to hind coxae ; pronotum postero-laterally angular ; surface of pronotum densely finely punctate giving a matt surface ; cuneus at base nearly as broad as long ; corium finely shagreened.....*Boxia*, China 1943
Type *B. khayae*, China

Rostrum extending not or little beyond the anterior coxae ; pronotum postero-laterally broadly rounded not angular ; surface of pronotum deeply but not densely punctate giving a shining surface between the punctures ; cuneus longer than wide at base ; corium smooth and shining.....
Odoniella, Hagl. 1895. Type *O. reuteri*, Hagl. 1895

Pantilioforma, Schumacher.

Schumacher 1917, S. B. Ges. naturf. Fr. Berlin, **1917,** p. 447.

Type : *P. impressopunctata*, Schum. 1917.

There is in the British Museum collection a specimen from Sierra Leone collected by E. Hargreaves which I have identified as *Pantilioforma impressopunctata*, Schum. (fig. 1). If this identification is correct, and short of seeing the type specimen I believe it is, then I consider that *Lycidocoris thoracicus*, Dist., can best be placed in *Pantilioforma*, although it differs in some structural characteristics from Schumacher's poor description. *Lycidocoris modestus*, Dist., differs from both *P. thoracicus*, Dist., and *P. impressopunctata*, Schum., in the elongate instead of equilateral scutellum. All three species, however, agree in the structure of the head, which is much less transverse than in *Lycidocoris*, with the eyes less prominent and extending only half their diameter beyond the anterior lateral angles of the pronotum. The frons too is much more swollen and prominent between the antennae than in *Lycidocoris* and distinctly delimited from vertex by a sinuate transverse furrow not found in *Lycidocoris*. The first antennal segments are much shorter and thicker than they are in *Lycidocoris*. In fact in the structure of the head alone these three species can be regarded as belonging to a single genus distinct from *Lycidocoris*. For the time being, therefore, in spite of differences in the shape of pronotum and scutellum, I propose to regard these three species as congeneric and to place *L. thoracicus* and *L. modestus* in the genus *Pantilioforma*, Schum.

Key to Species of Pantilioforma, *Schum.*

1. Scutellum forming an equilateral triangle.....2
   Scutellum much longer than wide at base.....*P. thoracicus*, Dist. Belgian Congo
2. Pronotum anteriorly only one-third as wide as posteriorly between humeral angles.....*P. modestus*, Dist. Belgian Congo
   Pronotum anteriorly about one-half as wide as posteriorly between humeral angles (fig. 1) *P. impressopunctata*, Schum. Spanish Guinea and Sierra Leone

Mr. H. E. Box has collected *P. modestus*, Dist., on *Mitragyna stipulosa* at Tafo in the Gold Coast (December, 1942).

Chamus, Distant.

Distant 1904, Ann. Mag. nat. Hist., (7) **13,** p. 197.

Type: *C. wealei*, Dist. 1904.

Chamus boxi, sp. nov. (fig. 9).

Colour ♂ and ♀.—Yellowish brown, darker brown on head and anteriorly on sides of pronotum; first antennal segment fulvous brown, apex of second, whole of the third and fourth segments reddish fulvous; hairs on first segment, black; outer half of cuneus pale yellow, translucent; inner margin of cuneus narrowly and membranal vein bright red; membrane dark brown with two pallid areas one on each side extending from half way up inner side of cuneus to mid-way between apex of cuneus and apex of membrane. Legs yellow, the extreme apices of tarsi and tarsal claws red. Pubescence golden yellow.

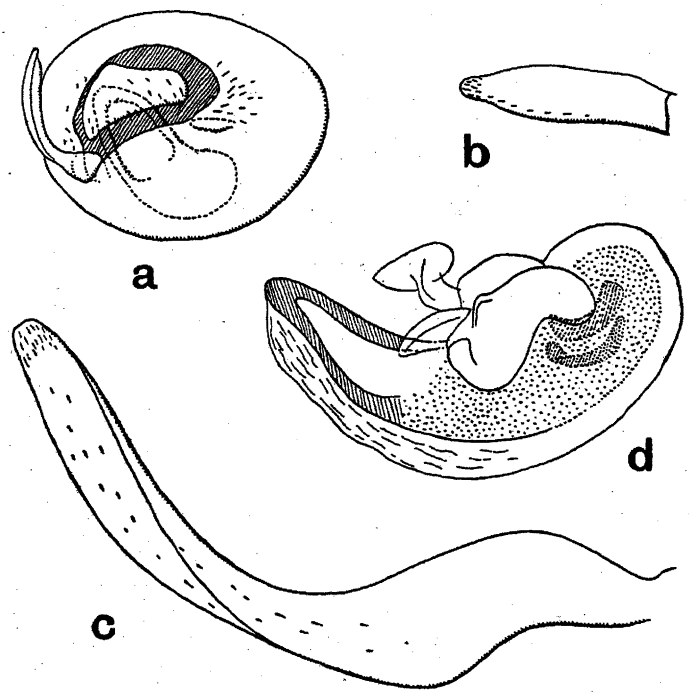

Fig. 9. *Chamus boxi*, sp. nov.: *a*, terminal view of male pygophor and genitalia, the aedeagus shown in dotted outline; *b*, right paramere (dissected and mounted); *c*, left paramere (dissected and mounted); *d*, aedeagus seen from side (dissected and mounted). Different magnifications.

