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# NEW GENERA AND SPECIES OF ORIENTAL AND AUSTRALIAN PLANT BUGS IN THE UNITED STATES NATIONAL MUSEUM

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DURING part of my stay in the United States, made possible through the interest of the Department of State, an opportunity came for me to make a study of Oriental Miridae (Hemiptera-Heteroptera). Certain species of bugs of this family, e. g., the "tea bugs" (*Helopeltis* spp.), are of considerable economic importance in the Oriental region.

The present paper contains descriptions of 7 genera, 24 species, and 1 variety of Miridae. It is based mainly on material from the C. F. Baker collection of Hemiptera deposited in the United States National Museum. All the holotypes and allotypes are deposited in the Museum, and part of the paratypes are in my collection. All the figures were drawn to the same scale from the holotypes. I am grateful for the aid given by Mrs. Sara Hoke DeBord in making the illustrations.

## Subfamily CAPSINAE

### Genus HYALOPEPLOIDES Poppius

#### HYALOPEPLOIDES NIGRIFRONS, new species

*Male*.—Body elongate, length 9.7 mm., width 2.45 mm., somewhat dull, clothed beneath with very short, simple, golden hairs; ochraceous, with black markings.

Head subvertical, shining, width across eyes 1.7 mm., length seen from above 0.85 mm., height seen from side 0.95 mm.; above black, two transverse spots on vertex, a triangular spot behind each eye, a spot



at base of antennae, apical third of clypeus, lorum, and whole underside of head ochraceous. Vertex longitudinally sulcate, immarginate, width 0.65 mm.; frons a little convex anteriorly in the middle; clypeus vertical, prominent, discrete from frons. Eyes large, finely granulate, prominent. Rostrum ochraceous, apex fuscous, length 3.3 mm., nearly reaching apex of intermediate coxae, first segment distinctly surpassing apex of pronotum. Antennae inserted at below middle of anterior margin of eyes, black, densely clothed with minute hairs; length of segments I:II:III:IV=1 mm.:4.4 mm.:1.95 mm.:1.3 mm., first segment the thickest, second slenderer than first, third slenderer than second; fourth, the slenderest.

Pronotum inclined anteriorly, strongly regularly transversely rugose; apical collar (except a large spot on each side), calli, a longitudinal median line tapering anteriorly, and basal margin very broadly, black; length 1.45 mm., width at base 2.35 mm., at apex 1.1 mm.; basal margin slightly broadly sinuate at middle, lateral margins nearly straight; apical collar flat, a little longer than the thickness of first antennal segment; calli flat, not confluent, deeply impressed behind; humeral angles rounded, slightly elevated. Scutellum transversely rugose as pronotum, depressed in the middle, longitudinally sulcate; black, lateral margins except apical fourth ochraceous; length 1.45 mm., width 1.25 mm.

Hemelytra transparent, corium and clavus without veins, embolium and cuneus opaque, margins of embolium, corium, clavus, and cuneus and veins of membrane dark; embolar margins nearly straight, length 4.5 mm.; cuneus reddish, bearing fine black hairs, length 1.1 mm., width 0.6 mm.; membrane transparent as corium, slightly tinged with ochraceous, inner apex of major areole rounded.

Posterior lobe of ostiolar peritreme, posterior legs, side of ventral segments, apex of abdomen, and all third tarsal segments dark. Posterior femora incrassate at apical half, length 3.5 mm., posterior tibiae dark spinulose, length 4.65 mm. Both genital claspers long, slender, and strongly curvate.

Differs from *H. cyanescens* Poppius by its larger size, different coloration, and longer second antennal segment. The calli flat, not confluent, and apical half of posterior femora incrassate.

*Holotype*.—U.S.N.M. No. 56715, male, Mount Maquiling, Luzón, P. I. (Baker).

#### EUHYALOPEPLUS, new genus

Body elongate, above glabrous, beneath clothed with short, fine, simple hairs.

Head vertical, seen from above three times as wide as long (excluding collum), seen from side more than twice as high (to apex of clypeus).



eus) as long; vertex flat, immarginate, wider than the width of eye seen from above; frons vertical, clypeus moderately prominent, confluent with frons, bucculae short and high. Eyes large, subpedunculate, prominent, seen from above rounded, seen from side vertically ovate. Antennae inserted below middle of inner margins of eyes, slender, first segment thickened at base, shorter than width of head, second more than twice as long as first. Rostrum reaching upon intermediate coxae.

Pronotum subhorizontal, posterior lobe convex, coarsely regularly transversely rugose, a little wider than long, about twice as wide at base as at apex; posterior margin slightly sinuate before scutellum, lateral margins nearly straight, humeral angles rounded, distinctly thickened; apical collar flat, as long as first antennal segment thick at base; calli prominent, smooth, deeply impressed behind, confluent anteriorly. Scutellum triangular, convex, longer than wide, lateral margins finely corrugated.

Hemelytra complete, hyaline except clavus; corium and clavus without veins, embolar margins nearly parallel, cuneus horizontal, much longer than wide, membrane bicellulate.

Propleura punctate, ostiolar peritreme conspicuous. Legs linear, moderately long, tibiae not spinulose, arolia large, free, divergent at apex.

Close to *Hyalopeplodes* Poppius, but clypeus confluent with frons, calli not confluent, apical collar narrow and smooth, tibiae not spinulose, and first antennal segment enlarged at base. Differs from *Hyalopeplus* Stål by the vertical head and different structure of first antennal segment.

*Genotype*.—*Euhyalopeplus pulchellus*, new species.

**EUHYALOPEPLUS PULCHELLUS, new species**

FIGURE 57, e

*Female*.—Body, length 5.9 mm., width 1.5 mm., ochraceous.

Head, width across eyes 1.18 mm., length seen from above (excluding collum) 0.35 mm., height seen from side (to apex of clypeus) 0.85 mm., width of vertex 0.45 mm. Rostrum, length 1.85 mm., surpassing middle of intermediate coxae. Antennal segment I, length 1.1 mm., II, length 2.35 mm., dark brown (third and fourth mutilated).

Pronotum, length 1.25 mm., width at base 1.45 mm., at apex 0.7 mm.; humeral angles, lateral margin, and a large spot in middle of posterior lobe faintly dark brownish. Scutellum, length 0.75 mm., width 0.65 mm.; middle at base, apex and a faint longitudinal line brownish.



Hemelytra considerably surpassing apex of abdomen, clavus, margins of embolium, corium and cuneus, and veins of membrane dark brownish; inner apex of major areole rounded.

Femora with faint brown spots, third tarsal segment dark brown; length of posterior femora 2.2 mm., length of posterior tibiae 2.7 mm.

*Holotype*.—U.S.N.M. No. 56716, female, Island of Peñang, Straits of Malacca (Baker).

**MACRALONIDEA, new genus**

Body elongate, shining, clothed sparingly with very short hairs; pronotum very coarsely and deeply punctate, hemelytra hyaline.

Head inclined, more or less rounded, seen from above wider than long, seen from side about as long as high; vertex very slightly convex, shortly longitudinally sulcate, immarginate, about as wide as an eye seen from above; frons slightly convex, clypeus moderately prominent, with apical two-thirds nearly perpendicular, jugum flat, bucculae short, lower margin rounded. Eyes of medium size, moderately prominent, not touching anterior margin of pronotum, seen from side obliquely ovate, anterior margin moderately sinuate. Rostrum reaching base of intermediate coxae, first segment thick. Antennae linear, inserted near the middle of anterior margin of eyes, longer than body, first segment about as long as pronotum, second about twice as long as first and a little longer than third and fourth taken together.

Pronotum coarsely and deeply punctate, a little wider than long, more than twice as wide at base as at apex, posterior lobe strongly convex, posterior margin straight before scutellum, humeral angles rounded and thickened, lateral margins vertically rounded, sinuate at apical third; apical collar not separated at middle, longer than thickness of first antennal segment, punctate at the disk of pronotum; calli small, smooth, slightly elevated. Mesoscutum covered, scutellum smooth, strongly elevated posteriorly before the narrow apex, punctate along the lateral margins.

Hemelytra hyaline, horizontal, embolar margin slightly sinuate at middle, a series of punctures extending beyond the middle, corium and clavus without veins, a series of punctures along claval suture; cuneus longer than wide, membrane bicellulate. Xyphus concave, anterior part punctate, lateroposterior margins reflected. Propleura punctate. Ostiolar peritreme large. Legs moderately long, posterior femora thickened before apex, tibiae minutely and sparingly spinulose. Arolia large, divergent at apex.

Related to *Macralonius* Stål and *Malalasta* Distant but differing from both by different type of punctures on pronotum, longer pronotum, different apical collar, and smooth and strongly elevated scutellum.

*Genotype*.—*Macralonidea cyanescens*, new species.



## MACRALONIDEA CYANESCENS, new species

FIGURE 57, d

*Male*.—Body, length 5.9 mm., width 1.6 mm., clothed beneath with flavous simple hairs; flavous with dark brown markings.

