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STUDIES IN PHILIPPINE HETEROPTERA, I

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(Concluded.)

MYODOCHINÆ

Porta gracilis Distant.

Porta gracilis DISTANT, Fasc. Malay. (1903), 1, 246, Pl. XV, fig. 6.

LUZON, Laguna, Mount Banahao.

This insect was previously known only from the Malay Peninsula. In my redescription of the genus *Porta*⁹ I compared it with the genus *Vertomannus* Dist. "as redescribed by Breddin," but I have since found that *Vertomannus* Bredd. is distinct from *Vertomannus* Dist. and forms another genus, which I have recently described under the name *Omacrus*.

Genus *TACHYTATUS* novum

Body elongate. Head exserted, as long as broad and as broad as anterior pronotal lobe, somewhat shorter than pronotum, seen from above rhombic, postocular part a little shorter than anteocular part and subequal in length to eye, subsinuate rather strongly narrowed from eyes to base, eyes rather large but moderately prominent, ocelli placed as far from each other as from eyes, vertex one-half broader than an eye, antenniferous tubercles immediately before the eyes; antennæ very slender, as long as or a little longer than body, first joint somewhat shorter than head and passing its apex by two-thirds the length of the joint, second more than twice the length of first, third a little shorter than second, fourth subequal to second; bucculæ very short, rostrum reaching middle of mesosternum, first joint not nearly

⁹ *Ann. Soc. Ent. Belg.* (1914), 27, 28.

reaching base of head, subequal to or slightly shorter than first antennal joint, second subequal to first, third shorter than second but longer than fourth. Pronotum strongly narrowed from base to apex, at the base one-half broader than head, transversely bluntly impressed a little before the middle, where it is somewhat constricted, lateral margins vertically obtusely rounded, basal margin almost straight, posterior lobe rather strongly declivous, anterior lobe a little less so, one-third narrower than posterior lobe, moderately convex with little-rounded lateral margins, collar narrow. Scutellum longer than broad, a little convex. Metasternum with acute posterior angles. Elytra a little longer than abdomen, clavus with three, often somewhat irregular or confused and partly abbreviated, rows of punctures, its commissure more than half the length of the scutellum, apical margin of corium straight, somewhat shorter than the claval suture, membrane with four, in the basal half somewhat curved veins. Legs long and slender, front femora a little incrassate in the basal half, gradually narrowing toward apex, beneath with a row of rigid setæ arising from very minute granules, tibiæ straight, the middle and hind pair set with slender bristlelike spines, first joint of hind tarsi somewhat variable, at least two, but sometimes nearly three, times longer than the other joints united.

This genus is allied to the Indo-Malayan genera *Vertomannus* Dist., *Omacrus* Bergr., and *Porta* Dist. and forms with them a distinct group in the division Myodocharia, characterized by the elongate, slightly incrassated front femora. Apart from other important characters, *Tachytatus* differs from *Vertomannus* in the very much shorter postocular part of the head, from the two other genera in the unarmed humeral angles of the pronotum.

Type of the genus, *Tachytatus proluxicornis* sp. nov.

Tachytatus proluxicornis sp. nov.

Black with a leaden bloom, basal half of posterior pronotal lobe, an oval, submedian, scutellar spot, an oval, subapical, claval spot, and posterior half of corium velvet-black without a paler bloom, corium with a transverse luteous dot near inner apical angle, and somewhat before outer apical angle with a quadrangular or posterointeriorly rounded white costal spot almost reaching the apical margin, membrane fuscous, a large triangular interior basal area black, extreme outer basal angle and apex whitish; extreme basal margin of pronotum usually obscurely testaceous, extreme apex of scutellum and posterior

metasternal angles, basal half of corial epipleura, lateral margins of fourth ventral segment and a diffuse median spot to female venter pale testaceous; antennæ testaceous, first and third joints at apex and second joint just before apex fuscous, fourth joint fuscous-black, apex of second joint and a subbasal annulation of variable breadth to fourth joint white; rostrum piceous, second joint pale testaceous; legs testaceous, coxæ black, front femora more or less infuscate, basal half of middle femora and less than basal half of hind femora whitish testaceous, apical half of middle femora and more than apical half of hind femora fuscous or blackish, first joint of tarsi very pale testaceous, their last two joints and sometimes apex of first joint and of tibiæ infuscate; pronotum and scutellum rather thickly punctate, corium with the usual rows of fine punctures along the veins and apical margin, otherwise impunctate, except the posteriorly widened exocorium, which is irregularly somewhat thickly punctate in front of the white anteapical costal spot; head, pronotum, and scutellum erectly pilose, the hairs easily coming off.

Length, male, 6.2 to 6.8 millimeters; female, 7 to 8.

Variety.—Antennæ and tibiæ (at least the hind pair) black, basal half of first antennal joint sometimes testaceous, the white markings of the second and fourth joints as in the type, base of tibiæ usually pale testaceous.

LUZON, Laguna, Los Baños, Mount Maquiling, and Mount Banahao; Tayabas, Malinao. MINDANAO, Davao.

Apparently a common insect in the Philippines.

Bedunia praecipua sp. nov.

Black; apical margin of pronotum, lateral and basal borders of posterior pronotal lobe, the curved transverse callosity of the scutellum, clavus, corium, and a transverse apical spot to membrane pale ochraceous; a posteriorly widened, percurrent, claval vitta, the claval suture and a narrow almost percurrent vitta to corium, near the suture; two anteriorly united streaks in basal half of corium, a suboval patch at its inner apical angle, a costal vitta opposite it, and a suboval spot near the outer apical angle black; first antennal joint brown, second testaceous with brownish apex, third (except the testaceous base) and fourth (except a subbasal white ring) black; rostrum and legs pale testaceous, coxæ, fore femora, apical fourth of middle femora, apical third of hind femora, and apex of all tibiæ fuscous. Head as long as pronotum, clypeus slightly prominent before base of rostrum, blunt at apex, first joint of antennæ a little shorter than head, rostrum reaching somewhat beyond base of third ventral seg-

ment. Pronotum with the anterior lobe finely and thickly punctate, excepting some irregular smooth markings, posterior lobe rather coarsely and sparsely punctate, excepting the impunctate ochraceous borders. Scutellum thickly and rather coarsely punctate, with a median, sparsely punctate, curved, transverse callosity, emitting a keel to the apex. Elytra reaching apex of abdomen, clavus coarsely punctate; corium, apart from the usual seriate black punctation, finely and thinly punctured with black in the apical part of the mesocorium. Abdomen with the apical angles of the sixth female segment produced in a short triangular tooth. Front femora rather strongly incrassate, about three times longer than broad, front tibiae (female) slightly curved, first joint of hind tarsi nearly thrice longer than the other joints together.

Length, female, 10 millimeters.

LUZON, Laguna, Mount Banahao.

Of this splendid and well-marked species I have seen but a single specimen.

Genus *PAMERANA* Distant

Pamerana DISTANT, Ann. & Mag. Nat. Hist. (1909), VIII, 3, 331;
Fauna Brit. Ind., Rhynch. (1910), 5, 53.

Body elongate. Head exserted, horizontally porrect, longer than broad, conically produced in front of the antenniferous tubercles, which seen from above are usually directed more or less obliquely outward, their exterior margins usually being more or less divergent; eyes large but moderately prominent, postocular part shorter than the space between eyes and base of antennæ, very slightly narrowed from eyes to base, with slightly rounded sides, vertex less than twice broader than an eye, with two longitudinal, slightly curved, subimpressed, levigate lines in front of the ocelli, which are rather large and a little more distant from each other than from eyes; first joint of antennæ shorter than head but considerably passing its apex, second joint at least twice the length of first, third slightly shorter than second, fourth about as long as second, the low bucculæ evanescent in the middle of the horizontal throat, first joint of rostrum not reaching base of head, usually equal in length to first antennal joint, second a little longer than first. Pronotum longer than head and at the base twice broader, strongly constricted and transversely impressed near or behind middle, lateral margins vertically convex, not carinate, basal margin straight, posterior lobe somewhat sloping, strongly narrowed from base to its apex, broader than the laterally somewhat rounded an-

terior lobe, which is less declivous than the posterior lobe and has its greatest width behind the middle, collar well marked, at the sides usually shortly, dentately produced outward. Scutellum subequilaterally triangular with a feebly marked, Y-shaped, percurrent, impunctate ridge, the anterior branches of which are scarcely elevated. Elytra with their costal margins parallel from base to beyond middle, exocorium gradually widening from end of its basal fifth to beyond middle, then subparallel, clavus with four rows of punctures, the second (next inner) row abbreviated anteriorly (where it joins the third row) and posteriorly, the commissure more than half the length of scutellum, corium with the rimula running along inner margin of radius, ending behind its middle, disk of mesocorium with a row of punctures along the posterior part of the rimula and continued to the apical margin, which is straight, shorter than the claval suture; membrane with an oblique transverse impressed fold near the base. Metapleura with acute posterior angles. Abdomen beneath more or less distinctly keeled on the middle. Fore femora incrassate, with the basal half thicker than the apical half, more or less spined beneath, fore tibiae straight, middle and hind tibiae sparsely set with short bristles, first joint of hind tarsi less than two times longer than the others together.

Distant placed the genus near *Pamera*, to which it has a superficial resemblance, but in my opinion it is more related to *Altomarus* Dist. and *Bedunia* Stål, although the postocular part of the head is much shorter. As the original description of the genus is defective and as Distant knew but one species of it, I have thought it necessary to redescribe it. The scheme of coloration is the same in each of the four species hitherto known.

Pamerana subinermis sp. nov.

Black, venter somewhat paler in hue, sometimes dingy testaceous; pronotum (except in the middle and laterally) and apical margin of prosternum, two vittae and a small humeral spot to posterior pronotal lobe, posterior half (or somewhat more) of scutellar lateral margins, a short basal streak and the interstice between the two exterior rows of punctures of clavus (except toward apex), the claval suture and commissure, an oblong spot near inner apical angle of corium, its cubital vein from base to beyond middle, a short subapical streak on the radial vein (and sometimes the adjacent part of the meso- and exocorium and an oblong central suffusion to the latter), costal border of corium (except the extreme margin), and the

extreme exterior basal angle of the membrane and its veins luteous; antennæ dark fuscous, the fourth joint with a pale testaceous annulation reaching from near base to the middle, rostrum and legs tawny, femora a little darker toward apex, tarsi fuscous at apex. Head alutaceous, with a few erect hairs, slightly longer than broad, about one-fourth narrower than anterior pronotal lobe, a little widened from anterior angle of eyes to apex of antenniferous tubercles; antennæ a little shorter than the body, first joint passing apex of head by more than half its length; rostrum scarcely passing middle coxæ. Pronotum somewhat broader than long, anterior lobe scarcely longer than posterior lobe, impunctate, with very few erect hairs, laterally, finely, transversely rugulose, collar with a (sometimes indistinct) transverse impressed line, posterior lobe sparsely punctate. Scutellum (except the Y-shaped elevation) somewhat thickly punctate. Exocorium and outer apical part of mesocorium sparsely and rather coarsely punctate. Pectus alutaceous. Abdomen beneath with a short and moderately dense sericeous pubescence and a long and very fine exserted hair near the posterior angles of the last three segments. Front femora beneath with very few minute tubercles and near apex with one or two very small spinules; front tibiæ unarmed in both sexes.

Length, male, 6 millimeters; female, 6.7.

MINDANAO, Davao.

Closely allied and very similar to *P. cuneata* Dist., but narrower, with much less divergent antenniferous tubercles and much less spinous fore femora.

Pameraña procera sp. nov.