Structure ♂.—Head with long brown bristly hairs, those arising on disc of vertex arranged in two groups one on each side and directed backwards; head across eyes about one-half wider than long in middle including neck but excluding anterior spines; eyes small circular; anterior spines all directed anteriorly in same plane, rather short, the lateral pair about as long as an eye slightly curved outwards (sideways) towards the tip, the median spine straight and distinctly shorter than lateral pair (3 : 5); rostrum extending to middle of mesosternum, relative lengths of segments 7 : 5 : 5 : 12. First antennal segment thickened, densely covered with short, black, erect, pointed scales which are about half the width of the segment in length; remaining segments with sparse pubescence difficult to see and some short erect dark hairs on second and third segments; relative lengths of segments, 20 : 42 : 26 : 17. Pronotum distinctly wider across humeral angles than long in middle (39 : 28) and more than three times as wide posteriorly as across anterior collar (39 : 12), surface densely granulosely tuberculate each small tubercle giving rise to a posteriorly directed hair, some hairs short and depressed others long and sub-erect. Scutellum equilateral with a semi-circular depression at base, remainder concave, transversely wrinkled and with scattered setigerous granules the hairs or setae sub-erect longer than those of pronotum. Hemielytra with scattered setigerous granules, the hairs of varying length from short depressed to long sub-erect, so that surface is densely clothed with hairs; embolium not transparent although slightly translucent. Legs covered with long fine pubescence, some hairs depressed others erect, those of femora restricted more to the upper surface towards apex. Anterior tibia with a short spur at apex which forms one end of an apical comb of spines (this is a generic character missed by Poppius). Venter pubescent, genitalia figured (fig. 9).

Structure ♀.—Same as male but larger; relative lengths of antennal segments 21 : 45 : 26 : 18.

Total length: ♂ 5·2 mm., ♀ 6·2 mm.; width across humeral angles ♂ 1·5 mm., ♀ 1·8 mm.

Habitat: WEST AFRICA, Gold Coast, Bosuso, 3 ♂♂ including type and 2 ♀♀ on *Combretum racemosum*, 30.vi.1943 (*H. E. Box*).

Allied to the W. African *C. mefisto*, Reut. & Popp., but smaller and differently coloured. I am unable to appreciate the difference between *Chamus*, Dist., and *Chamopsis*, Reuter & Popp. The characters given in my generic key are those propounded by Reuter and Poppius but these appear to apply to species of both genera. All species of *Chamus* are more or less "gekornelten," the pubescence of the antennae and legs is variable and the transparence of the embolium is not particularly marked in the species of *Chamus* which I have before me.

Prodromus, Distant.

Distant 1904, Fauna Brit. Ind., Rhyn., **2,** p. 436.

Type: *P. subflavus*, Distant 1904.

Only one species of this genus has so far been recorded from Africa, *Prodromus aethiopicus*, Poppius, found in the leaf sheaths of *Papyrus* spp. in B.E. Africa and Kilimandjaro; the remaining four species of the genus all occur in the Oriental Region. Mr. Box has now discovered a second African species which is described here.

Prodromus thaliae, sp. nov. (figs. 2 and 10).

Colour ♂ and ♀.—Translucent greenish white (probably pale green in life), tip of rostrum and eyes black, last three antennal segments dark brown, apices of tarsi and tarsal claws dark brown. First antennal segment whitish at base lightly infuscate on apical half. Membranal vein pale green.

Structure ♂.—Head smooth and shining above, the frons with an erect pale pubescence, vertex between eyes concave, that is sunk below level of eyes as in the genotype, less than twice as wide as one eye (23 : 14), not or feebly prominent between the antennae, the eyes sub-stylate not produced posteriorly so that they do not reach the anterior margin of the pronotum ; rostrum short extending only slightly beyond anterior coxae, relative lengths of segments 14 : 10 : 7 : 6 ; antennae long and slender, longer than body, with basal segment thickened on apical two-thirds but slender on basal third, second and third segments slightly thickened but linear, the second widening slightly towards apex, fourth segment filiform, all segments with