Head, width across eyes 0.9 mm., length seen from above 0.57 mm., height seen from side 0.55 mm., width of vertex 0.3 mm. Rostrum reaching base of intermediate coxae, length 1.8 mm., first segment reaching anterior margin of pronotum. Length of antennal segments I:II:III:IV=1.25 mm.: 2.6 mm.: 1.7 mm.: 0.75 mm.; second, third, and fourth segments dark brown.

Pronotum, length 1.25 mm., width at base 1.45 mm., at apex 0.62 mm.; lateral part of apical collar, calli, humeral angles, and two elongate spots between humeral angles dark brown. Scutellum strongly elevated, slightly depressed in the middle, length 0.55 mm., width 0.55 mm.

Hemelytra hyaline, considerably surpassing apex of abdomen, length of embolar margin 2.77 mm., slightly convex beyond the middle; cuneus, length 0.55 mm., width 0.4 mm.; margins and apex of clavus, extreme margin of embolium, apical margin of corium, cuneus, and veins of membrane dark brown; membrane transparent, inner apex of major areole broadly rounded.

Metapleura, apex of abdomen, apex of anterior tibiae, apical fourth of posterior femora, and all third tarsal segments dark brown. Posterior femora subapically incrassate, length 2.5 mm., length of posterior tibiae 3.05 mm. Left genital clasper simple, broad at base, gradually tapering at apex, apical third strongly curvate fitting closely to the curvature of posterior margin of ninth ventral segment; right one with a broad hook at apex.

*Female*.—Similar to the male, propleura with more dark brown, second antennal segment thicker. Body, length 6.45 mm., width 1.75 mm. Length of antennal segments I:II:III:IV=1.3 mm.: 2.7 mm.: 1.65 mm.: 0.7 mm.

*Types*.—U.S.N.M. No. 56717, holotype, male; allotype, female; paratypes, 2 males and 1 female, all from Sandakan, Borneo (Baker).

## Genus RAMBEA Poppius

## RAMBEA ANNULICORNIS, new species

*Female*.—Body elongate, length 6.35 mm., width 1.85 mm., clothed sparingly with long simple yellowish hairs, stramineous.

Head inclined, width across eyes 1.05 mm., length seen from above 0.6 mm., height seen from side 0.6 mm.; vertex longitudinally sulcate, slightly convex, width 0.5 mm.; frons moderately convex, clypeus very prominent, deeply discrete with frons, nearly vertical with the anterior



three-fourths; lorum and lateral margin of postocular part of head fuscous; bucculae short, gula long. Eyes granulate, far removed from apex of pronotum, seen from above small and rounded, seen from side obliquely ovate, postocular part of head gradually but strongly narrowed. Rostrum moderately thick, length 2.75 mm., distinctly surpassing apex of posterior coxae. Antennae linear, slender, inserted below middle of anterior margins of eyes, dark brown, first segment stramineous, a broad ring beyond basal fourth of second segment, basal fourth of third and basal fifth of fourth whitish; length of segments I:II:III:IV=1.3 mm.:2.85 mm.:2.1 mm.:1.2 mm.

Pronotum, length 1.25 mm., width at base 1.85 mm., at apex 0.67 mm.; posterior lobe strongly convex, posterior margin broadly rounded, lateral margins strongly sinuate behind calli and with posterior half roundedly elevated; apical collar nearly as long as thickness of first antennal segment; calli convex, reaching side of pronotum, anteriorly confluent, posterior margin broadly impressed, strongly punctate along the impression, together with apical collar forming an anterior lobe about half as long as the posterior lobe; lateral margins and three longitudinal bands on posterior lobe silvery, seen from the side a longitudinal line along the anterior half of lateral margin fuscous. Scutellum triangular, strongly convex before apex, depressed and deeply medially bipunctate, length 0.7 mm., width 0.85 mm.

Hemelytra with apex of cuneus attaining apex of abdomen, finely punctulate, semitransparent, clavus and corium without veins, claval suture strongly punctate; embolar margins subparallel, very narrowly fuscous; cuneus horizontal, length 0.65 mm., width 0.4 mm., fracture distinct, exterior margin narrowly fuscous; membrane transparent, bicellulate, inner apex of major areole rounded.

Disk of xyphus slightly concave, lateroposterior margins reflected. Ostiolar peritreme distinct. Legs long and slender, tibiae very finely spinulose, length of posterior femora 2.5 mm., length of posterior tibiae 3.35 mm., base of tibiae white, extreme apex of femora, a narrow subbasal ring of tibiae and third tarsal segments fuscous. Arolia prominent, divergent at apex.

*Male* (teneral specimen).—Very similar to female; body, length 5.4 mm., width 1.55 mm.; length of antennal segments I:II:III:IV=1.25 mm.:2.7 mm.:1.8 mm.:1.2 mm.(?).

This species fits the generic description of *Rambea* Poppius very well, but it differs from *R. gracilipes* Poppius by the different coloration and longer second antennal segment. It is a beautiful yellowish green bug when alive, as shown in one of the paratypes (in the U. S. National Museum).

*Types*.—U.S.N.M. No. 56718, holotype, female; allotype, male; paratypes, 3 females, all from Mount Maquiling, Luzón, P. I. (Baker).



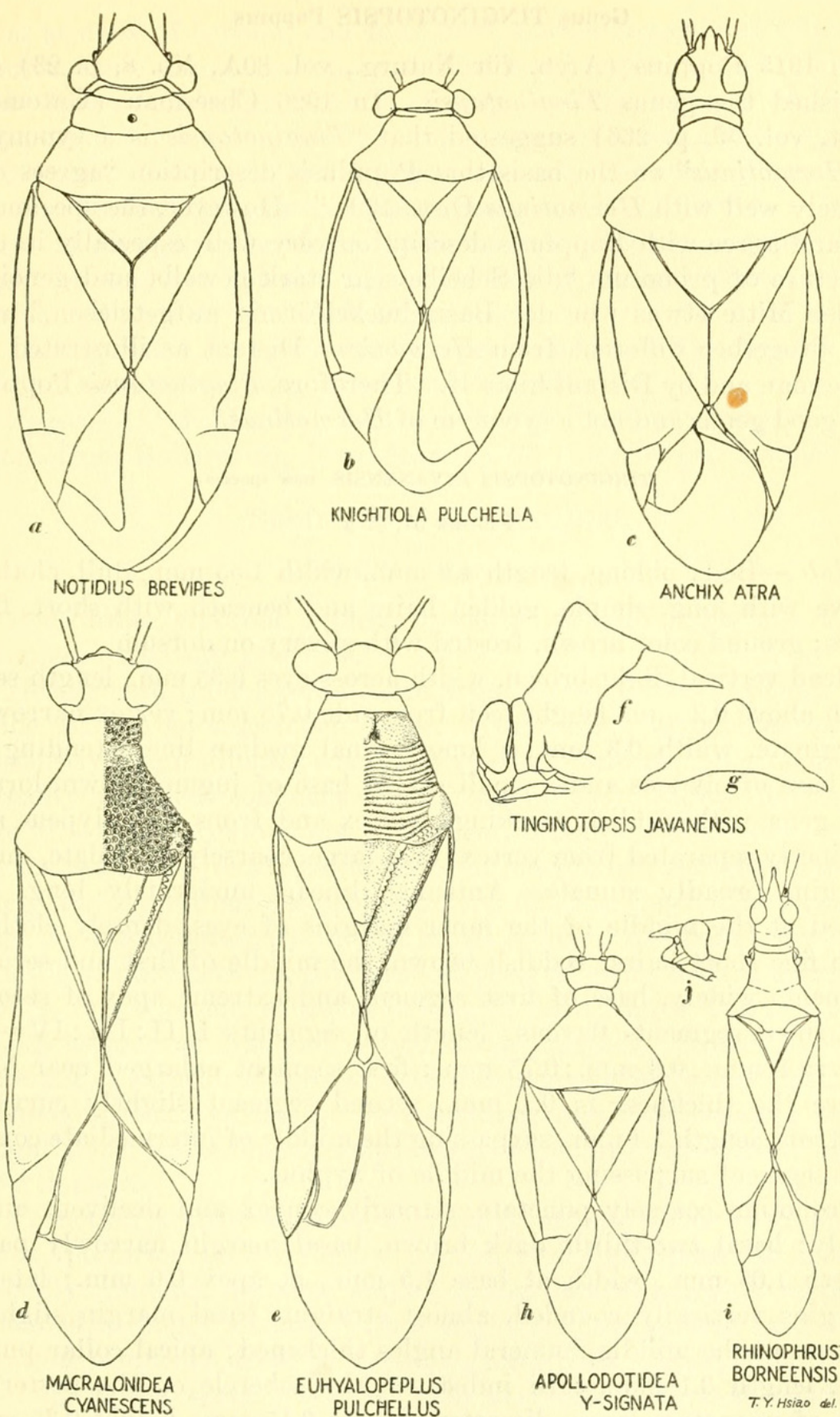


FIGURE 57.—a, *Notidius brevipes*, new genus and species; b, *Knightiola pulchella*, new genus and species; c, *Anchix atra*, new genus and species; d, *Macralonidea cyanescens*, new genus and species; e, *Euhyalopeplus pulchellus*, new genus and species; f, *Tinginotopsis javanensis*, new species, lateral view of head; g, same, posterior view of pronotum; h, *Apollodotidea y-signata*, new genus and species; i, *Rhinophrus borneensis*, new genus and species; j, same, lateral view of head.