Dark castaneous; head, scutellum, meso- and metasternum black; membrane fuscous; apical margin of pronotum and of prosternum, two vittæ, a large sublateral suffusion, lateral margins and a small humeral spot to posterior pronotal lobe, two small spots to scutellum and posterior half of its lateral margins, corium and clavus (except the fuscous punctation), exterior basal angle and veins of membrane, posterior margin of propleura and metapleura, and connexivum and lateral margins of venter luteus; antennæ, rostrum, and legs testaceous, apex of the first three antennal joints and fourth joint fuscous-black, the latter not far from the base with a whitish annulation reaching the middle, coxæ pitchy black, femora (excluding basal half of the hind pair) with small brown spots arranged in longitudinal rows and somewhat dusky toward apex, tarsi fus-

cous at apex. Head alutaceous, and very finely pubescent with a few erect hairs, one-third longer than broad, about one-third narrower than anterior pronotal lobe, a little widened from anterior angle of eyes to apex of antenniferous tubercles, antennæ a little shorter than the body, first joint passing apex of head by more than half its length, rostrum reaching middle coxæ. Pronotum slightly longer than broad, anterior lobe twice the length of posterior lobe, impunctate (except a transverse row of punctures on the collar), posterior lobe sparsely punctate. Scutellum rather coarsely punctate, more finely so between the anterior branches of the Y-shaped impunctate elevation. Corium rather coarsely and thickly punctate in the exocorium and exterior apical part of mesocorium, a fasciate marking between costal and apical margins somewhat before apical angle sparingly punctate, and oblong spot near inner apical angle impunctate. Pectus finely but distinctly punctate. Abdomen beneath with a dense but extremely short dustlike pubescence and a long and very fine exserted hair near the posterior angles of the last three segments. Fore femora beneath with a row of spines and with one spine out of the line of the others; fore tibiæ of male beneath with a row of short acute teeth.

Length, male, 8 millimeters.

MINDANAO, Davao.

Much larger, more elongate, and paler than the preceding species, with longer head, much longer anterior pronotal lobe, more spinous front femora, and toothed front tibiæ in the male.

Pamerana subgenerica sp. nov.

Black, pronotum and scutellum dark castaneous, posterior pronotal lobe and elytra dark testaceous, with fuscous punctation, corium with a brown costal spot behind the middle, venter castaneous; antennæ, rostrum, and legs testaceous, last antennal joint (except a whitish testaceous subbasal annulation reaching the middle), a ring a little before apex of hind femora, and apex of tarsi fuscous; coxæ black or piceous; head, pronotum, and scutellum sparsely erectly pilose, venter with a moderately dense, and not very short, pallid sericeous pubescence. Head somewhat longer than broad, but little narrower than anterior pronotal lobe, not widened from anterior angle of eyes to apex of antenniferous tubercles, the exterior margins of the latter being subparallel, antennæ conspicuously shorter than the body, first joint passing apex of head by less than half its length, rostrum reaching hind coxæ, first joint two-thirds longer than first antennal joint. Pronotum almost as long as broad,

anterior lobe one-half longer than posterior lobe, impunctate, with a transverse row of fine punctures, laterally blunt, not dentately produced outward, posterior lobe irregularly, sparsely punctate, with two paler vittæ less punctate. Scutellum (except the Y-shaped elevation) finely punctulate. Corium irregularly, rather sparsely and finely punctate in the exocorium and exterior apical part of mesocorium, an oblong spot near inner apical angle impunctate. Pectus finely and rather thickly punctate. Fore femora almost fusiformly incrassate, their greatest width being but little farther from apex than from base, armed beneath with two rows of spines, the inner row reaching from apex to a little beyond middle, the outer row extended only through the apical fourth; fore tibiæ unarmed.

Length, male, 5.3 millimeters.

MINDANAO, Surigao.

This species differs from the others by the exteriorly parallel, not divergent antenniferous tubercles, the shorter first antennal joint, and the laterally blunt, not dentately prominent, pronotum. It might be regarded as subgenerically distinct, but it is in all essential characters a *Pamerana*, and there can be little doubt that forms intermediate between this species and the others will be detected in the future.

Narbo metochoides sp. nov.

Dull black; membrane and venter dark fuscous; two median spots and apex of scutellum, a small round median spot to corium, basal half of its costal margin, a large costal spot almost reaching apical margin somewhat before the apical angle, a small spot at outer basal angle of membrane, its apex, a few speckles on the basal part of its veins, and an oblong lateral basal spot to fourth and fifth abdominal segments pale ochraceous; the lateral keel of prothorax, veins of corium in the basal half, and the median part of its apical margin more or less obscurely ferruginous; antennæ, rostrum, and legs testaceous; first antennal joint fuscous, apex of second (narrowly) and of third (more broadly), and fourth joint fuscous-black, the latter with a broad subbasal whitish annulation, last rostral joint and coxæ black, front femora (except base) and more than apical half of middle and hind femora castaneous or fuscous, apex of tibiæ and of first tarsal joint, and the whole third joint fuscous. Head impunctate, as broad as anterior pronotal lobe, antennæ a little longer than body, second joint one-half longer than first, third slightly shorter than second, fourth as long as second, rostrum barely reaching middle coxæ. Pronotum slightly broader than

long, the lateral margins also in the posterior lobe distinctly and acutely carinate, anterior lobe longitudinally scarcely convex, sparingly and very finely punctulate, more thickly and distinctly so near apical and lateral margins, the latter slightly rounded, posterior lobe subequal in length to anterior lobe but more sloping and a little more than one-half broader than it, rather coarsely and sparsely punctate with a longitudinal median keel, shortly and faintly subsinuate behind the obsoletely subdentately prominent humeral angles. Scutellum sparingly and finely punctate, but rather coarsely and thickly so near the lateral margins and with an impunctate median ridge in the apical half. Corium (apart from the usual seriate punctation along the veins) impunctate, only the exocorium sparsely punctate, the few points of the large costal spot fuscous. Pectus finely and sparsely punctate. Abdomen beneath with a thick but very short pale sericeous pubescence. Fore femora with a row of about four spines and a second row of a few, minute, acute granules; first joint of hind tarsi two and one-half times longer than the others together.

Length, male, 10 millimeters; female, 11.

Variety.—Lateral borders of abdomen pale ochraceous except at apical angles of the last three segments.

LUZON, Laguna, Mount Maquiling.

Apparently allied to the imperfectly described *N. biplagiatus* Walk., but with different coloring of the antennæ, pronotum, scutellum, etc.; in its general aspect and coloration much resembling the species of *Metochus*, a genus that in fact is more related to *Narbo* than to *Dieuches*.

Poeantius vittatus sp. nov.

Black; lateral margins of prothorax, posterior pronotal lobe, apical half of scutellum (excluding a narrow median vitta), corium and clavus, posterior part of propleura and metapleura, posterior margin of mesopleura, all acetabula, and lateral border of second and third ventral segments and of anterior half of the three following segments ochraceous; finely and thickly punctured with black or brown (excluding the impunctate lateral margins of prothorax and venter, a smooth narrow median vitta to posterior pronotal lobe, and the acetabula), a diffuse spot in basal half of corium, and a vitta extended from middle of corium to its apical margin black; a short, slightly oblique, longitudinal brown streak near costal margin of corium behind the middle, membrane fuscous; antennæ and rostrum black, first antennal joint stramineous at base and apex, second

rostral joint narrowly testaceous at base; legs fuscous-black, middle and hind trochanters, base of middle and hind femora, extreme apex of front femora, and front and middle tibiæ (except apex) testaceous. Head above with a few exserted hairs, first joint of antennæ in its apical half with some short rigid setæ, second not quite thrice the length of first, third subequal in length to second, gradually somewhat thickened from base to apex (fourth wanting), rostrum reaching middle coxæ. Pronotum slightly broader at base than long in the middle, lateral margins straight, basal margin broadly and slightly sinuate, anterior lobe conspicuously longer than posterior lobe, alutaceous, impunctate, with a round foveate impression on each side near the base, and another small fovea (visible only from the side) near lateral margins. Scutellum very finely and superficially punctulate in the basal half. Elytra reaching apex of abdomen. Pleura (except the punctate posterior borders) extremely finely rugulose. Abdomen underneath with a very short, sericeous grayish pubescence. Front femora with two very short spinelets in the apical half. First joint of hind tarsi three times longer than the other joints united.

Length, female, 5 millimeters.

LUZON, Laguna, Los Baños.

Allied and very similar to *P. pedatus* Dist., but with longer anterior pronotal lobe and hind metatarsus and differently colored antennæ and legs.

On the species *pedatus*, Distant founded the genus *Naudarensia*, which differs from *Poeantius* only in having straight pronotal lateral margins, while they are slightly sinuated in *Poeantius*. This differential character and those mentioned by Distant are only specific; I agree with Breddin that these genera must be united.

Cligenes assimulans sp. nov.

Black or dark brown; a broad apical fascia to posterior pronotal lobe and the elytra whitish with fuscous puncturation, corium with a median costal spot, a larger (sometimes triangular) spot at interior apical angle and a spot occupying the exterior apical angle black; antennæ brown or brownish testaceous, last joint (and sometimes apex of third) white, rostrum testaceous, the first two joints often brown, front legs brown, middle and hind legs whitish testaceous with apex of femora infusate, but all legs sometimes testaceous with the tibiæ infusate. Head broader than long, second joint of antennæ twice the length of first, third a little shorter than second

and subequal to fourth. Pronotum with the basal margin broadly and not very deeply sinuate, lateral margin a little sinuate, the front lobe almost impunctate, somewhat longer than the finely and sparsely punctate rear lobe. Scutellum very finely and sparsely punctate. Corium and clavus finely punctate. First joint of hind tarsi three-fourths longer than the other joints together.

Length, female, 2.5 to 3.3 millimeters.

LUZON, Laguna, Mount Maquiling. MINDANAO, Butuan.

In the unusual coloration of the pronotum this species much resembles the Indian *C. signandus* Dist., but according to the description and figure the apical margin of the corium in *signandus* is straight, which would place it in *Antillocoris*. Distant has, however, in so many cases described this margin as straight in species that have it conspicuously sinuate in the interior half, that the possibility and even probability of *signandus* being a true *Cligenes* must be taken into account. In some of the small Myodochidæ with interiorly sinuate apical margin of the corium the membrane has near the sinuosity a fold that, if not carefully examined, may be mistaken for a straight continuation of the exterior half of the corial apical margin, especially if this margin be of almost the same color as the membrane. This is the case with the two new species of *Cligenes* described in the present paper. At any rate *C. assimulans* cannot be the same species as *signandus*, the antennæ being quite differently colored, and the pronotum less deeply sinuate basally in *assimulans*.

Cligenes validulus sp. nov.

Oval, somewhat plump, black, apex of scutellum and a spot on acetabula testaceous, corium and clavus of a livid whitish testaceous hue with blackish puncturation, apical angle of corium somewhat blackened, membrane hyaline, male genital segment castaneous; antennæ, rostrum, and legs testaceous. Head almost impunctate, first joint of antennæ shorter than second and almost as long as third, fourth slightly longer than third. Pronotum finely and rather thickly punctate, lateral margins very slightly sinuate behind middle, basal margin broadly sinuate. Scutellum punctate, the same as pronotum. Corium finely punctate. First joint of hind tarsi somewhat longer than the others together.

Length, male, 2.3 millimeters.

LUZON, Laguna, Mount Banahao.

This is one of the species that, if seen straight from above,

appear to have the apical margin of the corium straight; that this margin really is rather deeply sinuate interiorly is obvious, if the insect be looked at obliquely from the side or from behind.

Antillocoris helvipennis sp. nov.

Oblong-oval, black, scutellum (excluding the transverse posteriorly rounded basal area) and elytra testaceous with a more or less distinct golden luster, especially on the membrane; corium and clavus punctured with fuscous; antennæ, rostrum, and legs testaceous, base of third and fourth antennal joints fuscous; coxæ and femora piceous. Head shining, impunctate above, finely punctulate beneath, second joint of antennæ one-half longer than first, third subequal to first and a little shorter than fourth, rostrum a little variable in length, reaching base of venter or of third ventral segment. Pronotum finely and rather sparsely punctate, with a transverse, percurrent, antemedian, impunctate area, lateral margins slightly sinuate, basal margin straight. Scutellum moderately thickly and somewhat coarsely punctate, the black basal area more finely punctate and emitting an impunctate median keel to the apex. Corium, apart from the usual seriate punctation along the veins, punctulate only in the outer apical area of the mesocorium. Underside of body mostly impunctate, but pectus with a row of coarse punctures in the transverse impression of the propleura and metapleura. First joint of hind tarsi not quite twice the length of the others together.