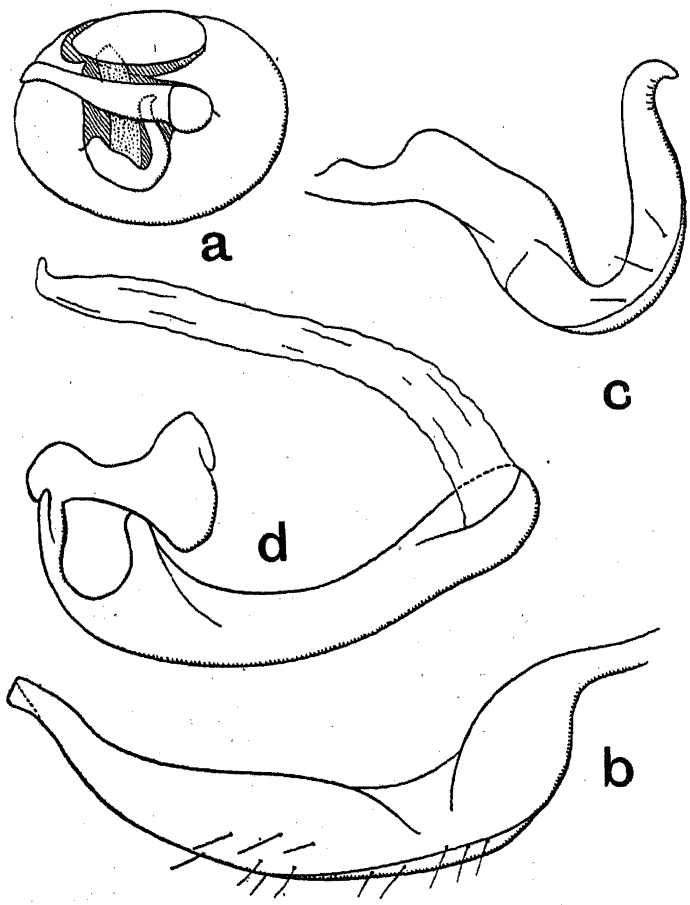

Fig. 10. *Prodromus thaliae*, sp. nov. : *a*, terminal view of male pygophor and genitalia (aedeagus shown dotted) ; *b*, right paramere ; *c*, left paramere ; *d*, aedeagus seen from side ; *b*, *c* and *d* all drawn from dissected and mounted parts. (Different magnifications.)

short pale pubescence ; relative lengths of segments 30 : 65 : 80 : 105. Pronotum with pale pubescence, wider across humeral angles than long in middle (68 : 50) more than twice as wide at base as anteriorly (68 : 30) ; anterior collar and calli feebly elevated and obscurely delimited, the former long (that is, deep), obscurely confusedly punctate, the impression between the latter very shallow ; posterior lobe strongly convex, densely regularly punctate, posterior margin broadly emarginate ;

scutellum more or less equilateral, surface slightly concave, smooth shining. Hemielytra with fairly short, erect, pale pubescence, widely but regularly spaced, the two costal margins convex, so that widest part of two hemielytra, together, is midway between apex of clavus and basal angle of membrane ; surface of clavus and corium sparsely, irregularly faintly punctate. Legs with a pale pubescence and a few longer pale hairs on femora. Genitalia figured (fig. 10).

Total length : 4 mm. ; width across humeral angles 1 mm.

Habitat : WEST AFRICA, Gold Coast, Tafo 1 ♂ (type) and 3 ♀♀ on *Thalia geniculata*, 6.xii.1942 (*H. E. Box*).

Closely allied to the Ceylonese *Prodromus cuneatus*, Distant, but slightly smaller, the posterior lobe of pronotum more convex and rostrum shorter not extending to middle of mesosternum.

Stenopterocoris, gen. nov.

A series of specimens taken in Sierra Leone on oil palm in 1925 and on ground nut in 1929 by Mr. E. Hargreaves have been wrongly identified and placed in the British Museum collection as *Prodromus aethiopicus*, Popp. I propose herewith to establish a new genus and species for these specimens which in many respects disagree with Poppius' description.

Allied to *Prodromus*, Distant, but differing in the following characters :—Small narrow elongate species with parallel sided hemielytra. Head not narrowed behind eyes to form a neck, the eyes contiguous with the anterior lateral angles of pronotum and extending posteriorly beyond anterior margin of pronotum ; eyes narrow not sub-stylate as in *Prodromus*, vertex broad and convex ; antennae relatively short and slender. A deep impression on each side of anterior lobe of pronotum behind eyes and a small deep impression in middle between calli. Membranal cell narrow, the vein describing a regular arc without any distinct angulation and meeting cuneus nearly at its apex (fig. 3).

Genotype : *Stenopterocoris laticeps*, sp. nov.

Stenopterocoris laticeps, sp. nov. (figs. 3 and 11).

Colour ♂.—Bright yellow on head shading to deep orange (in mature specimens) on clypeus, posterior half of pronotum and on hemielytra ; eyes black ; antennae with basal segment bright yellow and remaining segments sordid yellow shading to pale fuscous towards the apex ; tip of rostrum black. Apex of scutellum and cuneus pale orange ; pleura and sterna pale yellow ; hemielytra orange yellow to deep orange in mature specimens, membranal vein yellow ; legs pale yellow with apices of middle and hind tibiae and tarsi infuscate. Abdomen orange yellow, paler towards apex.