Genus *TINGINOTOPSIS* Poppius

In 1915 Poppius (Arch. für Naturg., vol. 80A, No. 8, p. 23) established the genus *Tinginotopsis*. In 1926 Cheesman (Entomologist, vol. 59, p. 266) suggested that "*Tinginotopsis* is a synonym of *Hermotinus*" on the basis that Poppius's description "agrees extremely well with *Hermotinus* Dist., 1904." However, the specimens at hand agree with Poppius's description very well, especially in the structure of pronotum "die Scheibe sehr stark gewölbt und geneigt, in der Mitte etwas vor der Basis buckelförmig aufgetrieben," and are altogether different from *Hermotinus* Distant as illustrated by Cheesman and by Distant himself. Therefore, *Tinginotopsis* Poppius is a good genus and not a synonym of *Hermotinus*.

*TINGINOTOPSIS JAVANENSIS*, new speciesFIGURE 57, *f, g*

*Male*.—Body oblong, length 4.2 mm., width 1.55 mm., dull, clothed above with long, simple, golden hairs and beneath with short, fine hairs; ground color brown, frosted with silvery on dorsum.

Head vertical, light brown, width across eyes 0.95 mm., length seen from above 0.2 mm., height seen from side 0.75 mm.; vertex narrowly marginate, width 0.3 mm., a longitudinal median line extending to the base of clypeus and a small dot at base of jugum brown, lorum and gena with reddish markings, vertex and frons flat, clypeus not distinctly separated from vertex; eyes large, coarsely granulate, inner margins broadly sinuate. Antennae linear, moderately long, inserted at the middle of the inner margins of eyes, densely clothed with fine short hairs; reddish brown, the middle of first and second segments widely, base of first segment and extreme apex of second and third segments flavous; length of segments I:II:III:IV=0.9 mm.:2.1 mm.:0.8 mm.:0.75 mm.; first segment enlarged near base where the thickness is 0.1 mm., second segment slightly curvate. Rostrum, length 1.4 mm., surpassing the middle of intermediate coxae, first segment surpassing the middle of xyphus.

Pronotum coarsely punctate, strongly convex and declivent anteriorly; basal two-thirds dark brown, basal margin narrowly pale; length 1.05 mm., width at base 1.5 mm., at apex 0.6 mm.; lateral margins vertically rounded, almost straight, basal margin slightly sinuate at the middle, humeral angles thickened; apical collar punctate, length 0.1 mm., calli indistinct, the tubercle on the posterior lobe of pronotum large, diameter at base 0.45 mm., height 0.35 mm. Scutellum moderately convex, punctate as pronotum, length 0.65 mm., width at base 0.65 mm., paler apically.

Hemelytra impunctate; embolar margin straight with apical half slightly convex, length 2.1 mm.; clavus, a large irregular shaped



spot at apex of corium, and four small ones along cubital vein dark brown, embolium subtransparent; cuneus pale, apex reddish, width at base 0.45 mm., length 0.5 mm., barely reaching apex of abdomen; membrane fumate, very finely rugulose, apex of major areole angulate.

Xyphus concave, lateral margins strongly elevated; pleura dark brown, coarsely punctate; ostiolar peritreme large, flavous. Venter light brown, laterally tinged with reddish. Legs moderately long, light brown, two apical rings on femora, apex and three rings on tibiae and apex of tarsi dark brown.

Distinguished from the known species in the genus by the long second antennal segment as well as the coloration.

*Types*.—U.S.N.M. No. 56719, holotype, male; paratype, male. Both from Buitenzorg, Java, March 1909 (Bryant and Palmer).

### Subfamily DERAECORINAE

#### ANCHIX, new genus

Body ovate, glabrous, robust; pronotum, scutellum, hemelytra, and propleura coarsely punctate.

Head small, subhorizontal, seen from above distinctly longer than wide, seen from side much longer than height; vertex narrow, indistinctly longitudinally sulcate; clypeus prominent, anterior margin broadly rounded, confluent with frons at base; jugum flat, lorum tumid. Eyes large but not prominent, occupying the whole height of the head, removed from the anterior margin of pronotum, antecular part longer than postocular part, a distinct constriction separating the postocular part into a broad collum. Rostrum surpassing middle of mesosternum, thickened at base, tapering toward apex, first and second segments subequal in length, third longer, fourth longest, about as long as first and second taken together. Antennae linear, inserted at anterior margin of eyes, first segment incrassate, distinctly surpassing apex of head, the remaining segments slender; second slightly incrassate toward apex, second and third subequal in length, fourth short.

Pronotum a little broader than long, strongly narrowed toward apex, posterior lobe strongly convex, declivent, posterior margin broadly rounded, humeral angles obtuse, lateral margins vertically rounded, strongly sinuate, with a slightly raised smooth carina separating propleura from pronotum; apical collar distinct, flat, about as long as the width of vertex; calli moderately elevated, confluent, impunctate. Scutellum somewhat flat, covered at base, wider than long.

Hemelytra complete, considerably surpassing apex of abdomen; embolium broad, strongly inclined laterally, lateral margins strongly



convex; cuneus strongly declivent, fracture deep; membrane well developed, bicellulate. Ostiolar peritreme opaque. Legs of moderate length, coxae long, femora incrassate, tibiae shortly pilose; claws strongly curved, dentate at base, arolia and pseudarolia absent.

Closely related to *Ix* Bergroth, but distinguished from it by the more robust body, declivent pronotum, incrassate femora, and strongly discrete cuneus.

*Genotype*.—*Anchix atra*, new species.

ANCHIX ATRA, new species

FIGURE 57, c

*Female*.—Body, length 4.2 mm., width 1.57 mm.; shining reddish black, antennae (except first segment), fourth segment of rostrum, apical half of tibiae and tarsi flavous; above glabrous, coarsely punctate except head and calli and pronotum; beneath clothed with fine, short, flavous hairs, impunctate except propleura.

Head, width across eyes 0.55 mm., length seen from above (excluding collum) 0.55 mm., height seen from side 0.4 mm.; vertex brownish, width 0.1 mm. Length of antennal segments I : II : III : IV = 0.35 mm. : 0.9 mm. : 0.9 mm. : 0.4 mm.; extreme apex of second segment, apical half of third and fourth slightly fuscous. Rostrum strongly thickened at base, gradually tapering toward apex, length 1.65 mm., reaching apex of mesosternum.

Pronotum strongly narrowed toward apex, length 1.15 mm., width at base 1.55 mm., at apex 0.52 mm., apical collar with posterior margin sinuate, length 0.1 mm.; calli moderately convex, confluent, reaching lateral margin of pronotum. Scutellum covered at base, length 0.5 mm., width 0.7 mm.

Hemelytra with apex of cuneus attaining apex of abdomen, embolar margins broadly rounded, length 1.6 mm.; cuneus strongly declivent, length 0.4 mm., width 0.3 mm.; membrane fuscous, a large spot on lateral margin near base and another one near inner angle transparent. Posterior femora slightly curvate, length 1.4 mm., thickness 0.25 mm.; length of posterior tibiae 1.4 mm., hairs concolorous with the area where they are located.

*Male*.—Very similar to the female in coloration, but body and paratype, female. All from Mount Maquiling, Luzón (Baker, antennal segment 0.4 mm., second 1.3 mm. (third and fourth missing).

*Types*.—U.S.N.M. No. 56720, holotype, female, Mount Maquiling, Luzón, P. I. (Baker); allotype, male, Zamboanga, Mindanao, P. I. 1927 (C. F. Baker); paratypes, female, same data as holotype, male, same data as allotype, and female, Island of Basilan (Baker).



## Subfamily CYLAPINAE

## Genus RHINOMIRIS Kirkaldy

## RHINOMIRIS INSULARIS, new species

*Male*.—Body elongate, length 8.45 mm., width 1.95 mm., opaque, above obscurely brown with irregular yellow spots, beneath mainly reddish brown; clothed sparingly with fine, simple, flavous hairs.

Head subhorizontal, apical third except base of clypeus and apex of lorum, and along lower margin of eyes widely reddish brown; width across eyes 1.25 mm., length seen from above 1.25 mm., height seen from side 0.85 mm., length of anteocular part 0.72 mm.; vertex flat, longitudinally sulcate, immarginate, width 0.42 mm.; clypeus flat, confluent with frons. Eyes large, prominent, rounded. Antennae very long, linear, slender, inserted near anterior margin of eyes, dark brown, first segment (except the reddish apex), basal half and extreme apex of second and base of third pale; length of segments I : II : III : IV = 1.7 mm. : 3.8 mm. : 6.35 mm. : 2.5 mm. Rostrum barely reaching apex of abdomen, first segment not quite reaching posterior margin of xyphus, last two segments reddish, length of segments I : II : III : IV = 1.65 mm. : 2.8 mm. : 1.45 mm. : 0.9 mm.