Length, male, 2.8 millimeters; female, 3.3.

LUZON, Laguna, Mount Maquiling.

Mizaldus montiscandens sp. nov.

Black, elytra translucent, whitish, apical angle of corium black; antennæ fuscous, apical half of first and extreme apex of second joint whitish (fourth joint wanting); rostrum testaceous, basal joint fuscous; legs stramineous, coxæ, trochanters, and extreme base of femora piceous, apical third of hind femora slightly tinted with brownish. Head, pronotum, and scutellum very thickly and finely punctured, antennæ about half the length of the body, posterior pronotal lobe distinctly shorter than anterior lobe, its basal margin in front of elytra depressed and very slightly lobately produced. Elytra reaching apex of abdomen, the claval rows of punctures and the two adjacent corial rows very palely brownish, the rest of corium impunctate, only the exterior half with an oblong median area very finely punctured with blackish.

Length, female, 3.2 millimeters.

NEGROS, Cuernos Mountains.

Smaller than *M. lewisi* Dist. and with shorter antennæ, the pronotal basal margin less lobately produced before base of elytra, only the apical angle of corium black (not the large adjacent area), and with differently colored antennæ and legs.

This genus was previously known from India and New Guinea.

To the generic characters of *Mizaldus* Dist. should be added: Head broader than long, eyes rather large, distance between them and base of antennæ much shorter than an eye, first joint of rostrum as long as basal joint of antennæ, basal margin of pronotum in front of elytra depressed and more or less lobately produced,¹⁰ scutellum broader than long, at apex very shortly carinate and acuminate, clavus with three rows of punctures, the commissure one-third the length of scutellum, apical margin of corium sinuate in its interior half, veins of membrane almost straight, fourth ventral segment with two sublateral glandular spots, the posterior of which is placed midway between the basal and apical margins, front femora little incrassated, unarmed, first joint of hind tarsi one-half longer than the other joints together.

Distant says in his description of the genus: "head long, pronotum with the anterior angles a little prominent, a little more than half the width of base, the lateral margins very strongly sinuate." All these characters are wrong and at variance with his figure, which is correct, barring the apical margin of the corium, which is represented as straight. The corium in its inner half is rather feebly separated from the membrane, but it is not difficult to trace the whole apical margin, which in its interior half is rather deeply and angularly sinuate.

Faelicianus summus sp. nov.

Oblong, glabrous, black (rarely castaneous), pronotum with the depressed lateral margins luteous (above and beneath) from their apex to a little beyond the transverse impression, posterior pronotal lobe with a more or less distinct testaceous spot or vitta on each side, rarely with a median longitudinal whitish line in its anterior half, clavus with a rather long basal and a short apical streak luteous, corium in its basal part (as far as to the level of the scutellar apex and including the corresponding part of the epipleura) luteous, followed by a broad fuscous fascia,

¹⁰ This character is thus described by Distant: "lateral angles excavated."

sometimes paler or subinterrupted in the middle, and always including a round luteous or whitish spot near the inner apical angle, the apical part luteous or brownish or fuscous, but the greatest part of it usually occupied by a large whitish spot divided by the dark radial vein, and always immediately behind the fuscous fascia with a subquadrate whitish costal spot often subconfluent with the larger whitish spot, apical margin and apical angle fulvous or dark ochraceous, membrane black with ochraceous basal margin, whitish gray apical margin, and three whitish spots (a rounded one not far from the inner basal angle and an oblong one at the outer basal angle and at the interior margin); abdomen sometimes piceous or castaneous or even tawny; antennæ and rostrum testaceous, second antennal joint rarely reddish at apex, third more or less infuscated at least in the apical half, usually with the apex reddish, fourth joint fuscous, usually with a subapical (and rarely a subbasal) reddish annulation, coxæ and trochanters piceous black, front femora pitchy castaneous with the apex paler, rarely entirely testaceous, middle and hind femora whitish, more or less broadly brownish at apex, all tibiæ and tarsi pale testaceous; thickly and very finely punctulate, a little less finely so on posterior pronotal lobe, more sparsely punctate on corium, abdomen impunctate. Head a little broader than long and half the width of pronotum, very slightly exserted, eyes rather large, not quite touching apical margin of pronotum, ocelli more distant from median line of head than from eyes, vertex three times broader than an eye, without exserted setæ, exterior margins of antenniferous tubercles parallel, distance between eyes and base of antennæ much shorter than an eye, underside of head with a rostral groove slightly passing the middle of the throat, but without distinctly elevated bucculæ, antennæ a little shorter than the body, first joint passing apex of head by three-fourths its length, second joint the longest of all, about half as long again as first and like it gradually somewhat thickened from base to apex, third one-third longer than first and thicker than second, a little narrowing toward the base, fourth a little shorter and thicker than third, rostrum extended to middle coxæ, first joint reaching base of head, second subequal to first, reaching fore coxæ, scarcely or slightly shorter than the last two joints united, third scarcely longer than fourth. Pronotum one-third broader than long in the middle, transversely impressed somewhat behind the middle, without a distinct apical collar, gradually a little narrowing from base to a little beyond middle, then roundedly more strongly narrowing to apex, laterally not sinuate, the laminately depressed

lateral margins distinctly dilated inwardly at the transverse impression, the basal margin almost straight. Scutellum as long as broad, in the basal half with a triangular elevation, which is depressed or impressed in the middle and emits an often very indistinct keel to the apex. Elytra reaching slightly (female) (in the male, a little farther) beyond apex of abdomen, clavus with three rows of punctures, the commissure less than half the length of scutellum, corium with two rows of punctures near the claval suture and with the radial vein finely punctured, the costal margin straight in its basal fourth, then a little roundedly ampliate, apical margin straight, much shorter than the claval suture. Metasternal orificium a simple curved slit; posterior angle of metapleura acute. Abdomen with the last dorsal segment apically almost straight, or very slightly rounded in the male, sinuate in the female; posterior, sublateral, glandular spot of the fourth ventral segment placed before the middle not far behind the anterior spot; sixth female ventral segment occupying little more than the apical fourth of the venter, genital segment small in both sexes. Fore coxæ armed with a small spine in front near the base; fore femora strongly incrassated, thickest in the basal half, beneath with a groove extending from the apex to not far from the base and terminated on each side by a row of small acute spines, the anterior row with a longer spine nearer to apex than to base; fore tibiæ in both sexes rather strongly curved, not denticulate beneath; first joint of hind tarsi about twice as long as the others united.

Length, exclusive of membrane, male, 4.2 to 5.8 millimeters; female, 4.8 to 5.8.

LUZON, Benguet, Baguio; Laguna, Los Baños and Mount Maquiling. MINDANAO, Dapitan.

In quite fresh specimens the posterior part of the anterior pronotal lobe, the scutellum, the pale basal streak to the clavus, and the pale apical spots to the corium are covered with a bluish gray bloom. This beautifully ornamented insect seems to be common on Mount Maquiling.

Whether this and the following species really belong to *Faelicianus* Dist. is impossible to know with certainty from his inadequate description, which fits several other genera; but as the type of *Faelicianus* in the coloring (except that of the legs) is similar to *F. exilicornis*, I think I have interpreted the genus correctly. It was hitherto known only from Celebes. Distant places it near *Rhyparochromus* Curt., but to this genus it has only a superficial resemblance, being in fact closely related to *Eremocoris* Fieb. and *Scolopostethus* Fieb. (*Manatanus* Dist.).

From the former it differs in having the space between the eyes and the base of the antennæ much shorter than the eye, from the latter in the first antennal joint being produced much more beyond the apex of the head, from both in the narrower vertex and the absence of the two (or four) exserted setæ on it, in the structure of the rostrum and the scutellum, in having the spinulous part of the fore femora extended farther toward the base, and the fore tibiæ not denticulated beneath in either sex. In the above description of *F. summus* I have supplemented the necessary generic characters.

Faelicianus exilicornis sp. nov.

Glabrous, black; the depressed lateral margins of the prothorax, a sublateral spot to the posterior pronotal lobe, an almost percurrent streak to the clavus (subinterrupted behind the middle), and the basal part of the corium as far as to the level of the scutellar apex and including the corresponding part of the epipleura luteous; posterior part of corium fuscous with a luteous spot at the interior apical angle and a similar costal spot almost opposite the other but placed a little farther back, membrane pellucid tinged with testaceous; antennæ, rostrum, and legs testaceous, all coxæ and trochanters, front femora (except apex), and base of middle and hind femora black; finely but rather deeply and very thickly punctulate, somewhat less finely so on posterior pronotal lobe and corium, abdomen impunctate. Head with the bucculæ a little raised, antennæ slender, second joint very slightly incrassated toward apex, fourth not thicker than third. Pronotum one-half broader than long in the middle, laterally scarcely sinuate behind the middle, the depressed lateral margins narrow and not at all dilated inwardly at the transverse impression, the hinder lobe very distinctly shorter than the fore lobe. Elytra (male) very slightly passing apex of abdomen.

Length, male, 4.5 millimeters.

PALAWAN, Puerto Princesa.

Apparently allied to *F. luteicornis* Walk., but with the rear lobe of the pronotum distinctly shorter than the front lobe, scarcely sinuate pronotal lateral margins, and differently colored legs. From *F. summus* it is at once distinguished by the thicker and deeper (though not coarser) punctation, the more slender and one-colored antennæ, the narrower and at the transverse impression not inwardly dilated pronotal lateral margins, and the quite different coloration of the membrane and four posterior legs.

Lethaeus quadripunctatus sp. nov.

Elliptical, subopaque, piceous black, but viewed obliquely from above with a slight brassy luster, the oblong node at the pronotal humeral angles, some small obscure specks here and there on the corium, lateral margins of prosternum and epipleura of corium dark ferruginous, a dot on inner claval vein before its middle and on cubital vein of corium in a line with scutellar apex whitish, membrane subolivaceous black, its veins here and there tinged with whitish; antennæ and rostrum brownish testaceous, first antennal joint fuscous, fourth with a pale yellowish annulation in the basal half; legs black, tibiæ and tarsi brownish testaceous. Head as broad as half the basal width of pronotum, a little broader than long, impunctate both above and beneath, antecular part distinctly longer than eyes, clypeus somewhat longer than juga, antennæ more than half the length of the body, first joint passing apex of head by more than half its length, second not quite twice the length of first, third slightly shorter than second, fourth subequal to third, rostrum reaching middle of third ventral segment, first joint a little passing anterior margin of prosternum. Pronotum without a distinct collar and not transversely impressed on disk, coarsely and not very densely punctate, with a broad transverse impunctate area in the apical half, and a fine impressed longitudinal median line in the basal half, lateral margins narrowly carinate, almost straight, but somewhat rounded near apex, basal margin straight. Scutellum almost plane, rather coarsely and sparsely punctate, more finely and thickly so near base. Corium thickly punctate, median vein simple, arising from middle of radial vein. Pectus coarsely and rather thickly punctate, more thinly so on propleura, posterior border of metapleura impunctate, evaporative area small, much narrower than the remaining part of the metapleura, extending outward just beyond apex of orificium, its outer margin somewhat rounded. Abdomen beneath extremely superficially punctate. Front femora beneath near apex with two setæ, but not spinous. (Hind tarsi wanting.)

Length, female, 6.4 millimeters; width, 2.5.

LUZON, Laguna, Mount Maquiling.

Resembling some Palæarctic and Ethiopian species of the genus.

Lethaeus breviceps sp. nov.