Structure ♂.—Head smooth and shining with some erect pale hairs, densest below in front of eyes ; vertex between eyes convex, not sunk below level of eye as in *Prodromus*, nearly three times as wide as one eye (35 : 12), roundly prominent between antennae, the eyes not substylate as in *Prodromus* but elongate and produced posteriorly well beyond anterior margin of pronotum ; rostrum extending to intermediate coxae, relative lengths of segments 15 : 20 : 16 : 15 ; antennae with basal segment distinctly thickened, shorter than head in middle, second segment slightly thickened and slightly curved, third and fourth slender ; all segments distinctly pilose, the first with a few long erect bristles ; relative lengths of segments 18 : 42 : 47 : 45. Pronotum with pale pubescence ; distinctly wider across humeral angles than long in middle (66 : 57), about half as wide anteriorly as wide at base (36 : 66), with a broad median impression (deep in middle) anteriorly immediately behind anterior margin, extending nearly to lateral margins, anterior collar indistinctly delimited,

calli convex but indistinctly delimited ; anterior region of pronotum smooth unpunctate, posterior region strongly punctate ; posterior margin emarginate. Scutellum smooth and shining, equilateral with a broad shallow impression in middle of base. Hemielytra with pale short depressed pubescence the two costal margins more or less parallel ; no longitudinal vein extending from basal angle of membranal cell. Legs with pale pubescence and some long pale bristles especially towards apices of hind femora. Wing cell without hamus. Venter with erect pale pubescence and some longer hairs. Genitalia figured (fig. 11).

Total length : 4·0 mm. ; width across humeral angles 1·0 mm.

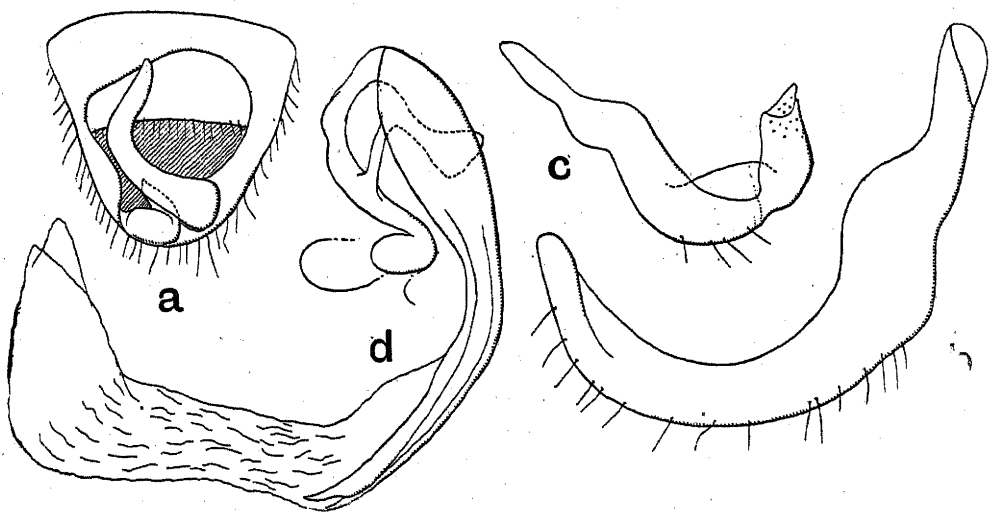

Fig. 11. *Stenopterocoris laticeps*, gen. et sp. nov. : *a*, terminal view of male pygophor and genitalia (aedeagus not shown) ; *b*, right paramere ; *c*, left paramere ; *d*, aedeagus seen from side ; *b*, *c*, and *d*, all drawn from dissected and mounted parts. (Magnifications not necessarily the same in each case.)

Habitat : WEST AFRICA, Sierra Leone ; Njala, 7 specimens 23.i.1925 and 6 specimens 19.vi.1925, on Nigerian oil palm ; Blama, 1 specimen 11.i.1925 ; Newton, 4 specimens (including type ♂) 7.viii.1929 on ground nut (Coll. *E. Hargreaves*).

Poppiusia, gen. nov.

Closely allied to the Oriental *Pachypeltis*, Signoret 1858, Ann. Soc. ent. France, (3) **8,** p. 501 (synonym *Disphinctus*, Stål 1870, Öfvers. VetenskAkad. Förh. Stockholm, **27,** p. 668) (fig. 5) but differing in the much broader embolium which is about half the width of the clavus at base ; in the much broader cuneus, only one-half longer than wide at base and in the non-reflexed margins of humeral angles of pronotum. The row of punctures down embolial and claval sutures very distinct.

Genotype : *Poppiusia combretorum*, sp. nov.

The genus *Pachypeltis* contains about 21 species widely distributed over the Oriental Region from Formosa and South China through the Philippines and Malay Archipelago to India and Ceylon. In Australia it is replaced by *Pachypeltopsis*, Poppius 1912, and in South America by the allied genus *Monalonion*, H.S. 1850. It is not surprising therefore to find still another related genus in Africa which we are glad to dedicate to the celebrated Finnish Hemipterist, the late Dr. B. Poppius, in recognition of his monumental work on the African Miridae.

Poppiusia combretorum, sp. nov. (figs. 4 and 12).

Colour ♂.—Shining orange yellow sometimes fulvous, antennae (except extreme base of first segment) and eyes black ; lateral margins of head along inside of eyes and posterior lateral areas behind eyes, infuscate ; hemielytra dark brown, embolium (except the dark brown apex) translucent pale yellow, inner apical angle of corium and basal lateral margin of cuneus also obscurely yellowish ; membrane brownish black, its veins concolorous ; hind wings fuscous. An obscure fuscous suffusion on middle of hind femur ; hind tibia (except extreme base) and all the tarsi dark brown to black. Apex of venter and genital segments infuscate.