Pronotum campanulate, length 1.25 mm., width at base 1.9 mm., at apex 0.75 mm., basal margin slightly sinuate each side of the middle, lateral margins distinctly sinuate, apical collar slender, convex; calli confluent, convex, forming an anterior lobe of pronotum which is longer than the posterior lobe, marked irregularly with dark brown. Mesoscutum broadly exposed, scutellum convex, a longitudinal median line pale, length (excluding mesoscutum) 0.64 mm., width 0.8 mm.

Hemelytra with sides subparallel, series of irregular spots along the veins and between them on corium and clavus yellowish, a transverse irregular band across beyond apex of clavus and cuneus darkened; cuneus small, thickened, cuneal fracture obsolete, membrane fumate, apex of major areole rounded.

Margin of xyphus, margin of propleura, ostiolar peritreme, and a few large spots on venter yellow. Legs long, reddish brown, three broad rings on femora and one near middle of tibiae yellowish; length of posterior femora 4.15 mm., length of posterior tibiae 6.05 mm. Left genital clasper pointed apically, with a large process at base of upper margin; right clasper smaller, dentate at base.

*Female*.—Coloration very similar to the male, size larger, length 8.9 mm., width 2.07 mm., length of antennal segments I : II : III : IV = 1.6 mm. : 3.52 mm. : 5.8 mm. : 1.6 mm. (?).

Close to *R. intermedius* Poppius but distinguished by the shorter first antennal segment as well as the different coloration.

*Types*.—U. S. N. M. No. 56721, holotype, male; allotype, female; paratype, female. All from Mount Maquiling, Luzón (Baker).



## RHINOMIRIS BORNEENSIS, new species

*Female*.—Body elongate, length 8.7 mm., width 2.25 mm.; coloration very similar to *R. insularis*, but calli of pronotum and scutellum more strongly convex.

Head, width across eyes 1.2 mm., length seen from above 1.4 mm., height seen from side 0.8 mm.; length of anteocular part 0.65 mm.; vertex longitudinally sulcate, width 0.45 mm. Length of antennal segments I : II : III : IV = 1.55 mm. : 3.55 mm. : 5.25 mm. : 2.25 mm. Rostrum surpassing posterior margin of eighth ventral segment, length of segments I : II : III : IV = 1.6 mm. : 2.95 mm. : 2.95 mm. : 0.9 mm. Length of posterior femora 3.15 mm., of posterior tibiae 3.75 mm.

*Male*.—Similar to the female in coloration, but size smaller, length 7.95 mm., width 1.95 mm. Length of antennal segments I : II : III : IV = 1.4 mm. : 3.4 mm. : 6.2 mm. : 2.45 mm. Process of left genital clasper longer than that of *insularis*.

*Types*.—U. S. N. M. No. 56722, holotype, female; allotype, male; and 5 male and 9 female paratypes. All from Sandakan, Borneo (Baker).

## Genus RHINOCYLAPUS Poppius

## RHINOCYLAPUS SCUTATUS, new species

*Male*.—Body, length 7.4 mm., width 2.05 mm., reddish brown, middle third of second antennal segment, base of third segment, a large spot in middle of scutellum, extreme inner apical angle of corium, inner basal angle of cuneus and tarsi pale; hemelytra and abdomen clothed with concolorous fine short hairs.

Head horizontal, width across eyes 1.1 mm., length seen from above 1.5 mm., height seen from side 0.72 mm., length of anteocular part 0.95 mm.; vertex narrowly marginate, distinctly longitudinally sulcate, width 0.55 mm. Eyes moderately large, not prominent, not touching anterior margin of pronotum. Antennae linear, very long, inserted about 0.2 mm. in front of eyes, length of segments I : II : III : IV = 1.3 mm. : 2.15 mm. : 4 mm. : 2.45 mm., first segment gradually thickened in the middle, second slenderer than first, third and fourth very slender. Rostrum long, considerably surpassing apex of abdomen, gradually tapering toward apex, length of segments I : II : II : IV = 2.55 mm. : 1.75 mm. : 2 mm. : 1.4 mm.

Pronotum slightly declivent, length 1.3 mm., width at base 1.7 mm., at apex 0.74 mm., posterior lobe coarsely punctate, lateral margins nearly straight, posterior margin broadly shallowly excavated each side of middle, humeral angles rounded; apical collar slender, flat; calli smooth, large, confluent anteriorly, separated posteriorly by a longitudinal sulcus, together with apical collar occupying about half



the length of pronotum. Mesoscutum broadly exposed, scutellum transversely rugulose, triangular, length 0.8 mm. (excluding mesoscutum), width 0.8 mm.

Hemelytra coarsely punctate; embolar margins slightly convex, length 5.6 mm.; cuneus small, impunctate, length 0.5 mm., width 0.35 mm.; inner apical angle of major areole acute.

Propleura coarsely punctate, mesopleura and metapleura finely punctulate. Legs long, length of posterior femora 3.6 mm., posterior tibiae concolorously spinulose, length 5.25 mm. Both genital claspers simple, left one larger, fingerlike, gradually tapering at apex, strongly curvate; right one with apex flattened.

*Female*.—Very similar to male in coloration except second antennal segment, which is broadly pale with only apex and base dark. Body length 9.5 mm., width 2.75 mm. Head, length 1.75 mm., width 1.35 mm.; vertex, width 0.6 mm. Length of rostral segments I:II:III:IV=3.2 mm.:1.85 mm.:2.55 mm.:1.7 mm.; length of antennal segments I:II:III:IV=1.55 mm.:2.9 mm.:5.1 mm.:2.6 mm.

Close to *R. simplicicollis* Poppius but distinguished by longer rostrum, different relative length of antennal segments, and different color of scutellum.

*Types*.—U.S.N.M. No. 56723, holotype, male; allotype, female; and 4 male and 3 female paratypes. All from Sandakan, Borneo (Baker).

**RHINOCYLAPUS VITTATUS, new species**

*Female*.—Body, length 6.55 mm., width 2.45 mm., dark brown with yellowish stripes, clothed on hemelytra and abdomen with short, flavous, simple hairs.

Head horizontal, width across eyes 1.1 mm., length seen from above 1.22 mm., height seen from side 0.75 mm., length of anteocular part 0.7 mm.; yellowish brown, middle of vertex and frons, and clypeus broadly dark brown; vertex longitudinally sulcate, width 0.5 mm. Antennae linear, length of segments I:II:III:IV=0.95 mm.:2.25 mm.:1.95 mm.:1.8 mm. Rostrum, length 5.5 mm., reaching posterior margin of eighth ventral segment.

Pronotum coarsely punctate, somewhat constricted behind calli, length 1.16 mm., width at base 1.7 mm., at apex 0.65 mm., three broad longitudinal bands and two narrow ones each side along lateral margin yellowish; lateral margin sinuate, posterior margin slightly sinuate each side of the middle before scutellum, humeral angle rounded; apical collar short, convex; calli smooth, anterior margin with a row of punctures, convex, confluent anteriorly. Mesoscutum broadly exposed, scutellum transversely rugulose, slightly convex, length (excluding mesoscutum) 0.75 mm., width 0.75 mm., lateral margins and apex yellow.



Hemelytra coarsely punctate, veins on clavus and corium and apical margin of corium yellow; embolar margin broadly convex, length 2.95 mm.; cuneus small, impunctate, length 0.3 mm., width 0.3 mm., reddish yellow, exterior margin dark brown; membrane dark brown, rugulose, inner apical angle of major areole acutely angulate.

Propleura coarsely punctate, mesopleura and metapleura finely punctulate and rugulose. Xyphus, ostiolar peritreme, venter and legs yellowish brown. Length of posterior femora 2.45 mm., length of posterior tibiae 3.55 mm.

Differs from all the known species by the unusual coloration, length of rostrum, and size of the body.

*Types*.—U.S.N.M. No. 56724, holotype, female, Sandakan, Borneo (Baker); paratypes, 11 females, same data as holotype; 9 females, Island of Basilan (Baker).

*Note*.—I have before me a few male specimens collected from the same locality as the type. They are very similar to this species in coloration but are so much smaller that I prefer to await study of additional material before placing them with certainty.

#### RHINOPHRUS, new genus

Body elongate, shining, clothed very sparingly with simple hairs.

Head small, horizontal, a little wider than the apex of pronotum, seen from above about one and one-half times as long as wide, seen from side longer than high; vertex immarginate, narrower than the width of eye seen from above, destitute of longitudinal sulcus; frons horizontal, strongly produced into a cone-shaped process over clypeus; clypeus compressed, very prominent; bucculae united behind. Eyes large, granulate, occupying whole height of head, seen from above not prominent, far removed from apex of pronotum, anteocular part longer than postocular part. Antennae linear, shorter than the length of body, inserted at the middle of anterior margin of eyes, first segment thickest, second slightly thickened at apex. Rostrum gradually tapering toward apex, reaching upon intermediate coxae.