Oval, subopaque, black, posterior half of pronotum, scutellum,

and elytra pitchy brown with a few small indistinct speckles, part of the veins, a faint fascia before apical angle of corium, its epipleura, and male genital segment dark testaceous; antennæ and rostrum testaceous, first antennal joint and apical half of fourth piceous; legs piceous, tibiæ paler in hue, tarsi testaceous. Head as broad as half the basal width of pronotum, much broader than long, densely and finely transversely rugulose, each ocellus placed in a small smooth area narrowly connected with that of the other side along basal margin of head, anteocular part a little longer than the rather small eyes, clypeus somewhat longer than juga, antennæ half the length of the body, first joint passing apex of head by more than half its length, second a little longer than first, third a little over half the length of second, fourth subequal to second, rostrum reaching middle coxæ, first joint almost reaching base of head. Pronotum with a distinct collar terminated posteriorly by a curved impressed line, not transversely impressed on disk, rather thickly punctate, more finely so on the cicatrical areas, in the center with a short and fine keel not nearly reaching base and apex, lateral margins distinctly though narrowly laminate, almost straight but a little rounded at apex, basal margin slightly rounded. Scutellum plane, rather coarsely and moderately thickly punctate. Corium rather thickly and deeply punctured, median vein straight and simple, but very weak or almost obliterated, arising a little behind middle of radial vein. Pectus coarsely and irregularly punctate, posterior border of metapleura punctate, evaporative area a little narrower than the remaining part of the metapleura, extending outward a little beyond apex of orificium, its outer margin a little rounded. Abdomen beneath almost impunctate. Front femora beneath in the basal half with two or three very small and slender spinelets, toward apex with a few setæ; first joint of hind tarsi about twice longer than the other put together.

Length, male, 4 millimeters; width, 1.6.

LUZON, Laguna, Mount Banahao.

I know of no species nearly allied to this.

Lethaeus retusus sp. nov.

Narrowly elliptical, shining, black or pitchy black, apex of clypeus, pronotal collar and posterior lobe, and male genital segment reddish testaceous, posterior pronotal lobe tinged with piceous in the center, corium and clavus stramineous, their puncturation and a subbasal, median, and apical spot to mesocorium piceous, apical half of exocorium together with the adjacent

exterior border of the mesocorium also piceous, but interrupted somewhat before the apical angle by an irregular curved stramineous fascia connecting the costal margin with the apical margin, clavus with two short oblong spots paler in hue, membrane amber-yellow, a few small spots and on each side before apex a large spot piceous; antennæ, rostrum, and legs testaceous, last antennal joint (except base) fuscous, hind tibiæ pale castaneous. Head large and rather plump, a little broader than long, almost two-thirds as broad as basal width of pronotum, very finely and thickly punctate above and beneath, but each ocellus placed in an impunctate area, anteocular part a little longer than the large eyes, roundedly acutangular, clypeus very slightly longer than juga, antennæ more than half the length of the body, first joint passing apex of head by about half its length, second double the length of first, third slightly shorter than second, fourth subequal to third, rostrum somewhat variable in length, extended to base of third or even fifth segment. Pronotum rather deeply and transversely impressed almost in or very slightly before the middle, lateral margins almost straight, narrowly laminated, with an upright seta near the apical angles, posterior lobe finely and rather thickly punctulate with piceous and with a narrow elongate smooth sublateral callosity, basal margin slightly rounded in front of scutellum, anterior lobe sparingly and extremely finely punctate, with a distinct collar that is terminated behind by a deeply impressed somewhat curved line. Scutellum finely and thickly punctate, with a percurrent, Y-shaped, almost impunctate convexity. Corium with seriate punctation, only apical half of exocorium confusedly punctured, median vein straight and simple, arising from beyond middle of radial vein and running rather near and almost parallel to it, clavus with the second row of punctures ending in the third nearly opposite scutellar apex. Pectus, excepting the smooth posterior border of the metapleura, coarsely and thickly punctate, more sparingly and irregularly so on the propleura, evaporative area extended outward considerably beyond apex of orificium, as broad as remaining portion of metapleura, its outer margin straight. Abdomen beneath very obsoletely and superficially punctate. Front femora in the apical half with a row of slender spines; first joint of hind tarsi a little less than twice the length of the others together.

Length, male, 4.2 to 4.5 millimeters; width, 1.5 to 1.6.

LUZON, Laguna, Mount Maquiling. PALAWAN, Puerto Princesa.

Allied to *L. notabilis* Dist., but with much longer rostrum, somewhat different color markings, etc.

Lethaeus maquilingensis sp. nov.

Elongately elliptical, shining, black; pronotum with a transverse, pale yellow basal spot on each side before base of clavus; lateral margins of pronotum, clavus, basal half of corium and an area at its inner apical angle, and male genital segment dark testaceous; a broad diffuse fascia immediately behind middle of corium and a triangular spot occupying its outer apical angle piceous, two oblong spots to clavus and an irregular, subtriangular, inwardly narrowing costal spot before apical angle of corium stramineous, membrane infuscated, less so at apex; antennæ fuscous, second joint (except apex) testaceous, base and apex of third joint pale yellowish (fourth wanting); rostrum brownish testaceous; legs piceous, fore and middle tibiae and all tarsi testaceous. Head a little broader than half the basal width of pronotum, nearly as long as broad, thickly and very finely punctate above and beneath, each ocellus placed in an impunctate area, antecocular part a little longer than the large eyes, roundedly acutangular, clypeus slightly longer than juga, antennæ more than half the length of the body, first joint passing apex of head by more than half its length, second one-half longer than first, third equal to second, rostrum reaching base of third ventral segment. Pronotum rather deeply, transversely impressed a little before the middle, lateral margins straight, narrowly laminated, with an erect seta near the apical angles, posterior lobe finely and rather thickly punctate with a narrow, slightly raised, median carina, evanescent before the base; basal margin a little rounded in front of scutellum, anterior lobe sparingly and extremely finely punctate, with a collar that is terminated behind by an impressed line distinct only toward the sides, being obsolescent in the middle. Scutellum with a percurrent, Y-shaped, almost impunctate callosity, finely and sparsely punctate on the lateral areas, more thickly so between the anterior branches of the callosity. Corium moderately thickly punctate, median vein simple, arising from behind middle of radial vein. Pectus coarsely and thickly punctate, a transverse area to propleura and posterior border of metapleura impunctate, evaporative area extended outward beyond apex of orificium, reaching middle of metapleura, its outer margin straight. Abdomen beneath distinctly and sparsely punctate, male genital segment vertically impressed behind. Front femora, in their median part, with a row of four bristles arising

from very minute granules, near apex with four spines, the first (proximal) of which is longer than the others; first joint of hind tarsi at least two and one-half times longer than the others united.

Length, male, 6 millimeters; width, 2.

LUZON, Laguna, Mount Maquilang.

Allied to the preceding species, but much larger and—apart from the color-differences—with differently constructed antennæ, less sharply defined pronotum, longer posterior pronotal lobe and hind metatarsus, distinctly punctured venter, differently armed front femora, etc.

Lethaeus robustus sp. nov.

Broadly elliptical, opaque above, black, lateral margins of pronotum, two transverse spots to collar, the short median pronotal keel, an oblique slightly curved vitta extended from the humeral angles, gradually somewhat deviating from the margins, to a little beyond middle of pronotum, a fascia uniting these vittæ, posterior angles of propleura, three short streaks to clavus (two near middle, the third near scutellar apex), exterior vein and commissure of clavus, veins of corium, some slight mottlings near middle of exocorium, an oblong irregular spot in basal half of mesocorium, and epipleura of corium ochraceous, a broad anteriorly sinuate costal spot behind middle of exocorium, a smaller subapical spot in outer apical cell of mesocorium and some mottlings in its inner apical cell white, all ochraceous and white macular markings punctate with black, membrane dark ochraceous, largely suffused with fuliginous, veins black, the second dirty whitish in its curved basal part; antennæ fuscous-black, first joint at base and extreme apex testaceous, apical two-thirds of third joint white (fourth wanting); rostrum ochraceous, last joint pale castaneous; legs black, tibiæ (except their spinules) and tarsi ochraceous, apex of tibiæ and of tarsal joints a little brownish. Head a little longer than broad, narrower than half the basal width of pronotum, finely and thickly punctate above and beneath, each ocellus placed in a rather large irregular impunctate area inclosing a small punctulate areolet immediately within the ocellus, anteocular part more than twice longer than the rather large eyes, its apical process conical with straight margins, acutangular (about 60°); clypeus somewhat raised and convex, conspicuously longer than juga, antenniferous tubercles seen from the side moderately declivous, distance between eyes and base of antennæ more than half the length of the eyes, first joint of antennæ passing apex

of head by a little over half its length, second about one-third longer than first, third somewhat shorter than first, rostrum reaching middle of third ventral segment, first joint somewhat longer than head. Pronotum rather strongly narrowed from base to apex, with a shallow, rather indistinct, transverse impression somewhat before the middle, lateral margins narrowly reflexed, a little sinuate at the transverse impression, basal margin straight in front of scutellum, anterior lobe finely and thickly punctate, its disk with an oblique, smooth impression on each side, and a small rounded impression in the middle, the coarsely and sparsely punctured collar very distinct, terminated behind by a deeply impressed rather strongly curved line, posterior lobe coarsely and somewhat sparsely punctate, with a short longitudinal median ridge in its anterior part. Scutellum plane, coarsely and sparsely punctate. Elytra with their costal margins parallel through the basal third of corium, then a little amplately rounded, clavus in addition to the usual rows of coarse punctures with a few stray impressed points between the posterior halves of the second and third rows, corium coarsely and moderately thickly punctate, more sparingly so in the white spots, the median vein arising behind middle of mesocorium with two basal branches, a shorter one from the radial and a longer one from the cubital vein, after the junction of the branches, slightly curved outward, the two outer veins (third and fourth) of the membrane united by two cross veins. Pectus coarsely and somewhat sparsely punctate, metapleura much more thickly punctate, but their posterior borders very sparingly so, evaporative area extended outward somewhat beyond apex of orificium, but conspicuously narrower than the remainder of the metapleura, its outer margin a little rounded. Abdomen beneath densely and finely strigulose and, moreover, thinly, finely, and superficially punctulate. Front femora armed with a few spines near apex; the spines of all tibiae shorter than the tibial diameter; first joint of hind tarsi more than twice longer than the other joints together.

Length, female, 9.5 millimeters; width, 3.8.

LUZON, Laguna, Mount Maquiling.

This remarkable species differs from the others known to me by the rather long acute head, less declivous antenniferous tubercles, and therefore greater distance between eyes and base of antennae, pronotum from base to apex more strongly narrowed with sinuate lateral margins, and posteriorly more ampliate costal margin of corium; in its general aspect it is also very unlike the typical forms of *Lethaeus*. Yet some of the known

species in one or another character form distinct transitions to *L. robustus*. Judging from the insufficient description by Walker and the still poorer one by Distant, *L. descriptus* Walk. seems to be somewhat allied to *robustus*, although my species has a much longer rostrum, and differs in several other details.

The genus *Lethaeus* now comprises species with or without a transverse discal impression on the pronotum, with or without a pronotal collar, with or without a Y-shaped elevation to the scutellum, and species with a simple as well as with a basally two-branched median vein to the corium. These discordant characters at first sight seem of too much importance to be merely specific, being in many cases common to a natural group of two or more species, but are in my opinion not of generic value owing to the many transitional forms. The entire assemblage of groups and isolated species is bound together by ties that render dismemberment difficult and unsatisfactory.

Some authors have described species of *Lethaeus* said to have triseriately punctate clavi, but I suspect they have regarded the outermost (fourth) claval series of punctures as belonging to the corium. This fourth series is in *Lethaeus* (and several other genera) always separated from the third by an elevated interstice (or vein), and the true demarcation line between clavus and corium, which in *Lethaeus* lies outside the fourth series, is often in the smaller Myodochinae exceedingly fine and difficult to see, being perceptible only under a very strong lens. To get a correct conception of the true external limit of the clavus in the smaller forms it must be remembered that the corium has typically but two regular rows of punctures near the claval suture; if there are seemingly three such rows, we can with very little risk of mistake assume that the third (innermost) row really belongs to the clavus. "Clavo seriebus quattuor punctorum instructo" is one of Stål's generic characters of *Lethaeus*, and I have seen no member of this genus with the punctures of the clavus arranged in three rows.