Colour ♀.—Similar to ♂ but cuneus (except dark brown apex), inner apical margin of corium and angle of membranal cell vein, bright orange yellow. Middle of membrane around angular cell vein, whitish hyaline. Hind femur without the fuscous suffusion in middle. Venter sanguineous, ovipositor dark brown.

Structure ♂.—Head smooth and shining with erect long dark hairs ; about twice as wide across eyes as long in middle including neck (29 : 15) ; vertex between eyes two and a half times width of one eye (16 : 6·5) ; neck same width as vertex between eyes ; rostrum short not reaching apices of front coxae, relative lengths of segments, 7 : 6 : 5 : 10. Antennae with dark pubescence and some longer erect hairs especially

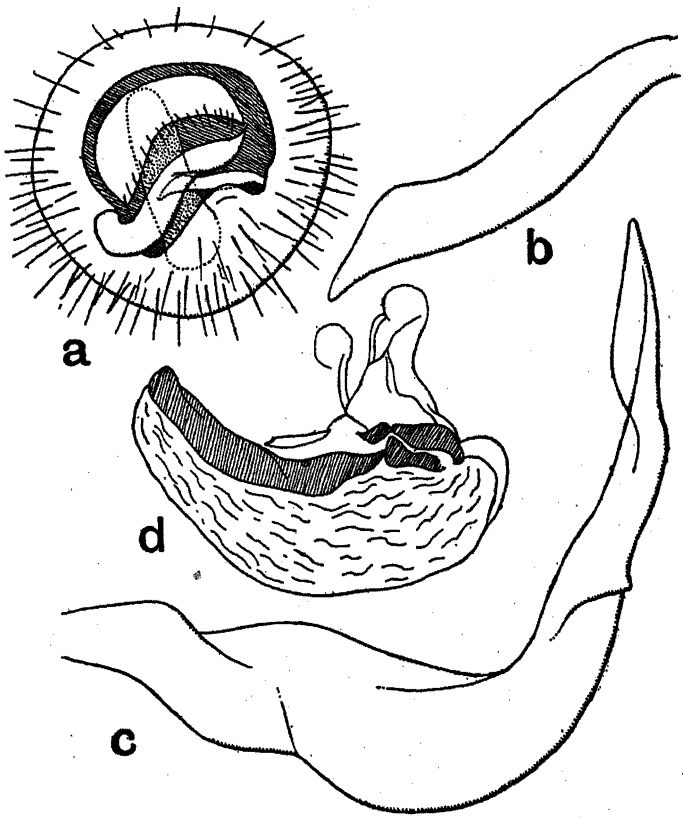

Fig. 12. *Poppiusia combretorum,* gen. et sp. nov. : *a,* terminal view of male pygophor and genitalia (aedeagus shown in dotted outline) ; *b,* right paramere ; *c,* left paramere ; *d,* aedeagus seen from side ; *b, c,* and *d,* all drawn from dissected and mounted parts. (Different magnifications.)

on first segment; the first segment slightly thickened the remainder linear; relative length of segments 22 : 65 : 40 : 20. Pronotum smooth and shining with long erect dark pubescence which is somewhat depressed along basal margin; distinctly wider across humeral angles than long in middle (48 : 35) and about two and a half times wider across humeral angles than at anterior collar (48 : 18); the latter about half as long in middle as wide (9 : 18); calli convex distinctly delimited by a deep furrow from anterior collar and posterior lobe of pronotum, the latter moderately convex, the humeral angles rounded, not at all reflexed, delimited from main lobe by a distinct depression; posterior margin only very slightly emarginate. Scutellum more or less equilateral, smooth and shining with an erect dark pubescence, with a semicircular depression at extreme base and some transverse wrinkling towards apex. Hemielytra intensely shining covered with a fine erect dark brown pubescence; extending by more than half the length of the membrane beyond apex of abdomen; embolium broad about half width of clavus, width of cuneus at base about two-thirds its length; the row of punctures down embolial and claval sutures fine but distinct. Legs simple with fine erect, moderately long brown pubescence. Genitalia figured (fig. 12).

Structure ♀.—Similar to ♂ but with larger relative measurements. Relative lengths of antennal segments 27 : 75 : 45 : 25.

Total length: ♂ 8·5, ♀ 10 mm., width across humeral angles ♂ 2 mm., ♀ 2·3.

Habitat: WEST AFRICA, Gold Coast, Tafo 2 ♂♂ (including type) and 3 ♀♀ on *Combretum* sp., July 1943 (*H. E. Box*).

Idioaspis, gen. nov.