Pronotum horizontal, finely transversely rugulose, wider than long, over twice as wide at base as at apex, strongly widened behind calli, lateral margins vertically rounded, posterior margin broadly sinuate before scutellum; apical collar flat; calli flat, confluent. Mesoscutum widely exposed, scutellum triangular, flat, wider than long.

Hemelytra complete, embolar margins nearly parallel, cuneus horizontal, longer than wide, fracture distinct; membrane well developed, unicellulate.

Xyphus with disk flat, lateroposterior margins elevated; ostiolar peritreme small. Last dorsal segment produced in both sexes. Legs



of medium length, anterior coxae long, anterior femora distinctly incrassate, posterior femora slightly thickened at apical third, tibiae destitute of spinules, slightly more slender at apex, first tarsal segment not longer than second, claws broadly curvate, arolia and pseudarolia absent.

This genus is referred to the subfamily Cylapinae and probably related to *Fulvius* Stål, but it is distinguished from this and other genera by the produced frons, compressed clypeus, long anterior coxae, and incrassate anterior femora and belongs to a new tribe, which may be known as **Rhinophrini**.

*Genotype*.—*Rhinophrus borneensis*, new species.

**RHINOPHRUS BORNEENSIS, new species**

FIGURE 57, i, j

*Female*.—Body, length 3.8 mm., width 0.82 mm., reddish black, very sparingly clothed with golden hairs.

Head, width across eyes 0.4 mm., length seen from above 0.6 mm., height seen from side 0.3 mm.; width of vertex 0.1 mm., length of frontal process 0.2 mm. Length of antennal segments I:II:III:IV = 0.45 mm.:0.92 mm.:0.75 mm.:0.75 mm., first segment thickened in the middle, slightly curvate, second very slightly thickened at apex, gradually pale towards base. Rostrum, length 1.3 mm., first segment pale.

Pronotum horizontal, length 0.5 mm., width at base 0.8 mm., at apex 0.35 mm. Scutellum flat, length (excluding mesoscutum) 0.2 mm., width 0.27 mm.

Hemelytra reddish brown, distinctly surpassing apex of abdomen, embolar margin slightly convex behind the middle, length 1.55 mm., cuneus reddish, length 0.47 mm., width 0.2 mm.

Anterior coxae, middle of anterior tibiae, tarsi, middle legs (except base of coxae), basal two-thirds of posterior femora, extreme base and extreme apex of posterior tibiae and posterior tarsi flavous. Anterior coxae a little more than half as long as anterior femora, length of posterior femora 1.4 mm., length of posterior tibiae 1.65 mm.

*Male*.—Very similar to the female. Body, length 3.45 mm., width 0.5 mm.; length of antennal segments I:II:III+IV = 0.45 mm.:0.9 mm.:1.43 mm. (the joint between III and IV is covered). Both genital claspers are narrow and more or less straight and flavous.

*Types*.—U. S. N. M. No. 56725, holotype, female; allotype, male; paratypes, 1 male and 2 females. All from Sandakan, Borneo (Baker).



## Subfamily BRYOCORINAE

## NOTIDIUS, new genus

Body oblong, robust, impunctate, clothed densely with short, fine, simple hairs.

Head large, strongly declivent, broader than long, seen from front triangular in form; vertex broad, more than twice as broad as an eye seen from above, without longitudinal sulcus, basal margin slightly convex, immarginate; frons moderately convex, clypeus moderately prominent, vertical, discrete at base; jugum and lorum discrete, gena high, bucculae long. Eyes rather small but prominent, touching and producing over anterior angles of pronotum. Rostrum reaching upon posterior coxae, first segment reaching base of head. Antennae short, inserted at base of jugum, first and second segments incrassate, third and fourth segments very slender.

Pronotum slightly inclined anteriorly, wider than long, about twice as wide at base as at apex. Basal margin somewhat straight before scutellum, humeral angles rounded, lateral margin straight, ecarinate; apical collar convex, as long as first antennal segment thick; calli very distinct, confluent except a small round depression between them, separated posteriorly from the posterior lobe of pronotum by a deep transverse line, forming a broad ring about twice as thick as the apical collar, posterior lobe about as long as apical collar and calli taken together. Scutellum covered at base, triangular, moderately convex in middle, broader than long.

Hemelytra complete, embolium narrow, embolar margin slightly convex; cuneus longer than broad, fracture distinct; membrane well developed, unicellulate, inner apex of cell acutely angulate, veins covered with fine hairs.

Xyphus of prosternum marginate, ostiolar peritreme obsolete. Legs short, femora incrassate, tibiae destitute of spinules; third tarsal segment distinctly incrassate, claws broadly curvate, pseudarolia prominent, shortly laminate, projecting free at tip.

This genus is unique in the subfamily Bryocorinae. It differs from all other genera by the peculiar structures of pronotum, antennae, and legs.

*Genotype*.—*Notidius brevipes*, new species.

## NOTIDIUS BREVIPES, new species

## FIGURE 57, a

*Female*.—Body, length 4.35 mm., width 1.95 mm.; dark castaneous; head, antennae, legs, beneath for the most part, light castaneous; clothed densely with short, fine hairs concolorous with the areas



where they are located, the hairs on antennae and legs not appreciably longer or thicker.

Head, width across eyes 1.1 mm., length seen from above 0.75 mm., height seen from side 0.65 mm., length of anteocular part 0.5 mm.; vertex, width 0.6 mm. Eyes red, granulate, seen from above more or less rounded, seen from side obliquely subovate, posterior margin concave. Length of antennal segments I:II:III:IV=0.4 mm.:0.75 mm.:0.25 mm.:0.45 mm.; thickness of first segment 0.12 mm., narrowed at base; second nearly as thick as first, very slightly narrowed towards both ends, dark; third and fourth segments very slender, third flavous. Rostrum, length 2.15 mm., surpassing apex of posterior coxae.

Pronotum, length 0.9 mm., width at base 1.6 mm., at apex 0.8 mm.; apical collar slightly sinuate at apex, length, 0.13 mm.; length of calli 0.25 mm. Scutellum covered at base, length 0.5 mm., width 0.8 mm.

Hemelytra with apex of cuneus attaining apex of abdomen, color a little lighter than pronotum, embolium light castaneous; embolar margin very slightly convex, length 1.8 mm.; cuneus strongly declivent, length 0.7 mm., width 0.5 mm., exterior margin paler; membrane concolorous with corium, finely rugulose along the margin.

Pleura dark castaneous. Legs short, femora incrassate; posterior femora, length 1.3 mm., thickness 0.4 mm.; length of posterior tibiae 1.4 mm.

*Type*.—U.S.N.M. No. 56726, holotype, female, Sandakan, Borneo (Baker).

#### Genus FELISACUS Distant

##### FELISACUS CARPENTERAE, new species

*Male*.—Body elongate, length 3.15 mm., width 0.8 mm., shining, clothed very sparingly with simple flavous hairs, ochraceous tinged with reddish, hemelytra transparent.

Head vertical, width across eyes 0.52 mm., length seen from above (excluding the collum) 0.22 mm., height seen from side 0.5 mm.; vertex slightly convex, width 0.23 mm.; frons somewhat flat; clypeus prominent, narrow, distinctly impressed at base; jugum and lorum confluent, flat. Eyes moderately large, not prominent, far removed from anterior margin of pronotum. Antennae linear, inserted near the middle of inner margins of eyes, length of segments I:II:III:IV=0.8 mm.:1.02 mm.:1.1 mm.:0.5 mm., first and second segments reddish, the last two segments darkened. Rostrum tapering from the base to the apex, length 0.85 mm., surpassing apex of anterior coxae.

Pronotum smooth, length 0.6 mm., width at base 0.75 mm., at apex 0.32 mm., median constriction very deep, basal margin slightly sinuate



before scutellum; calli lightly reddish, anterior margin very narrowly fuscous. Scutellum moderately convex, as long as wide at base.

Hemelytra transparent (excluding cuneus), veins, embolar margins, inner claval margins, commissure and cuneus reddish; an oblique linear spot near apex of clavus fuscous; embolar margins very slightly convex, length 1.35 mm.; cuneus opaque, more than twice as long as wide. Lateral margins of abdomen behind middle and apex red. Right clasper long, narrow, broadly curvate at apical third, left clasper small.

*Female*.—Very similar to male; body, length 3.35 mm., width 0.85 mm., embolar margins a little more convex.

Close to *F. glabratus* (Motschulsky) but distinguished by the smaller size, longer third antennal segment, and different color of cuneus.

*Types*.—U.S.N.M. No. 56727, holotype, male; allotype, female; paratypes, 4 males and 4 females. All from Singapore (Baker).

This species is named in honor of Miss Mathilde M. Carpenter, librarian of the Division of Insects, U. S. National Museum, in appreciation of her help in securing literature for my studies.