Genus **PTYCHODERRHIS** novum

Body oblong. Head inserted to the eyes, triangular, broader than long, as broad as half the basal width of pronotum, ocelli placed very close to the eyes and antenniferous tubercles immediately before the eyes, *gula longitudinally convex, tumid*, antennæ about half the length of the body, first joint passing apex of head by half its length, rostrum reaching hind coxæ, *first joint* as long as head and a little longer than first antennal joint, *owing to the convex throat not appressed to the underside*

of the head in its whole length, the apical part always being considerably distant from the head. Pronotum almost trapeziform, much broader than long, not or very obscurely transversely impressed, a little narrowed from base to apex, where it is a little broader than the head, apical margin straight, apical angles with an exserted seta, lateral and basal margins not depressed, almost straight or very slightly rounded. Scutellum scarcely convex. Clavus with three rows of punctures, the commissure less than half the length of the scutellum; corium with the straight apical margin shorter than the claval suture, radial vein in its apical half deviating from the costal margin, ending abruptly somewhat behind middle of corium, exocorium and mesocorium, owing to the shortness of the radial vein, broadly confluent in their apical parts; membrane with a deeply impressed transverse fold near the base, the next inmost vein curved very strongly inward in its basal part. Fourth ventral segment with three sublateral, glandular spots, the hindermost of which is placed near the posterior margin. Front femora in both sexes a little incrassated, in their apical half armed with two very short and fine spinules; middle and hind tibiae with scattered bristlelike spines; hind tarsi more than half the length of tibiae, first joint about twice the length of the others combined.

Type of the genus, *Ptychoderrhis bipunctata* sp. nov.

The characters distinguishing this genus from either *Antillocoris* Kirk. or *Tropistethus* Fieb., or from both these genera, are printed in italics.

To this genus also belong *Aphanus indicus* Dallas, *Tropistethus antennatus* Scott, and *Tropistethus simulans* Distant. Distant has also referred the first-mentioned of these three species to *Tropistethus*, but they cannot be confounded with this Palæarctic genus, in which (apart from other important differences) the pronotum is distinctly bilobed and laterally sinuate and in which the forelegs are sexually highly different in structure, whereas they are identically constructed in both sexes of *Ptychoderrhis*. The new genus seems to be more related to *Antillocoris*, in which, however, the body is broader and more oval and the pronotum subcampanulate, its lateral margins being strongly (and usually broadly) rounded anteriorly, gradually passing into the apical margin so that the pronotum at the apex is considerably narrower than the head. Furthermore the throat is straight in *Antillocoris*, permitting the first rostral joint to be strictly applied to it in its whole length, and the radial vein of the corium is percurrent (although sometimes weaker toward the end) and subparallel to the costal margin.

The subbasal plica of the membrane in *Ptychoderrhis* is often even more conspicuous than in *Lethaeus* Dallas and in *Cistalia* Stål, with which it also has the strongly curved second vein of the membrane, and the number and arrangement of the glandular spots of the fourth ventral segment in common. In fact the genus must be placed near *Cistalia*, if we follow Stål's system.

Ptychoderrhis indica Dall.

LUZON, Laguna, Los Baños and Mount Maquiling.

Of this species only the unique type specimen was previously known, but it does not seem to be rare in the Philippines. The single, not quite normally colored, specimen of it known to me in 1913 was redescribed by me as a new species under the name *Antillocoris banksii*. The great superficial resemblance between these two genera is a rather meager excuse for this mistake.

Ptychoderrhis bipunctata sp. nov.

Black, humeral angles and basal margin of pronotum narrowly pallescent, corium and clavus whitish, subpellucid, punctured with fuscous, the former with a small round spot behind middle at apex of radial vein, the apical margin and a short posterior vitta at claval suture fuscous, membrane hyaline, iridescent, with the exterior half of the transversely triangular impressed basal area fuscous, male genital segment pale testaceous; antennæ with the two first joints testaceous, third fuscous, fourth whitish testaceous with the extreme base fuscous; rostrum and legs pale testaceous, all coxæ and fore femora (excluding apex) picescent. Impunctate, basal half of pronotum and scutellum irregularly and extremely finely punctulate, corium finely and moderately thickly punctate. The first three antennal joints subequal in length, fourth longer than any of the others. Scutellum distinctly longer than broad.

Length, male, 2.5 millimeters.

LUZON, Benguet, Baguio.

About the size and form of *Ptychoderrhis antennata* Scott; quite different from the other three species in the coloring of the elytra.

Lemnius bakeri sp. nov.

Glabrous, black; corium with a triangular ochraceous patch behind the middle, membrane whitish hyaline; antennæ, rostrum, legs, and male genital segment dark testaceous, coxæ and trochanters black, femora piceous. Head as broad as apex of pronotum, thickly and finely punctate, the eyes not quite touch-

ing pronotal apical margin. Pronotum two and a half times broader at base than at apex, neither transversely impressed nor foveately sulcate, coarsely and thickly punctate, but with the cicatrical areas finely and sparingly punctulate, the carinate lateral margins very slightly sinuate behind the middle, separated from the disk by a regular row of punctures. Scutellum coarsely and thickly punctate, the basal area a little less thickly so, the Y-shaped carination smooth. Elytra slightly passing apex of abdomen. Pleura coarsely and thickly punctate. Abdomen beneath smooth and impunctate, the segmental sutures deeply impressed, the glandular spots of the fourth segment very small. Fore and middle femora beneath before apex with short rigid setæ, hind femora with about five such setæ; tibiæ sparsely set with slender bristlelike spines, which are much less conspicuous in the front pair; hind legs rather long, their femora reaching apex of abdomen, their tarsi slightly longer than half the length of the tibiæ, the first joint not quite two times longer than the others combined.

Length, male, 3.2 millimeters.

LUZON, Laguna, Los Baños.

A well-marked species, not easily confounded with the type of the genus. Breddin¹¹ gave, in his usual excellent way, a re-description of the genus *Lemnius* Dist. and described a new species, *L. inornatus*. Distant later placed *inornatus* as a synonym of *L. ovatus* Dist., thus indirectly admitting that his description of the genus (the "cruciform" scutellar carination, the "straight" apical margin of the corium, etc.) was quite wrong in several points, and his figure faulty. Apart from the corrections made by Breddin, the antennæ are represented in Distant's figure as inserted midway between the eyes and the apex of the head, whereas they really are inserted immediately before the eyes. The genus is allied to *Coracodrymus* Bredd., with which it has several particulars in common.

Rhodiginus pullatus sp. nov.

Black, covered with an extremely short dusty grayish pubescence, somewhat less than the basal half of corium, especially in its interior part, pale cinereous, remainder of corium either entirely fuscous or somewhat variegated with testaceous, membrane hyaline; antennæ testaceous, first joint and apex of second whitish; rostrum testaceous, basal joint piceous; legs whitish testaceous. Head very thickly and finely punctulate,

¹¹ *Deutsche Ent. Zeitschr.* (1907), 209.

second joint of antennæ scarcely or slightly longer than first, third as long as first, fourth longer and thicker than any of the others. Pronotum with the anterior lobe punctulate the same as the head, posterior lobe and scutellum a little less finely and less thickly punctate. Elytra slightly passing the apex of abdomen. Pectus and venter extremely finely and thickly punctulate.

Length, female, 2.3 to 2.5 millimeters.

LUZON, Laguna, Los Baños; Tayabas, Malinao.

Readily distinguished from *R. dispar* Walk., the only other known species of the genus, by the structure and the coloring of the antennæ, the entirely black pronotum, and the differently colored corium.

The original description of the genus *Rhodiginus* Dist. is inadequate, but Breddin has supplemented it with many essential characters.¹²

Lispochroa laeviuscula sp. nov.

Shining, black; humeral angles of pronotum and the adjacent part of its lateral margins obscurely testaceous, elytra whitish or flavo-testaceous; corium with a broad, irregular, more or less diffuse, piceous median fascia or transverse spot, which often occupies the greater part of posterior half of corium; membrane whitish testaceous, suffused or variegated with fuscous, apex of abdomen often pitchy brown; antennæ testaceous, base of first joint and fourth (often also third) piceous; rostrum and legs pale testaceous, often more or less suffused with piceous. Head very finely punctulate above, with a few exserted hairs, antennæ as long as head, pronotum, and scutellum together, first joint very slightly passing apex of head, second a little longer than or subequal to third, fourth as long as or somewhat longer than third. Pronotum mostly impunctate, only toward the sides with some scattered punctures, strongly transversely convex in its anterior half, the apical collarlike lobe with the impressed line terminating it posteriorly, distinct toward the sides but obliterated in the middle, where this area is subconfluent with the disk, the subacute lateral margins of the pronotum roundly inflected at the base of the apical collar and discontinued there, leaving the parallel sides of the collar vertically bluntly rounded; an upright seta arising from the margin somewhat behind the collar. Scutellum finely and sparsely punctate and with a row of small punctures close to the lateral margins, the basal mar-

¹² Ibid. (1907), 210.

gin smooth. Elytra finely and seriatly punctate, the row on the corium next to the claval suture, the basal part of the adjacent row, and the three claval rows more coarsely impressed, commissure of clavus somewhat shorter than scutellum. Abdomen beneath with fine scattered recumbent hairs easily coming off, the suture between the third and fourth segments very weak or indistinct.

Length, male, 2.3 millimeters; female, 2.5.

Macropterous form.—Pronotum distinctly narrowed from the base of the postcollar inflection; elytra reaching a little beyond apex of abdomen, apical margin of corium straight, membrane longer than broad.

Brachypterous form.—Pronotum very slightly narrowed from the base to the postcollar inflection; elytra (female) reaching middle of last dorsal segment, apical margin of corium rounded, the interior part of this margin touching that of the other corium behind the claval commissure, membrane crescent-shaped, short but well defined, about twice broader than long, distinct to the very apical angle of the corium.

LUZON, Laguna, Mount Maquiling.

The body of the female is higher and more robust than that of the male. The above description of the pronotum includes some generic characters.

Differs from *L. tartarea* Dist. by smaller size, much less pilose body, shorter antennæ, much less punctured pronotum, a little longer elytra in the brachypterous form with more developed membrane, and finer and more seriate punctation of the corium. From *L. blandula* Bredd. it is distinguished by the much less punctate pronotum, etc.

In a paper sent for publication some time ago, but not yet published, I have expressed the supposition that the genus *Lua* would prove to have a macropterous form, and I now find that *Lua* Dist. (1909) represents the brachypterous form and *Lispochroa* Bredd. (1907) the macropterous form of the same genus. Breddin's excellent and detailed description leaves no room for doubt as to this synonymy. *Lispochroa tartarea* is specifically distinct from *blandula* by the pilose body, longer second antennal joint, and coarser, thinner, and less seriate punctation of the corium. Distant placed the genus near *Xestocoris* V. Duz. (*Rhaptus* Dist. nec Stål), but it is more related to *Lispolophus* Bergr., near which it should be placed, as suggested by Breddin.

Agunga compactilis sp. nov.

Glabrous, subopaque, black; a small lateral spot to pronotum at its transverse impression, clavus (except the punctate striæ), the subbasal part of the corium as far as to the level of the scutellar apex, a round costal spot behind middle of corium, another round spot opposite the former near inner apical angle of corium, and a more or less interrupted narrow vitta between the two round spots whitish; membrane also whitish, but the apical half somewhat infuscated, the veins fuscous; rostrum and legs black, tibiæ fuscous, their apex and the tarsi testaceous; thickly and very finely punctate, corium seriatly and much less punctulate, venter alutaceous. First joint of rostrum not quite reaching base of head. Front lobe of pronotum one-third longer than the hind lobe. Elytra reaching apex of abdomen.

Length, male, 2.5 millimeters.

LUZON, Benguet, Baguio.