Shining glabrous except for short pubescence on elytra, antennae and legs. Head smooth shining transverse, more than twice as wide as long, eyes laterally prominent, disc of vertex convex in middle so that it is on level with upper surface of eyes as in *Odoniella*: base of clypeus visible from above; two very minute tubercles anteriorly between antennae above base of clypeus; vertex with a pair of small tubercles in middle on level with the eyes and separated by a shallow furrow; antennae thick and robust with basal segment sub-globular, second longest, thickened

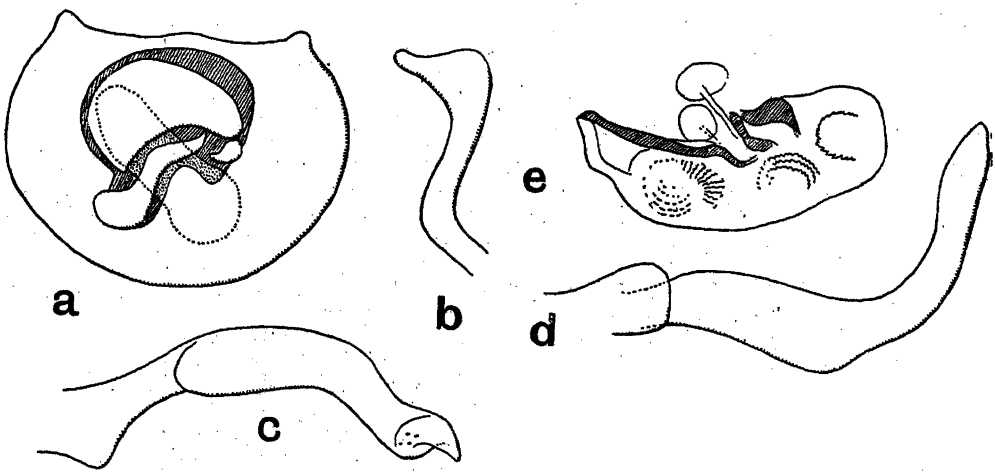

Fig. 13. *Idioaspis macarangae*, gen. et sp. nov.: *a*, terminal view of male genitalia and pygophor (aedeagus shown dotted); *b*, right paramere (dissected and mounted); *c* and *d*, left paramere from different viewpoints (dissected and mounted); *e*, aedeagus seen from side (dissected and mounted). (Magnifications not all the same.)

towards apex, third and fourth thickened, fusiform. Pronotum more than twice as wide as long ; anterior collar with four equally spaced erect tubercular processes, the lateral pair short and conical, the middle pair much longer, about twice as long as wide and nipple shaped ; calli intensely shining separated by a median longitudinal ridge ; disc of pronotum with two rows of equally spaced tubercular conical processes ; the anterior row of four placed immediately behind the calli consists of two relatively short lateral processes and two much broader and longer median processes, the posterior row of six consists of two lateral and two median placed behind those of the anterior row and an additional pair placed one each between the median processes and the lateral ones, the median pair longest ; posterior lateral angles of pronotum strongly dilated and reflexed, the margin deeply regularly serrate ; surface of pronotum between the processes more or less reticulately wrinkled, the propleural wrinkling becoming almost a coarse shallow puncturation. Scutellum strongly swollen, split up into six lobes, a large basal lobe with a longitudinal median furrow, three apical lobes, the median larger than the two lateral but all pointed at apex, and two small circular lateral lobes ; the whole surface reticulately wrinkled. Hemielytra smooth and shining with cuneus translucent about twice as long as broad at base ; membrane with cell vein rectangular and some confused longitudinal wrinkles and sub-venation beyond the cell. Legs with minute setigerous tubercles. Venter with connexivum dilated and reflexed, sub-hyaline, the posterior angle of each segment prominent.

Genotype : *Idioaspis macarangae*, sp. nov.

Allied to *Sahlbergella* but distinguished by the processes on anterior pronotal collar and by the remarkable scutellum.

Idioaspis macarangae, sp. nov. (figs. 6 and 13).

Colour ♂ and ♀.—Varying from pale brownish white in teneral specimens to dark brown in mature forms. Head pale brown with tip of rostrum and eyes dark brown to black ; first antennal segment dark brown, second segment brownish yellow shading to dark brown towards apex, third segment dark brown with apex broadly whitish, fourth segment dark brown with extreme apex whitish ; pubescence dark brown. Pronotum whitish with a dark brown median longitudinal strip widening posteriorly, its lateral margins indistinct, sometimes pronotum entirely dark brown except for calli which are yellowish brown. Propleura whitish ; scutellum brownish white with disc of basal lobe and apices of apical lateral lobes, dark brown ; sometimes scutellum entirely dark brown. Hemielytra brownish yellow with some dark brown mottling made up by the grouping or scattering of small brown spots ; cuneus pale brownish yellow, membrane dark brown to black with two small pale triangular areas (appearing as four when hemielytra closed) one at intersection of membranal vein with inner margin of cuneus the other a little below this on costal margin of membrane. Legs pallid with dark brown annulation, two or three broad rings on femora and four or five narrow rings on tibiae ; two basal tarsal segments and apex of apical tarsal segment dark brown. Abdomen yellowish brown with indistinct darker brown transverse bands on posterior half of connexival segments.

Structure ♂.—Head about two and a half times wider across eyes than long in middle (27 : 10) ; vertex nearly seven times as wide as diameter of one eye (27 : 4) ; rostrum extending to bases of middle coxae ; relative lengths of antennal segments 7 : 44 : 30 : 20 ; antennal pubescence very short and stiff, moderately dense, fourth segment about one-fourth as wide at widest part as long, the third segment slightly thinner than this at its widest point. Pronotum twice as wide across humeral angles as long in middle (60 : 30) and not quite four times width at anterior collar (including lateral tubercles) (60 : 17). Scutellum extending backwards over apex of clavus to inner basal angle of membrane. Clavus narrowed in middle ; embolium narrow at base suddenly widened ; membrane relatively narrow and elongate, extending by

half its length beyond apex of cuneus ; pubescence of hemielytra very short sub-erect, slightly longer on cuneus. Pubescence on legs relatively short, longest on tibiae. Genitalia figured (fig. 13).