#### FELISACUS CARPENTERAE SIGNIS, new variety

Very similar to the typical form, but body larger, length 3.4 mm., width 0.8 mm., posterior margin of pronotum broadly (excluding middle fourth to third), inner half of clavus, and margins around inner apical angles of corium fuscous. Length of antennal segments I:II:III:IV=0.9 mm.:1.05 mm.:1.4 mm.:0.4 mm.

*Types*.—U.S.N.M. No. 56728, holotype, male; allotype, female; paratypes, 6 males and 2 females. All from Sandakan, Borneo (Baker).

#### FELISACUS PHILIPPINENSIS, new species

*Male*.—Body elongate, length 4.1 mm., width 0.95 mm., shining, clothed sparingly with simple flavous hairs. Head, pronotum, and scutellum ochraceous; apex of clypeus, basal margin of pronotum, clavus, margins of inner apical angle of corium, mesosternum and last two segments of antennae, exterior margin of embolium (except the base) and external margin of cuneus very narrowly, fuscous, first two segments of antennae reddish.

Head, width across eyes 0.57 mm., length seen from above 0.35 mm., height seen from side 0.5 mm.; vertex, width 0.25 mm. Length of antennal segments I:II:III:IV=0.75 mm.:1.15 mm.:1.15 mm.:0.7 mm., first segment gradually but distinctly enlarged at middle. Pronotum, length 0.75 mm., width at base 0.9 mm., at apex 0.4 mm.

*Female*.—A little broader than male, length 4.25 mm., width 1.12 mm., length of antennal segments I:II:III:IV=0.52 mm.:1.05 mm.:1.15 mm.:0.65 mm.



Close to *F. pulchellus* Poppius but distinguished by the longer second antennal segment and different markings on dorsum. Distinguished from *F. carpenterae* by the different structure of the first antennal segment and the relative length of the antennal segments.

*Types*.—U.S.N.M. No. 56729, holotype, male; allotype, female; and paratypes, 2 males and 1 female. All from Mount Maquiling, Luzón, P. I. (Baker).

Genus **THAUMASTOMIRIS** Kirkaldy

**THAUMASTOMIRIS PHILIPPINENSIS**, new species

*Female*.—Body ovate, length 5.45 mm., width 2.7 mm., somewhat shining, clothed with short simple flavous hairs, sanguineous; antennae, apex of rostrum, and apex of tarsi fuscous; membrane pale transparent.

Head vertical, strongly produced below eyes, width across eyes 1.2 mm., length seen from above 0.4 mm., height seen from side 0.95 mm.; vertex flat, width 0.64 mm., strongly transversely impressed before posterior margin, forming a distinct callous behind it; frons broadly convex; clypeus moderately elevated, discrete from frons; jugum and lorum confluent, separated only by a fine suture; bucculae short, partly united behind. Eyes rather small, rounded, very prominent, touching anterior margin of pronotum. Antennae linear, gradually tapering toward apex, inserted on frons a little distance from the eyes; length of segments I:II:III:IV=0.65 mm.:1.3 mm.:1 mm.:1.1 mm., first segment the thickest. Rostrum, length 2.05 mm., considerably surpassing apex of posterior coxae, first segment barely reaching apex of anterior coxae, second segment longest, slightly longer than third and fourth taken together.

Pronotum finely granulate, nearly horizontal, length 1 mm., width at base 1.7 mm., at apex 1.05 mm., lateral margins rounded, strongly sinuate, posterior margin straight, posterior angles rounded; apical collar distinct, granulate, shorter than the thickness of first antennal segment; calli somewhat smooth, convex, deeply separated from each other. Scutellum small, triangular, covered at base, impunctate, flat, depressed in the middle at base.

Hemelytra impunctate, with base of cuneus attaining apex of abdomen; embolar margins convex, cuneus long, membrane pale transparent, unicellular, veins sanguineous. Mesosternum slightly fuscous, ostiolar peritreme very small. Legs of moderate length, length of posterior femora 2.2 mm., length of posterior tibiae 2.5 mm.

*Male*.—Very similar to female, but a little smaller, length 5 mm., width 2.15 mm., the color of the specimen at hand faded from sanguineous to orange. Left genital clasper broad at basal part and abruptly



narrowed at apical portion, strongly bent inwardly, a broad spinelike process on left apical margin of ninth ventral segment.

Distinguished from the other species in the genus by the longer rostrum and different length of antennal segments; from *T. sanguinalis* Kirkaldy and *T. minutus* Poppius by the pale membrane and from *T. piceatus* Distant and *T. discoidalis* Poppius by the uniform color of hemelytra.

*Types*.—U.S.N.M. No. 56730, holotype, female, Puerto Princesa, Palawan, P. I., September 1925 (R. C. McGregor); allotype, male, Cotabato, P. I. (Taylor); paratypes, male, same data as the holotype, female, same data as the allotype and 2 females, Philippine Islands (B. Arce).

THAUMASTOMIRIS DISSIMILIS, new species

*Male*.—Body ovate, length 3.25 mm., width 1.35 mm., clothed with short simple pale hairs which are somewhat longer on pronotum; yellowish brown with dark brown markings on dorsum.

Head yellowish brown, vertical, strongly produced below eyes, width across eyes 0.8 mm., length seen from above 0.35 mm., height seen from side 0.56 mm.; vertex somewhat flat, width 0.45 mm., transversely impressed, forming a distinct posterior callus; frons strongly convex, clypeus moderately prominent, discrete from frons, jugum and lorum confluent. Eyes medium, rounded, prominent, touching anterior margin of pronotum. Antennae linear, inserted a little distance in front of eyes, dark brown, first segment for the most part and second segment at apex paler, length of segments I:II:III:IV=0.35 mm.:0.62 mm.:0.45 mm.:0.6 mm., first segment the thickest, second segment very slightly incrassate towards apex, where the thickness equals that of the first segment. Rostrum thick, length 1.05 mm., reaching apex of intermediate coxae, third and fourth segments taken together longer than the first but shorter than the second.

Pronotum anteriorly slightly declivent, distinctly granulate, dark brown, two large spots each on the lateral margin behind callus yellowish brown; length 0.55 mm., width at base 1.1 mm., at apex 0.5 mm., posterior margin straight, lateral margins slightly sinuate, posterior angles rounded; apical collar nearly as long as the thickness of first antennal segment; calli distinct, smooth, separated from each other by a broad impression. Scutellum small, triangular, flat, dark brown.

Hemelytra with base of cuneus attaining apex of abdomen, pale grayish, a broad transverse band on corium behind the middle, inner margin on clavus broadly, commissure broadly, and embolar margins very narrowly, dark brown; embolar margins slightly and evenly convex, length 1.5 mm.; cuneus long, lateral margins at base narrowly



dark brown; membrane semitransparent, veins concolorous with cuneus. Venter brown. Legs yellowish brown, length of posterior femora 1.05 mm., length of posterior tibiae 1.3 mm. Genitalia similar to those of *T. sanguinalis* Kirkaldy, left clasper leaflike, with apex concealed by the apical margin of the ninth ventral segment.

This species is unique in the genus. It can be readily distinguished from the other species by its small size and the absence of reddish color.

*Types*.—U.S.N.M. No. 56731, holotype, male; paratypes, 8 males. All from Island Sámar, P. I. (Baker).

#### KNIGHTIOLA, new genus

Body oval, broadened posteriorly, shining, clothed with short fine simple hairs.

Head vertical, seen from above about three times as wide as long, seen from side about twice as high (to apex of clypeus) as long; vertex slightly convex, immarginate, transversely impressed before collum, about twice as wide as an eye seen from above; frons slightly convex; clypeus vertical, distinctly discrete with frons, moderately prominent; jugum and lorum separated by a distinct suture; bucculae large, united behind; gula short. Eyes moderately large, prominent, seen from side nearly rounded, posterior margin sinuate, touching apex of pronotum and protruding backward over lateral side of apical collar. Rostrum thick, surpassing intermediate coxae, first segment the longest, second about as long as third and fourth taken together. Antennae inserted at middle of anterior margin of eyes, sublinear, first segment about as long as width of vertex, second longer than third.

Pronotum moderately inclined, distinctly punctate, about twice as wide at base as long, posterior margin broadly rounded, distinctly sinuate at middle, lateral margin broadly sinuate, anterior margin sinuate; apical collar indistinct; calli smooth, moderately convex, widely separated at middle. Mesoscutum covered; scutellum triangular, impunctate, distinctly convex, wider than long.

Hemelytra well developed, with base of cuneus attaining apex of abdomen, obsoletely punctulate, lateral margins rounded, embolium narrow and thickened; cuneus large, about as long as wide, not separated from corium except at the fracture, strongly declivent; membrane unicellate, finely rugulose, veins finely pilose.

Xyphus concave, margins elevated, ostiolar peritreme obsolete. Legs moderately long, femora furnished with long hairs, anterior and posterior pairs slightly thickened; tibiae not spinulose; third tarsal segment distinctly enlarged; pseudarolia prominent, very broad, arolia indistinct.