Allied to *A. crassa* Dist., but smaller and with quite differently colored legs.

In the single specimen I have seen, the fourth antennal joint was lacking, and the second and third were destroyed by an accident before I had described them, but as far as I remember, they were constructed and colored much as *A. crassa*; the first antennal joint is pale brownish in its basal half, the rest being stramineous.

To the generic characters of *Agunga* Dist. should be added: Head more than twice broader than long, vertex four times broader than an eye, ocelli very far apart, antenniferous tubercles convergent, rounded exteriorly, basal joint of rostrum longer than first antennal joint; pronotum with the carinate lateral margins obtusely angled a little behind apex, their apical part being obliquely truncate behind the eyes; clavus with triseriate punctation, the two exterior rows placed extremely close to each other, the commissure more than half the length of scutellum, claval suture longer than apical margin of corium; fourth ventral segment with two sublateral, glandular spots placed near each other in the anterior part of the segment.

Genus **ENTISBERUS** Distant

Entisberus DISTANT, Ann. & Mag. Nat. Hist. (1903), VII, 11, 74;
Fauna Brit. Ind., Rhynch. (1903), 2, 66.

Body oblong. Head much broader than long, strongly declivous (60°), seen from the side conically produced obliquely

downward, its apex lying considerably below the level of the sternum, eyes of moderate size, sessile but strongly prominent, their greatest part laterally projecting beyond apical angles of pronotum, vertex about twice broader than an eye, antenniferous tubercles placed immediately before the eyes, first joint of antennæ as long as head, passing its apex by two-thirds the length of the joint, second joint subequal to first, third a little shorter, fourth subequal to third, bucculæ very short, rostrum reaching a little beyond front coxæ, first joint not reaching base of head, half the length of first antennal joint, second joint subequal to first and a little longer than third. Pronotum somewhat constricted at the transverse impression, with a distinct depressed apical collar, carinate lateral margins, and the basal margin shortly sublobately depressed in front of corium, but otherwise of different structure in the two sexes; in the male transversely impressed behind the middle, with the posterior lobe slightly sloping, the anterior lobe but little narrower, globosely convex with its basal part horizontal, the middle part strongly rounded, the apical part perpendicularly declivous, and the lateral margins strongly rounded; in the female transversely impressed in the middle, with the posterior lobe much more sloping, the anterior lobe considerably narrower, forming together with the posterior lobe a continuous, moderately sloping (about 45°), slight convexity and with the lateral margins less rounded. Scutellum subequilaterally triangular with a furcate carination, the anterior branches of which are strongly divergent, forming a more or less obtuse angle, straight or hooked at their end. Elytra a little passing apex of abdomen, clavus triseriately punctate, its commissure less than half the length of scutellum, apical margin of corium straight (not "slightly rounded" as described and figured by Distant), shorter than claval suture, membrane with the two inner veins in their basal half placed close together and rather strongly curved inward, third vein visible only in its apical half, fourth starting from apical angle of corium, forming a very strong curvature inward and in its basal half separated from the second vein by a wide space, fifth vein usually obliterated. Fourth ventral segment with the two sub-lateral glandular spots placed in the anterior part of the segment. Legs simple, front femora not incrassate, unarmed, first joint of hind tarsi as long as the other joints together.

As Distant has omitted some of the most striking characters of the genus, it has been necessary to redescribe it. The length of the membrane is correctly described by him, but he figures it as not reaching apex of abdomen. The specimen figured by

him seems to be a female, and he probably knew only one sex, as he says nothing of the strong sexual differences in the structure of the pronotum.

Entisberus archetypus Distant.

Entisberus archetypus DISTANT, Ann. & Mag. Nat. Hist. (1903), VII, 11, 74; Fauna Brit. Ind., Rhynch. (1903), 2, 66.

LUZON, Laguna, Los Baños, Mount Maquiling, and Paete.
MINDANAO, Davao.

The antennæ, as described by Distant, are "pale stramineous," but the first joint is always blackish at the base; the fourth joint is somewhat thickened, but by no means "globose" as described by Distant. The membrane is pellucid, shaded with brownish and variegated with fuscous; the veins are usually whitish.

Previously known only from Ceylon; in the Philippines it seems to be a common insect.

Breddin has united the genus *Entisberus* with *Pamera*, but in this he was totally mistaken. The new species described by him under the name *Pamera (Entisberus) subsericea* is an ordinary *Pamera* and has nothing to do with *Entisberus*.

Genus **DUDIA** novum

Body oblong. Head a little broader than long and broader than apex of pronotum, rather strongly declivous (45°), seen from the side conical, eyes prominent, vertex about three times broader than an eye, antenniferous tubercles placed immediately before the eyes, first joint of antennæ half the length of the head, slightly passing its apex, second one-half longer than first, clavate at apex, third somewhat shorter than second but a little longer than first, fourth subequal to third, bucculæ very short, rostrum reaching middle coxæ, first joint reaching base of head, a little longer than first antennal joint, second joint a little longer than first, third subequal to first. Pronotum broader than long and a little over twice broader than head, rather strongly narrowed from base to apex, transversely impressed a little behind the middle where it is somewhat constricted, collar narrow, posterior lobe a little sloping, its basal margin slightly rounded, anterior lobe transversely and longitudinally highly convex, its apical half strongly declivous, the lateral margins obtuse, a little rounded. Scutellum broader than long, convex. Prosternum seen in profile angularly sinuate, separated from anterior lobe of pronotum by a narrow, smooth, subimpressed line. Metapleura with acute posterior angles. Elytra reach-

ing a little beyond apex of abdomen, the narrow clavus with two rows of punctures, costal border of corium somewhat reflexed, apical angle acute, apical margin straight, a little shorter than claval suture, venation of membrane much as in *Entisberus*, but median (third) vein entirely wanting and fourth less curved. Fourth ventral segment with the sublateral glandular spots as in *Entisberus*. Front femora slightly incrassated, in the apical half armed with a spine and between the spine and the apex with a few extremely small teeth. Tibiæ one-half longer than tarsi. First joint of hind tarsi a little longer than the other joints together.

Allied to *Entisberus* Dist., but with differently constructed antennæ, rostrum, scutellum, and front femora, and with no sexual differences in the structure of the pronotum. Like *Entisberus* it is an aberrant genus of Stål's division Lethaearia.

Type of the genus, *Dudia comptula* sp. nov.

Dudia comptula sp. nov.

Black, a costal spot to corium before the middle, a smaller costal spot behind its middle, inner basal angle of membrane, an oval spot near this angle, and a pyriform spot on each side near apex of membrane (rarely also a short apical streak to clavus, three small spots near apical margin of corium, and two small additional spots to membrane) white; antennæ brown, apex of the three first joints whitish; rostrum testaceous; legs black, tarsi pale testaceous; glabrous, thickly and finely but rather deeply punctate, still more finely so on the head, venter impunctate with a fine recumbent pilosity.

Length, male and female, 2.3 to 2.8 millimeters.

LUZON, Laguna, Mount Maquiling.

This fine little gem of a bug seems to be common on Mount Maquiling. Very rarely the ground color of the corium is fuscous and the venter pale castaneous.

Navarrus phaeophilus Walk.

LUZON, Laguna, Mount Maquiling. PALAWAN, Puerto Princesa. Previously known from Ceylon and Celebes.

Navarrus Dist. is a very distinct genus of the division Cleradaria. Distant describes the first rostral joint as "reaching or slightly passing eyes," and in his figure this joint is represented as only reaching the middle of the anteocular part of the head, while the second joint reaches the middle of the eyes. In reality the first joint reaches the anterior, and the second joint the posterior, margin of the eyes.

Genus **HARMOSTICTA** new name

As pointed out by Breddin the division Cleradaria is more related to Stål's Lethaearia than to any other division of the subfamily Myodochinae; and the genus *Edulica*, although correctly placed in the Cleradaria by Distant, forms a distinct transition to the Gastrodaria (Lethaearia) by the first rostral joint, which almost reaches the base of the head. The name *Edulica* being preoccupied by *Edulica* Hampson, 1901, in Lepidoptera, I propose for *Edulica* Distant the name *Harmostica*.

HETEROGASTRINÆ

Sadoletus valdezi sp. nov.

Oblong, black; posterior lobe of pronotum ochraceous, with two broad pale brownish (sometimes dark fuscous) percurrent vittæ, separated by a narrow pale line; apical half (or at least apex) of scutellum castaneous with a pale median line; corium and clavus whitish, membrane hyaline, a spot on fore and middle acetabula and apical callus of orificia ferruginous; abdomen often castaneous, male genital segment rufescent in the middle; antennæ and rostrum testaceous, the former with the fourth and often also the third joint fuscous, legs whitish testaceous, tibiæ entirely, or at least above, and last two tarsal joints infusate; body (including corium) clothed with a short, deciduous, golden sericeous pubescence, more thickly so on upper side of head and anterior pronotal lobe. Head a little narrower than base of anterior pronotal lobe, second joint of antennæ twice the length of first, rostrum reaching middle coxæ. Pronotum with a faint transverse impression before the middle, anterior lobe a little narrowed from base to apex, posterior lobe about twice the length of anterior lobe, thickly and finely punctured with brown. Corium and clavus with fine fuscous punctation, the uniseriately punctate basal part of the exocorium much shorter than the biseriately punctate apical part, in which the interstice between the two rows of punctures is plane, not elevated. Pectus sparsely punctate. Front femora in the apical half with a very small (sometimes wanting) spine.

Length, male, 3.5 millimeters; female, 3.8.

Male.—Sixth ventral segment in the middle as long as the two preceding ones together; genital segment rather small, as broad as half the basal width of scutellum.

Female.—Third, fourth, and fifth ventral segments with straight apical margins, as long in the middle as at the sides; sixth segment as long as fifth, except in the middle, where it

has an acute median incision for the reception of the median basal part of the small genital segment, which is twice broader than long.

LUZON, Laguna, Mount Maquiling and Mount Banahao.

Allied to *S. validus* Dist., but smaller, with black head and anterior pronotal lobe, quite differently colored legs, etc. Named for Julian Valdez, Professor Baker's collector.

Sadoletus bakeri sp. nov.

Oblong-subovate (female), black, posterior lobe of pronotum, apical third of scutellum, fore acetabula and apical callus of orificia tawny, scutellar keel ochraceous, clavus and a little more than basal half of corium white, membrane hyaline, abdomen castaneous, sixth ventral segment and genital segments fulvous; antennæ and rostrum fuscous; legs castaneous, coxæ piceous, all trochanters and basal half of middle and hind femora whitish testaceous, first joint of tarsi (except extreme apex) white; densely clothed with a short golden sericeous pubescence, less thickly so on venter, and with the cicatrical areas and posterior lobe of pronotum, apical half of scutellum, and elytra glabrous. Head as broad as base of anterior pronotal lobe, second joint of antennæ twice the length of first, rostrum reaching middle coxæ. Pronotum constructed and punctured as in *S. valdezi*, the pale median line of the posterior lobe slightly elevated, evanescent toward the base. Scutellum with fuscous punctation in the apical half. Corium and clavus with fine fuscous punctation, the corial costal margins straight and parallel through somewhat less than the basal half, then (at least in the female) slightly ampliatly rounded, the uniseriately punctate basal part of the exocorium subequal in length to the biseriately punctate apical part, in which the interspace between the exterior and interior rows of punctures is elevated, with a short additional row of punctures outside the middle part of the inner row, apical margin of corium very conspicuously shorter than claval suture. Pectus sparsely and rather coarsely punctate. Front femora in the apical half with a very small toothlike tubercle.

Length, female, 4.8 millimeters.

Female.—Ventral segments constructed as in *Sadoletus valdezi*, but apical margin of sixth segment straighter, with an inconspicuous acute incision in the middle, the small genital segment more than twice broader than long.

Male.—Unknown.

LUZON, Laguna, Mount Banahao.

A somewhat robust, very distinctive species.

Sadoletus voluptarius sp. nov.