Structure ♀.—Similar to male but relative measurements different.

Total length : ♂ 4·7 mm., ♀ 5 mm. ; width across expanded humeral angles ♂ 2·5 mm., ♀ 3 mm.

Habitat : WEST AFRICA, Gold Coast, Bosuso, 2 ♂♂ (including type) and 3 ♀♀ on *Macaranga horaefolia*, 30.vi.1943 (*H. E. Box*).

This very remarkable Mirid undoubtedly belongs to the *Sahlbergella-Bryocoropsis* group of species which Dr. Schouteden (Rev. Zool. Bot. afr., **26,** p. 473, 1935) has suggested should be considered as belonging to one genus. He states that if *Bryocoropsis* is to be distinguished generically from *Sahlbergella* then logically *S. singularis*, Hagl., and *S. theobroma*, Dist., must also be separated. There is a considerable amount of truth in this, and I am inclined to agree with him. I have considered regarding *Idioaspis*, *Bryocoropsis* and *Sahlbergella* as one genus but after some deliberation have decided to regard them as distinct genera separated as in the foregoing key. It remains, therefore, to propose a new genus for *Sahlbergella theobroma*, Dist., and to place Schouteden's (1935 *loc. cit.*) four new species of *Sahlbergella* in their correct genera.

Distantiella, gen. nov.*

Closely allied to *Sahlbergella*, Hagl. 1895, type *S. singularis*, Hagl. 1895 (fig. 8) but differing in the following characters.

Eyes much smaller only about one-quarter instead of one-half width of vertex.

Pronotum much less narrowed anteriorly; acetabula of anterior legs very prominent laterally and broadly visible from above so that anterior width of front of pronotum is more than half its width across humeral angles, whereas in *Sahlbergella* it is barely one-third and the acetebula of the front legs are not visible from above. Middle and hind tibiae nodulosely swollen instead of simple as in *Sahlbergella*.

Genotype : *Sahlbergella theobroma*, Dist. 1909 (fig. 7).

Schouteden's (1935 *loc. cit.*) four new species of *Sahlbergella* may be placed as follows :—

Sahlbergella collarti, Schout.

As pointed out by Schouteden, this species is closely allied to *S. theobroma*, Dist., and consequently must be referred to the new genus *Distantiella*. It differs from *S. theobroma* in the larger size, longer antennae, longer scutellum with the tip of its vesicle curved downwards and in the surface of pronotum and scutellum more strongly sculptured and punctate.

Sahlbergella maynéi, Schout.

This undoubtedly belongs to the true *Sahlbergella*, in spite of its rather smaller and less posteriorly produced vesicle of scutellum and the slightly smaller less pediculate eyes. There is a series of this species in the British Museum from Mlanje, Nyasaland, collected in 1938 by Mr. C. Smee.

* Dedicated to W. L. Distant, my predecessor at the Museum and the author of the typical species, in recognition of his extensive work on the Hemiptera.

Sahlbergella ghesquièrei, Schout.

As pointed out by Schouteden, this species is closely allied to *S. singularis*, Hagl., differing principally in the short vesicle of the scutellum, and therefore belongs to the genus *Sahlbergella*. There is a single specimen in the British Museum collected by Monsieur C. Primot at Libreville, Gabon, in 1936.

Sahlbergella soror, Schout.

S. reuteri, Schout. 1935 (in litt.) loc. cit. p. 474.

Judging by the description alone, I am inclined to place this species in the genus *Bryocoropsis*, Schumacher 1917. Some of its characters, however, appear to be intermediate between *Bryocoropsis* and *Sahlbergella*.

Subfamily Macrolophinae.

Division Macrolopharia.

Lasiolabops obscurus, Popp.

Poppius 1914, Acta Soc. Sci. fenn., **44,** no. 3, p. 27.

Amongst Mr. Box's Gold Coast material are four specimens from Tafo collected on *Ficus asperifolia* on 21.xii.1942. These specimens agree very well with Poppius' description, which was based on a single female, and undoubtedly belong to his genus *Lasiolabops*. They differ, however, in one important character. Poppius says "Die Hinterflügelzelle ohne Hamus," but in Box's specimens a very distinct hamus is present. It seems likely that as Poppius placed this aberrant genus in the Macrolopharia in which he states "Die Hinterflügelzelle immer ohne Hamus," that he assumed the hamus was absent without looking. This species has the general appearance of one of the *Labops* group of genera in the Heterotominae but differs in the structure of the arolia which are fused to the claws for the basal two-thirds of their length instead of being free with the tips converging. The presence of a hamus in the hind wing cell might have no significance since in the Systellonotaria this can be present or absent. Poppius' single ♀ might possibly have been a pathological specimen.

Division Systellonotaria.

Diocoris collaris, sp. nov. (fig. 14).