Closely related to *Thaumastomiris* Kirkaldy and *Prodromus* Distant, but readily distinguished from the former by the different structure of cuneus and membranal cell, and from the latter by the different structure of head. This genus is named in honor of Dr. H. H. Knight, of Iowa State College, who is an authority on the family Miridae.

*Genotype*.—*Knightiola pulchella*, new species.

**KNIGHTIOLA PULCHELLA, new species**

FIGURE 57, b

*Female*.—Body, length 3.3 mm., width 1.65 mm.; pubescence flavous; above ochraceous, beneath blood red.

Head, width across eyes 0.85 mm., length seen from above 0.25 mm., height seen from side (to apex of clypeus) 0.55 mm., width of vertex 0.45 mm., clypeus red. Eyes granulate, reddish dark. Rostrum, length 1.05 mm., surpassing apex of intermediate coxae, apical half red, apex dark. Length of antennal segments I : II : III : IV = 0.42 mm. : 0.75 mm. : 0.5 mm. : 0.45 mm., first segment red except extreme base, apices of second and third segments and fourth segment reddish dark to dark.

Pronotum, length 0.6 mm., width at base 1.25 mm., at apex 0.5 mm.; calli reddish. Scutellum, width 0.55 mm., length 0.4 mm. Length of embolar margin 1.6 mm.; cuneus, length 0.55 mm., width 0.55 mm., exterior margin reddish; membrane transparent, inner apical angle of membranal cell narrowly rounded. Xyphus and middle of mesosternum ochraceous, apex of femora and base of tibiae reddish, length of posterior femora 1.25 mm., length of posterior tibiae 1.4 mm.

*Male*.—Very similar to female; body, length 3.2 mm., width 1.7 mm., a little more broadened posteriorly than female; length of antennal segments I = 0.45 mm., II = 0.75 mm. (III and IV covered by card point.)

*Types*.—U.S.N.M. No. 56732, holotype, female; allotype, male; and paratypes, male and 4 females. All from Mount Banájao, P. I. (Baker).

**Genus BROMELIAEMIRIS Schumacher**

I place the following species provisionally in the genus *Bromeliaemiris* Schumacher. It is possible that this genus is a synonym of *Lopidolon* Poppius, but at the present time I do not have sufficient material fully to justify this conclusion.

**BROMELIAEMIRIS DISSIMILIS, new species**

*Male*.—Body elongate, length 5.95 mm., width 1.9 mm., densely clothed with fine simple pale hairs; reddish yellow, antennae, lateral margins of pronotum, hemelytra, and legs (excluding coxae and basal half of femora) black.



Head vertical, width across eyes 1.3 mm., length seen from above 0.4 mm., height seen from side (to apex of clypeus) 0.85 mm.; vertex flat, immarginate, width 0.57 mm.; frons a little convex in the middle, clypeus discrete from frons. Eyes moderately large, rounded, prominent, not touching apex of pronotum. Rostrum thick, length 1.85 mm., surpassing middle of posterior coxae, first segment reaching middle of anterior coxae, second the longest, third and fourth short. Antennae linear, inserted near lower end of inner margins of eyes, second, third, and fourth segments clothed with erected long fine hairs; length of segments I : II : III : IV = 0.45 mm. : 1.75 mm. : 0.9 mm. : 0.42 mm., last two segments distinctly more slender than second.

Pronotum subhorizontal, length 1.05 mm., width at base 1.75 mm., at apex 0.82 mm., posterior lobe slightly convex, very finely punctulate, posterior margin nearly straight before scutellum, lateral margins strongly sinuate, humeral angles rounded; apical collar sinuate at apex; calli distinct, smooth, connected anteriorly by an elevated area. Scutellum triangular, length 0.7 mm., width 0.8 mm., triangularly impressed at middle of base.

Hemelytra finely and shallowly punctulate, with apex of corium reaching apex of abdomen; embolar margins subparallel, length 2.75 mm.; cuneus subhorizontal, length 0.1 mm., width 0.45 mm.; membrane finely rugulose, minor areole obsolete, inner apex of major areole narrowly rounded.

Ostiolar peritreme obsolete, venter reddish. Femora slightly thickened, tibiae destitute of spinules, third tarsal segment incrassate, claws broadly curvate, pseudarolia large, connate with claws. Genitalia prominent, right clasper simple, broadened and rounded apically, left clasper very small, aedeagus (?) large, posteroventral view abomasum-shaped.

*Female*.—Very similar to male; body, length 5.65 mm., width 1.9 mm. Vertex a little wider, length of antennal segments I : II : III : IV = 0.5 mm. : 1.5 mm. : 0.9 mm. : 0.5 mm.

Close to *B. bicolor* Schumacher, but distinguished by longer second antennal segment, pale clypeus and scutellum.

*Types*.—U.S.N.M. No. 56733, holotype, male, Manila, P. I., collected on orchid (E. Maskew); allotype, female, Philippines, collected at Honolulu, Hawaii, on root of *Phalaenopsis amabilis*, September 4, 1931; paratypes: male and 2 females, same data as holotype (all bearing hand written label "700A"); male, Philippines, intercepted at San Francisco, November 16, 1933, on *Dendrobium euperbum* (in cargo); female, Manila, collected on orchid, May 1, 1914; female, Bur. Agr. P. I., acc. No. 285 (C. R. Jones); female, Philippines, May 1, 1933, collected at Honolulu on orchid plant debris.



**BROMELIAEMIRIS MARGINATUS, new species**

*Male*.—Similar to *B. dissimilis*, but embolium, exterior margin of corium, cuneus, and legs reddish yellow. Body, length 5.4 mm., width 1.8 mm.

Head, width across eyes 1.12 mm., length seen from above 0.4 mm., height seen from side (to apex of clypeus) 0.8 mm.; vertex, width 0.5 mm. Rostrum, length 1.7 mm. Length of antennal segments I : II : III : IV = 0.5 mm. : 1.5 mm. : 0.9 mm. : 0.4 mm.

Pronotum, length 1 mm., width at base 1.7 mm., width at apex 0.77 mm. Embolar margins of hemelytra slightly convex, length 2.5 mm.; cuneus, length 0.64 mm., width 0.35 mm. Right genital clasper simple, elongate, slightly narrowed at apex, left clasper small, aedeagus (?) large, avicephaliform.

*Female*.—Similar to male, length 5.65 mm., width 1.95 mm.; vertex a little wider; length of antennal segment I = 0.5 mm.; II = 1.2 mm., incrassate at apex (III and IV missing).

*Types*.—U.S.N.M. No. 56734, holotype, male, Philippines, intercepted at Honolulu, April 13, 1932; allotype, female, Manila, P. I., April 29, 1914 (B. Whitney); paratypes: male, same data as allotype; 2 females, Manila, P. I., on orchid (F. Maskew); female, Philippines, on *Phalaenopsis schilleriaria*, at San Francisco; male, Philippines, June 27, 1934, on *Phalaenopsis sanderiana*; male, Philippines, May 11, 1934 (San Francisco Quar. 3516).

**BROMELIAEMIRIS PUNCTICOLLIS, new species**

*Male*.—Coloration very similar to *B. marginatus*, but exterior margin of corium very narrowly pale, cuneus reddish. Pronotum more distinctly punctate, frons more convex, clypeus curved backward. Body, length 4.45 mm., width 1.25 mm.

Head, width across eyes 0.95 mm., length seen from above 0.35 mm., height seen from side 0.7 mm.; vertex, width 0.5 mm. Rostrum, length, 1.4 mm., surpassing apex of posterior coxae. Length of antennal segments I : II : III : IV = 0.32 mm. : 1.25 mm. : 0.85 mm. : 0.37 mm.

Pronotum, length 0.82 mm., width at base 1.5 mm., at apex 0.75 mm., posterior margin broadly rounded. Scutellum, length 0.65 mm., width 0.6 mm. Hemelytra impunctate; embolar margin subparallel, length 2 mm.; cuneus, length 0.65 mm., width 0.35 mm.; membrane bicellulate.

*Type*.—U.S.N.M. No. 56735, holotype, male, Australia, December 28, 1933, on *Dendrobium superbiens* (at Hawaii).

**BROMELIAEMIRIS NIGRITUS, new species**

*Male*.—Body, length 5.5 mm., width 1.55 mm., dark, clothed with whitish pubescence; legs and rostrum paler.



Head structure much like *B. puncticollis*, width across eyes 1.1 mm., length seen from above 0.4 mm., height seen from side 0.85 mm.; vertex, width 0.6 mm. Rostrum, length 1.75 mm., reaching middle of posterior coxae. Length of antennal segments I:II:III:IV=0.4 mm.:1.4 mm.:0.8 mm.:0.35 mm.

Pronotum impunctate, posterior lobe more convex than in *B. puncticollis*; length 1 mm., width at base 1.55 mm., at apex 0.8 mm.; posterior margin broadly rounded; apical collar not sinuate at apex. Scutellum slightly impressed at base, length 0.6 mm., width 0.7 mm. Embolar margin slightly broadly sinuate, length 2.5 mm.; cuneus, length 1 mm., width 0.32 mm.; membrane bicellulate.