Oblong (male), black, basal margin of pronotum, clavus, and somewhat more than basal half of corium white, posterior angle of metapleura tinted with the same color, membrane hyaline, tinted with brownish between the two outer veins, a spot on fore acetabula and apical callus of orificia ferruginous; antennæ wanting; rostrum piceous, legs black, all trochanters, somewhat less than basal half of middle and hind femora, and first joint of all tarsi (except extreme apex) yellowish white; clothed with a short, silvery sericeous pubescence easily coming off; posterior pronotal lobe, apical half of scutellum, and elytra glabrous. Head as broad as base of anterior pronotal lobe, rostrum reaching middle coxæ. Pronotum with a very distinct transverse impression before the middle, anterior lobe slightly narrowed from base to apex, posterior lobe one-half longer than anterior lobe, thickly and finely punctate, with a fine percurrent median keel. Corium and clavus with fuscous punctation, costal margin (at least in the male) almost straight, exocorium constructed and punctured as in *S. bakeri*, apical margin of corium much shorter than claval suture. Pectus sparsely and rather coarsely punctate. Fore femora near base of apical half with one or two spines.

Length, male, 5 millimeters.

Male.—Abdomen beneath finely keeled in the middle from its base to apex of fourth segment, sixth segment in the middle as long as the three preceding ones together; genital segment large, broader than half the basal width of scutellum.

Female.—Unknown.

LUZON, Laguna, Mount Banahao.

Apparently allied to *S. corvus* Dist., but larger, pronotal posterior lobe without the pale median line, and legs differently colored. Further comparison is impossible owing to Distant's utterly inadequate description.

Sadoletus montanellus sp. nov.

Oblong (male), black, apex of scutellum brown, clavus and somewhat more than basal half of corium whitish, membrane hyaline; antennæ and rostrum dark ferruginous, third antennal joint fuscous, fourth blackish, legs pitchy brown, all trochanters, basal half of middle and hind femora, and first joint of all tarsi whitish testaceous; clothed with a short, deciduous, silvery sericeous pubescence; posterior pronotal lobe, apical half of scutellum, and elytra glabrous. Head slightly broader than base of anterior pronotal lobe, second joint of antennæ not quite twice

the length of first, rostrum reaching middle coxæ. Pronotum with a distinct transverse impression in the middle, the two lobes being of equal length, anterior lobe slightly narrowed from base to apex, posterior lobe finely and rather densely punctate, with a very fine median keel. Corium and clavus with fine fuscous punctation, the uniseriately punctate basal part of the exocorium as long as the biseriately punctate apical part, in which the interstice between the two rows of punctures is elevated, apical margin of corium considerably shorter than claval suture. Pectus sparsely and rather coarsely punctate. Fore femora near the middle with a very small spine.

Length, male, 3 millimeters.

Male.—Sixth ventral and genital segments constructed as in *S. valdezi*.

Female.—Unknown.

LUZON, Laguna, Mount Banahao.

Somewhat allied to the preceding species, but much smaller, with the two pronotal lobes of equal length, and the legs with a paler ground color.

Sadoletus montivagus sp. nov.

Oblong (male), black, clavus and somewhat more than basal half of corium white, but the black of the posterior part of corium extended more forward at the costal margin, reaching the middle of the latter, membrane hyaline; antennæ dark brown (fourth joint wanting, probably black), rostrum dark testaceous, legs black, first joint of tarsi (except extreme apex) white; underside of body, head also above, middle of anterior pronotal lobe, and basal half of scutellum clothed with a dense and short, deciduous, silvery sericeous pubescence, remaining parts of body glabrous. Head a trifle broader than base of anterior pronotal lobe, second joint of antennæ not quite twice the length of first, rostrum reaching hind coxæ. Pronotum with a distinct transverse impression before the middle, anterior lobe very slightly narrowed from base to apex, posterior lobe one-half longer than anterior lobe, thickly and deeply, but rather finely, punctate. Corium and clavus with fine blackish punctation, the uniseriately punctate basal part of the exocorium subequal in length to the biseriately punctate apical part, in which the interstice between the exterior and the somewhat irregular partly subduplicate interior row of punctures is a little raised, the radial vein from near its base to the beginning of the black-colored part gradually callously dilated and ivory white, apical

margin of corium conspicuously shorter than claval suture. Pectus sparsely punctate. Front femora unarmed or almost so.

Length, male, 3.2 millimeters.

Male.—Sixth ventral and genital segments constructed as in *S. valdezi*.

Female.—Unknown.

LUZON, Laguna, Mount Banahao.

At once distinguished from the preceding species by the structure of the pronotum and radial vein, the differently colored legs, etc.

Sadoletus vulvatus sp. nov.

Oblong, black; four transverse spots on basal margin of pronotum (the outermost spot on each side placed before base of elytra), a triangular spot near costal margin of corium a little before the middle, a triangular spot on corium near the claval suture a little behind its middle, and an anteriorly sinuate wedge-shaped spot occupying the apical angle of corium white; subcallose and impunctate, membrane hyaline, sixth ventral and genital segments of female ferruginous; antennæ and rostrum pitchy black, legs black, first joint of tarsi (except extreme base and apex) whitish testaceous; a lateral band on vertex close to the eyes and underside of body clothed with a short, thick, deciduous, silvery sericeous pubescence, remaining parts of body glabrous. Head a little broader than base of anterior pronotal lobe, above very thickly rugulosely punctulate, second joint of antennæ twice the length of first, last joint of rostrum entirely passing base of venter. Pronotum with a rather deep transverse impression before the middle, anterior lobe slightly narrowed from base to apex, very thickly and finely subrugulosely punctate with a few very small transverse smooth areas, posterior lobe one-half longer than anterior lobe, thickly and rather coarsely punctate with a percurrent median keel. Corium and clavus somewhat coarsely punctate, inner apical area of mesocorium almost impunctate, the uniseriately punctate basal part of the exocorium subequal in length to the apical part, in which the broad interstice between the exterior and interior row of punctures is scarcely elevated but irregularly subseriately punctate, apical margin of corium considerably shorter than claval suture. Pectus moderately thickly and rather coarsely punctate. Front femora in the apical half armed with a spine.

Length, female, 4.2 millimeters.

Female.—Third, fourth, and fifth ventral segments extremely

strongly sinuate and contracted in the middle, being actually broadly bisected by the very long sixth segment, which is extended forward to the apical margin of the second segment and is three times longer in the middle than at the sides, apical margin of sixth segment broadly and somewhat deeply sinuate, genital segment rather large, broader than long, and less than half the length of the sixth segment.

Male.—Unknown.

LUZON, Laguna, Mount Banahao.

The four white transverse spots of the pronotal basal margin are possibly more or less confluent in some specimens.

This remarkable species in the structure of the female venter is so different from the other species of which the female is known to me, that its relationship to them at first sight seems almost incredible. Yet the difference, although involving the greatest part of the venter, is solely due to the excessive development of the sixth segment, also found in some other genera of the Heterogastrinæ. *Sadoletus vulvatus* is unquestionably congeneric with *S. valdezi* and *bakeri*, the stated sexual difference notwithstanding, and some of the species of which only the male is known to me may prove to be intermediate in the structure of the female venter.

Of the genus *Sadoletus* Dist. only two species from India and one from Borneo were hitherto known. The occurrence of six species on Mount Banahao alone is noteworthy and seems to point to the Philippines as the headquarters of the genus, but its species are apparently very rare; of five of the species here described I have seen but a single specimen.

To the generic characters of *Sadoletus* should be added: Head beneath with a percurrent channel for reception of the first rostral joint, second joint of antennæ about double the length of first, third shorter than the adjacent joints, fourth subequal to or a little longer than second. Scutellum with the basal half finely punctate, the apical half coarsely punctate with a median keel sometimes extended forward beyond the middle. Corium with the interstice between the two innermost rows of punctures from before or near middle gradually widening to near apex, then tapering to the apex, the row of punctures terminating the interstice exteriorly being angularly bent a little before apex and directed obliquely inward, meeting the interior row at the apex, apical half of the interstice with a short row of punctures; clavus triseriately punctate, its commissure about one-fourth the length of scutellum; membrane with only three veins, the inner and the outer veins arising from a common stem near the inner

basal angle, the outer vein in its basal part parallel to the basal margin, then rotundately bent and proceeding to the apex, the straight median vein arising from near base of outer vein.

In Distant's figure of the type the membrane is represented as having two basal cells. This is indubitably due to faulty tracing of the veins, which are somewhat indistinct in certain specimens.

The front femora are usually armed with one or two spines beneath, but this character cannot be relied on, as the spines are often very feebly developed or wanting.

Some of the distinctive characters of the six Philippine species may be summarized thus:

Key to the Philippine species of Sadoletus.

- a*¹. Corium entirely whitish, its apical margin but slightly shorter than the claval suture, the uniseriately punctate basal part of the exocorium much shorter than the remaining part. Femora whitish testaceous.
valdezi sp. nov.
- a*². Corium not entirely whitish, its apical margin very distinctly shorter than the claval suture, the uniseriately punctate basal part of the exocorium subequal in length to the remaining part. Femora not, or not entirely, whitish testaceous.
- b*¹. Corium whitish, somewhat less than apical half black. Rostrum not reaching base of venter.
- c*¹. Pronotum not entirely black. Larger species (about 5 millimeters).
- d*¹. Posterior lobe of pronotum nearly twice the length of anterior lobe, tawny, brown-punctured. Scutellum black with tawny apical part and ochraceous median keel. Ground color of legs castaneous *bakeri* sp. nov.
- d*². Posterior lobe of pronotum one-half longer than anterior lobe, black with white basal margin. Scutellum entirely black. Ground color of legs black..... *voluptarius* sp. nov.
- c*². Pronotum entirely black. Small species (about 3 millimeters).
- e*¹. The two pronotal lobes of equal length. Radial vein of corium not dilated in its basal half. Femora pitchy brown, basal half of the middle and hind pair whitish testaceous.
montanellus sp. nov.
- e*². Posterior pronotal lobe one-half longer than anterior lobe. Radial vein of corium gradually callosely dilated in its basal half. All femora entirely black *montivagus* sp. nov.
- b*². Corium black with three white spots. Rostrum passing base of venter.
vulvatus sp. nov.

Hyginus kinbergi Stål.

LUZON, Laguna, Los Baños and Mount Maquiling; Tayabas, Malinao. MINDANAO, Butuan.

This species (with which *H. semperi* Stål and *consputus* Stål must be united) is common in the Philippines and is extremely variable. The upper side of the head is more or less declivous

and the rostrum, which often only reaches the base of the venter, is in other specimens extended far beyond its middle; the metatarsus of the hind legs is also variable in length.

Hyginus signifer Walk.

LUZON, Laguna, Los Baños and Mount Maquiling.

Previously known only from Ceylon.

Artemidorus myrmecodes sp. nov.

Black; apex of scutellum, clavus (excluding base and apex), the adjacent margin of corium (more or less distinctly), a median fascia to corium connecting its inner apical angle with the costal margin, lateral margins of the female abdomen (except sixth segment), an oblong lateral spot at apex of second, a subquadrate lateral spot at apex of fourth and the lateral border of fifth female abdominal segments, a median broadly triangular spot on third female ventral segment, more or less extended forward over the second one, and a more or less distinct spot on the acetabula white; membrane hyaline with a very broad black median fascia; antennæ black or dark fuscous, first joint white toward base; rostrum black, apical two-thirds of second and the whole third joint testaceous; legs black, inner (anterior) side of front femora ferruginous, all of trochanters (except their apices) and base of middle and hind femora white, tarsi brownish or fuscous; coarsely and thickly punctate, more finely so on upper side of head, corium only with the ordinary seriate punctation, abdomen impunctate; head above, pronotum, and scutellum rather longly and densely erectly pilose, venter sparingly so, corium with a very short but rather thick erect pubescence visible only from the side, the white median fascia of the corium, underside of head, prosternum, pleura, and apical part of venter more or less densely clothed with a silky silvery pilosity, a very thick similar pilosity forming an oblique fascia on each side of venter between apical lateral part of second segment and middle of third segment, in the female connecting the white spots at these places. Head almost as broad as base of pronotum, second joint of antennæ about twice the length of first, third conspicuously shorter than second and longer than fourth. Pronotum distinctly longer than broad. Scutellum with the median keel anteriorly ending in a transverse elevation placed a little behind the base, apex subcallose. Elytra considerably constricted before middle, clavus with black punctation. Legs longly erectly pilose, hind femora slightly passing apex of abdomen, gradually narrowing from the middle to the base, first joint of hind tarsi a little over two times longer than the others together.