Colour, macropterous ♂.—Dull black with base of third antennal segment broadly pale yellow, first antennal segment except base and apex, sordid yellowish brown, and a small obscure spot at apex of intermediate femora sordid yellow. Hemielytron with an equilateral triangular area with its base along middle of costal margin, and its apex just invading the clavus translucent silvery white; surface of hemielytron dull black with the apical fourth of corium and the cuneus shiny black; also with two transverse bands across closed hemielytra showing up as a silvery sheen in certain lights, one broad band extending across each clavus above the level of the triangular white marks, the other extending completely across hemielytra from one costal margin to the other just below the triangular white marks. Legs with a reddish shade underlying the black and cuneus also with a reddish tinge in the black.

Structure, macropterous ♂.—Head large and strongly inclined, wider across eyes than long in middle seen from above (39 : 32) and three times as wide as vertex between the very large eyes (39 : 13); nearly twice as long as high at base, seen from side (45 : 25); rostrum reaching base of middle coxae. Antennae without hairs or bristles. Relative lengths of antennal segments 26 : 70 : 80 : 40, the second segment slightly thicker than first and thickest towards apex; vertex with a few very short erect bristles. Pronotum with a few scattered short bristles on posterior half rather

more than twice as wide across humeral angles as across anterior collar (50 : 23) the latter distinctly flattened and slightly reflexed not lying in same plane as disc of pronotum, as it does in *D. agelastus*, Kirk. Scutellum glabrous, shining, longer than broad, strongly convex with mesonotum uncovered at base by the broadly emarginate posterior margin of pronotum. Hemielytra extending well beyond apex of abdomen, with a rather sparse depressed pubescence especially apically, and a number of scattered short erect black bristles; cuneal fracture very distinct, cuneus more than twice as long as broad at base; its apex rounded not pointed; membranal vein rectangular but the angle rounded, the vein separating the small cell straight. Hind femora lightly thickened in middle and tapering to apex; hind tibiae slightly thickened on the basal third thence tapering to apex. Femora with short black bristles forming a distinct and regular row on dorsal surface of hind femora; tibiae with rows of short sub-erect black bristles visible only with higher magnifications; tarsi long and slender. Venter shining with a depressed sparse pubescence and the apex of the pygophor below genitalia, ending in a distinct short spine-like process; genitalia figured (fig. 14).

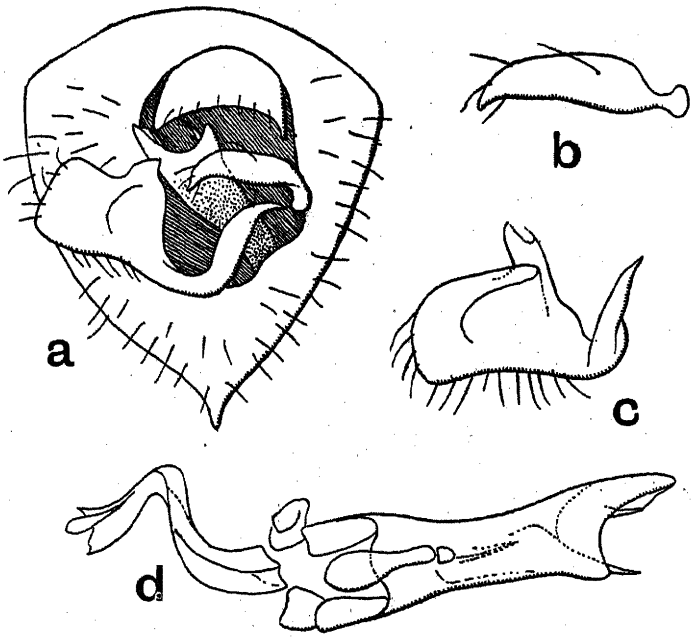

Fig. 14. *Diocoris collaris*, sp. nov: *a*, terminal view of male pygophor and genitalia; *b*, right paramere; *c*, left paramere; *d*, aedeagus seen from the ventral side (preparation was broken into three parts which may not be correctly joined in drawing); *b*, *c* and *d*, all drawn from dissected and mounted parts. (Magnifications different.)

Habitat: WEST AFRICA, Gold Coast, Nkawkaw, 4 macropterous ♂♂ (including type) collected at light 3.vi.1943 (*H. E. Box*).

Addendum.

A study of the genitalia of these few species of Miridae shows that the structure of the aedeagus is of value for categories higher than genera. Whereas *Chamus*, *Poppiusia* and *Idioaspis* obviously belong to the same group of genera, *Prodromus* and *Stenopterocoris* are distinct from this group and are not themselves closely allied.

Diocoris, belonging to a distinct subfamily, has an entirely different type of aedeagus. It is doubtful whether this structure could be used for categories as high as subfamilies. The parameres are of course merely of specific value within the genera. In figuring the genitalia I have given first a terminal (end on) view of the male pygophor undissected with the genitalia *in situ* and then figures of the dissected-out parts, parameres and aedeagus mounted in clove oil and drawn under the monocular microscope in transmitted light. Owing to the curved and twisted nature of these parts no two views look alike, and I have therefore drawn the view presented by the dissection when at rest on the microscope slide without support.