*Female*.—Very similar to the male, length 4.9 mm., width 1.4 mm.; length of antennal segments I:II:III:IV=0.3 mm.:1.25 mm.:0.75 mm.:? (fourth missing).

*Types*.—U.S.N.M. No. 56736, holotype, male, Borneo, in orchid packing, intercepted at San Francisco, Calif., September 21, 1934; allotype, female, same data as for holotype.

**BROMELIAEMIRIS VIRIDIPICTUS, new species**

*Female*.—Body elongate, length 4.85 mm., width 1.8 mm., clothed with fuscous and pale hairs; black, areas around eyes on head, first antennal segment, a longitudinal line and a spot behind middle of lateral margin of pronotum, base and apex of clavus, base and narrow margin of inner apical angle of corium, cuneus (except a dark apical spot), basal half of femora, and apical half of tibiae greenish.

Head vertical, width across eyes 1.1 mm., length seen from above 0.32 mm., height seen from side 0.9 mm.; vertex, width 0.5 mm. Rostrum, length 1.9 mm., distinctly surpassing apex of posterior coxae. Length of antennal segments I:II:III:IV=0.35 mm.:1.05 mm.:0.52 mm.:0.5 mm.

Pronotum very minutely punctulate, length 0.84 mm., width at base 1.65 mm., at apex 0.8 mm., posterior margin straight before scutellum, apex of apical collar sinuate. Mesoscutum broadly exposed; scutellum small, length 0.5 mm., width 0.7 mm. Embolar margins subparallel, length 2.2 mm.; cuneus, length 0.75 mm., width 0.42 mm.; membrane bicellulate, inner apex of major areole angulate and pale.

*Type*.—U.S.N.M. No. 56737, holotype, female, Philippines, on *Phalaenopsis grandiflora* (at San Francisco, Calif.), January 17, 1941.

**BROMELIAEMIRIS NIGRIPICTUS, new species**

*Male*.—Body elongate, length 5.8 mm., width 2 mm., red, with black markings on dorsum, clothed with yellow and black hairs.

Head, width across eyes 1.07 mm., length seen from above 0.4 mm., height (to apex of clypeus) seen from side 0.8 mm.; vertex flat, width



0.54 mm., frons moderately convex, clypeus curvate backward, deeply discrete from frons. Eyes rather small, less prominent than *B. puncticollis*. Rostrum darkened at apex, length 2 mm., surpassing apex of posterior coxae. Antennae black, length of segments I:II:III:IV=0.55 mm. : 1.25 mm. : 0.5 mm. : 0.4 mm.

Pronotum, length 0.95 mm., width at base 1.82 mm., at apex 0.77 mm., two parallel longitudinal lines one on each side of anterior lobe, two spots on posterior lobe, and humeral angles black; posterior lobe very finely punctulate, posterior margin moderately sinuate each side of the middle; apex of apical collar strongly sinuate. Mesoscutum broadly exposed; scutellum depressed at base, lateral margins and basal angles black; length 0.6 mm., width 0.7 mm.

Embolar margins of hemelytra slightly convex, length 2.75 mm.; clavus (except apex), a large area occupying more than inner apical half of corium and a small one outside of, and confluent with it black; cuneus, length 0.75 mm., width 0.45 mm.; membrane black, bicellulate, inner apical angle of major areole broadly angulate. Middle of mesosternum, a longitudinal line each side of venter, base and apex of tibiae, tarsi, and claws black. Right clasper long, tapering apically, slightly curvate; left clasper indistinct; aedeagus (?) large, slightly curvate.

*Female*.—Very similar to male, length 5.5 mm., width 2.2 mm.; length of antennal segments I:II:III:IV=0.6 mm. : 1.25 mm. : 0.6 mm. : 0.5 mm.

Differs from all other species by the different coloration, sinuate posterior margin of pronotum, and short antennae.

*Types*.—U.S.N.M. No. 56738, holotype, male; allotype, female; and paratypes, 3 males and female, Burma, on orchid (Hoboken, N. J.), October 19, 1940.

#### KEY TO SPECIES OF BROMELIAEMIRIS

- |  |                           |
|--|---------------------------|
| 1. Hemelytra uniformly dark  | 2                         |
| Hemelytra bicolorous   | 4                         |
| 2. Pronotum unicolorous  | 3                         |
| Pronotum with lateral margins black  | dissimilis, new species   |
| 3. Head and pronotum uniformly black   | nigritus, new species     |
| Head and pronotum reddish, clypeus black   | bicolor Schumacher        |
| 4. Body beneath uniformly reddish or yellowish, destitute of dark markings, clavus uniformly black         | 5                         |
| Body beneath black or marked with black, clavus bicolorous   | 6                         |
| 5. Pronotum distinctly punctate, first antennal segment distinctly shorter than width of vertex            | puncticollis, new species |
| Pronotum impunctate, first antennal segment equal to (♂) or very slightly shorter than (♀) width of vertex | marginatus, new species   |
| 6. Body beneath black, above green and black   | viridipictus, new species |
| Body beneath predominantly reddish, above red and black.   | nigripictus, new species  |



## Subfamily DICYPHINAE

## APOLLODOTIDEA, new genus

Body oblong, shining, clothed with fine long simple hairs.

Head small, about half as long as wide, vertical before eyes; vertex nearly as broad as first antennal segment long, finely marginate; frons flat; clypeus long, not prominent, discrete at base; jugum and lorum somewhat confluent. Eyes large, coarsely granulate, seen from side vertically ovate, occupying nearly the whole height of the head, seen from above small, somewhat rounded, far removed from base of head, postocular part about as long as length of eye seen from side. Antennae inserted at about the middle of inner margins of eyes, linear, first segment short, a little thickened, second longer than first, third, and fourth taken together, third longer than fourth. Rostrum surpassing apex of anterior coxae.

Pronotum coarsely punctate, strongly convex, declivent, greatly narrowed toward apex, wider than long, more than three times as wide at base as at apex, posterior and lateral margins straight, humeral angles rounded; apical collar impunctate, convex, about as long as first antennal segment, thick; calli obsolete, a small triangular area behind apical collar impunctate and elevated. Scutellum covered at base, triangular, strongly convex.

Hemelytra semitransparent, embolar margins distinctly convex; embolium widest at middle, gradually narrowed towards both ends, inner margin straight; cuneus longer than wide, fracture profound, exterior margin slightly convex; membrane well developed, unicellulate.

Xyphus of prosternum with disk moderately concave. Ostiolar peritreme small. Vagina in female much reduced. Legs moderately long, slender, tibiae destitute of spinules, third tarsal segment very slightly thickened; claws sharply bent, without cleft at base, arolia bristlelike, pseudarolia absent.

This genus is closely related to *Apollodotus* Distant, but with calli obsolete, scutellum not gibbous, and embolium and cuneus differently formed. Distinguished from the Palaearctic genus *Stethoconus* Flor (cf. Fieber, Wien. Ent. Monatsb., vol. 8, p. 79, pl. 2, fig. 8, 1864, and Reuter, Hem. Gym. Eur., vol. 5, p. 8, pl. 1, fig. 2, 1896) by more convex pronotum and not elevated scutellum.

*Genotype*.—*Apollodotidea y-signata*, new species.



## APOLLODOTIDEA Y-SIGNATA, new species

FIGURE 57, *h*

*Female*.—Body, length 3.2 mm., width 1.3 mm., above light brown with dark brown markings; beneath black; clothed with long fine flavous hairs.

Head brown, width across eyes 0.52 mm., length seen from above 0.22 mm., height seen from side 0.4 mm.; vertex, width 0.2 mm. Eyes granulate. Antennae linear, length of segments I:II:III:IV=0.22 mm.:1.22 mm.:0.42 mm.:0.2 mm.

Pronotum coarsely punctate, length 0.8 mm., width at base 1.15 mm., at apex 0.35 mm.; dark brown, apical collar, a Y-shaped marking on the disk, a spot each side along the posterior margin near humeral angle, and posterior margin very narrowly, light brown; apical collar convex, length 0.1 mm. Scutellum black, length 0.45 mm., width 0.55 mm.

Hemelytra with apex of corium reaching apex of abdomen, pellucid; clavus, base of corium and a broad transverse band across middle of corium, dark brown; length of embolar margin 1.3 mm.; cuneus slightly declivent, length 0.35 mm., width 0.25 mm.; membrane slightly fumate, inner apical angle of membranal cell rounded. Xyphus (except dark marking at middle), apex of abdomen, and legs, light brown. Length of posterior femora 1.15 mm., length of posterior tibiae 1.2 mm.

*Male*.—Body, length 2.9 mm., width 1.2 mm.; coloration very similar to the female; length of first antennal segment 0.22 mm., second 1.25 mm., apical half of the latter darker.

*Types*.—U.S.N.M. No. 56741, holotype, female; allotype, male. Both from Sandakan, Borneo (Baker).





Hsiao, Tsai-Yu. 1944. "New genera and species of Oriental and Australian plant bugs in the United States National Museum." *Proceedings of the United States National Museum* 95(3182), 369–396.

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