Length, male, 7.3 millimeters; female, 8 to 8.5.

Male.—Abdomen slightly broader than the closed elytra, apical angles of fourth and fifth segments a little prominent.

Female.—Abdomen considerably broader than the closed elytra, apical angles of fourth and fifth segments not prominent.

Variety (male).—First antennal joint, a subbasal annulation to second joint, forelegs (except coxæ and trochanters), middle femora (except base), apex of hind femora, and first joint of middle and hind tarsi ferruginous.

LUZON, Laguna, Mount Maquiling.

A very distinct species, remarkable by its myrmecoid aspect and also reminding one of the mirid genus *Pilophorus*. The only male I have seen belongs to the above-described variety.

In another periodical¹³ I have given the differential characters of the closely allied genera *Hyginus* Stål and *Artemidorus* Dist. Distant correctly places *Hyginus* (with its synonym *Hyginellus* Dist.) in the Heterogastrinæ, but still refers *Artemidorus* and *Nerthus* Dist. (another synonym of *Hyginus*!) to the Colobathristidæ!

HENICOCEPHALIDÆ

Henicocephalus bakeri sp. nov.

Fuscous, pronotal apical lobe and center of median lobe paler, postocular part and underside of head ferruginous, base of elytra ochraceous, abdomen dingy testaceous, last segment above and beneath and female genital segment dark fuscous, the other segments between middle and lateral margins above with a transverse, beneath with an oblique, fuscous spot; antennæ somewhat variable in color, first joint testaceous but often infuscated, second always fuscous, third testaceous or fuscous, fourth pale testaceous, sometimes with the base fuscous, rostrum testaceous, legs fuscous; coxæ, trochanters, base of femora, knees, apex of tibiæ, and tarsi testaceous; thickly but shortly pubescent, lateral margins of abdomen with longer exserted hairs, antennæ, rostrum, and legs pilose. Head as long as pronotum, posterior lobe a little broader than long and as broad as the width across the eyes (female), laterally strongly rounded, vertex in the female four times broader than an eye, antennæ as long as head and apical pronotal lobe together, first joint reaching apex of head, second as long as the distance between apex of antenniferous tubercles and the postocular constriction, third a little shorter than second, fourth subequal to second. Pronotum a

¹³ *Ent. Mitt.* (1914), 3, 360.

little broader than long, with almost straight basal margin, median lobe a little more than twice the length of apical lobe, with a \perp -shaped central impression and a tripartite impression on each side, in the female one-fifth narrower than the basal lobe. Scutellum convex. Elytra not quite reaching apex of abdomen. Legs short and stout, fore tibiae at apex almost as broad as femora in the middle, hind femora scarcely longer than fore femora.

Length, female, 5 millimeters.

LUZON, Laguna, Los Baños and Mount Maquililing.

Somewhat resembling *H. basalis* Westw., but smaller and distinct in several details.

Systelloderes capillicornis sp. nov.

Depressed, castaneous (including antennae), posterior margin of ventral segments narrowly testaceous; rostrum and front legs brownish testaceous, middle and hind legs whitish. Head shining, as long as pronotum, with very few short upright hairs, eyes (male) occupying almost the whole height of the head, vertex (male) between the eyes two and a half times broader than an eye, gular interspace between the eyes much narrower than an eye, posterior lobe of head broader than long with slightly rounded sides, antennae about as long as head and pronotum together, first joint shortly oval, glabrous, reaching apex of head, second joint slightly incrassated from base to apex, as long as the width of vertex with one eye, finely pilose, the last two joints very slender, capillary, set with rather long exserted hairs, the third half as long again as second, fourth subequal to third, rostrum pilose. Pronotum shining, very sparingly and shortly pilose, more distinctly so at the lateral margins, considerably broader than long, strongly widening from apex to base where it is four times broader than at apex, lateral margins not sinuate between apical and median lobe, but distinctly constricted between median and basal lobe, basal margin broadly and rather deeply arcuately sinuate, apical lobe longer in the middle than at the sides owing to the transverse impression terminating it posteriorly being obtusangularly produced backward, median lobe minutely sculptured in the center, basal lobe at the middle of its apical margin with a small transverse callosity. Scutellum as long as pronotum in the middle, shorter than broad, with some extremely short and subtle hairs, opaque, but with a highly polished and slightly elevated T-shaped figure reaching the apex. Elytra reaching apex of abdomen, strongly iridescent, in their apical half considerably broader than pro-

notum, radial sector angular, not strongly upturned toward apex, the common basal stem of the median and cubital veins short, a little exceeding basal fourth of elytron, the single cross vein of the median area placed nearer to base than to apex of elytron. Abdomen flattened, laterally thinly ciliated with rather long hairs. Legs compressed, thinly pilose, front femora above arcuately dilated, the inferior margin straight, front tibiae at apex as broad as femora in the middle, hind femora subequal in length and shape to fore femora but a little narrower, reaching middle of venter, hind tibiae slightly dilated from base to apex, inner claw of front tarsi much longer than outer claw.

Length, male, 2.8 millimeters.

LUZON, Laguna, Los Baños.

This is the first Asiatic species of the genus. It is chiefly represented in the Neotropical Region, but one species occurs in North America and one in Europe; I also know an Australian species.

No representative of this family was previously known from the Philippine Islands.

NABIDIDÆ

Aristonabis reuteri sp. nov.

Head, anterior pronotal lobe, prosternum, and abdomen luteous; lateral border of the last tinted with red, scutellum, elytra (including membrane), meso- and metastethium, a sub-lateral vitta to venter extended through the three last segments and gradually strongly widening backward, and female genital segment black; apical collar and posterior lobe of pronotum, posterior angle of propleura, and posterior costal area of corium (much widened toward the apical margin) sanguineous; basal border of membrane whitish; first antennal joint testaceous with narrowly fuscous apex, second black, third fuscous, paler toward apex, fourth very pale testaceous; rostrum testaceous, second joint tinted with reddish; legs pale sanguineous; coxæ, trochanters, and tarsi luteous; shortly, palely villose, impunctate, but the transverse impressions of the pronotum rather coarsely and concolorously punctate. Head with the anteocular part but slightly narrowed toward the rounded apex, first joint of antennæ glabrous, the incrassate second joint a little longer than width of head across the eyes, pilose, the last two joints longly pilose, third distinctly shorter than second, a little narrowed from base to apex, fourth subequal in length to third, rostrum shortly and sparingly pilose. Pronotum about one-third broader than

long and at base four times broader than at apex, anterior lobe twice broader than head, posterior lobe subequal in length to anterior lobe (including collar) and two-thirds broader than it. Legs shortly pilose.

Length, female, 4.8 millimeters.

MINDANAO, Iligan.

Allied to *A. elegantulus* Schum., but much smaller, with quite differently colored corium and clavus.

Aristonabis poppiusi sp. nov.

Sanguineous; elytra (including membrane), mesostethium, and metastethium black; corium with a pyriform white spot at the apical margin; first antennal joint reddish, second dark fuscous, third and fourth brownish testaceous; rostrum reddish testaceous; legs sanguineous, tarsi luteous; shortly palely villose, impunctate. Head with the anteocular part a little narrowed toward apex, first joint of antennæ glabrous, the incrassate second joint as long as width of head across the eyes, pilose, the last two joints longly pilose, third distinctly shorter than second, sublinear, fourth as long as third. Pronotum nearly twice broader than long and at base five times broader than at apex, anterior lobe two and a half times broader than head, posterior lobe almost as long as anterior lobe (including collar) and two-thirds broader than it, without an impression near the humeri. Legs sparingly shortly pilose.

Length, female, 4 millimeters.

LUZON, Laguna, Mount Maquilang.

Very distinct from any of the four other known species of the genus.

MIRIDÆ

CYLAPINÆ

Peritropis poppiana sp. nov.

Elliptical, opaque, black with the following ochraceous markings: On upper side of head two slightly curved transverse lines in the basal part and five longitudinal lines, of which the next outmost on each side is furcate anteriorly; on pronotum all margins (narrowly), two sublateral lines on each side (the inner one abbreviated), numerous minute discal mottlings, and some transverse subconfluent lines in the basal part; on scutellum two oblique basal spots, a short lateral vitta, apex, and many small discal points; on clavus the inner and commissural margins and three lines, of which the inmost (excluding its basal part) is much broader than the others and the median percurrent,

reaching apex of clavus; on corium a discal vitta, two lines on each side of the vitta, the apical margin, numerous points to embolium and cuneus, and apical margin of embolium; on pectus apical margin of prosternum, an oblique propleural line, posterior margin of mesopleura, a small metapleural spot, and orificia; on venter a small spot near basal angles of the segments and their extreme apical margin; the ochraceous markings of corium and clavus consist of minute scales; epipleura of corium fawn-colored, its exterior margin blackish, finely dotted with whitish, the veins black, margined on each side with whitish; wings sublacteous, pellucid; antennæ from their base to a little beyond middle of second joint ferruginous, the remainder fuscous; rostrum testaceous, toward apex piceous; legs dark fuscous, coxæ and trochanters very pale testaceous, hind femora with a whitish annulation in the apical half, all knees narrowly pallescent, tibiæ at apex and tarsi dark testaceous; body without exserted hairs, only the venter finely and rather thinly and palely pilose. Head as broad as apex of pronotum, eyes large but moderately prominent, seen from above much longer than broad, the space between them not quite two times broader than an eye, antennæ glabrous, the last two joints finely and shortly pilose, first joint distinctly passing apex of head, in length equal to half the width of head, second about three times longer than first and as long as pronotal basal margin, slender but with the apical half slightly thicker than the basal half, third and fourth subequal, each of them longer than first, together one-third shorter than second, rostrum reaching middle of venter. Pronotum trapeziform, longitudinally slightly, transversally more distinctly, convex, two times broader than long and as long as its apical width, lateral margins very narrowly reflexed, humeral angles very narrowly rounded, the calli not produced over the median part of the collar, reaching backward beyond middle of pronotum, separated by a feeble, anteriorly abbreviated impression. Scutellum slightly convex. Elytra (female) much longer than abdomen, commissure of clavus as long as scutellum, cuneus reaching apex of abdomen, about as long as broad, exterior cell of membrane small but distinct. Wings slightly shorter than elytra. Legs subglabrous.

Length, female, 3.1 millimeters, inclusive of membrane, 3.9; width, 1.9.

LUZON, Laguna, Mount Maquilang.

Related to *P. javanica* Popp., but readily distinguished by the structure of the head and the antennæ, much less convex scutellum, and different coloration.

HEBRIDÆ

Hebrus balnearis sp. nov.

Black, basal margin of vertex (laterally curved a little forward between ocelli and eyes) and a short linear spot at anterior angle of eyes pale grayish, a transverse apical area to pronotum lead-colored, the basal two-thirds of clavus and three spots to membrane white, one of these spots being placed near the exterior basal angle, one opposite the first near the interior margin, and one (oblong) behind middle in the median line of the body; underside of head (including bucculæ) and acetabula (excluding a triangular continuation of the black pleural color) pale testaceous; antennæ fuscous, the first two joints (except their extreme tip) testaceous; rostrum castaneous; legs pale testaceous, the knees somewhat infuscated, extreme apex of tibiæ and of tarsi fuscous; head above and pronotum with scattered, extremely short golden hairs, corium with similarly colored but much longer and much more numerous hairs, on scutellum with short erect black hairs, the leaden apical area of the pronotum and the pale markings of the head and clavus glabrous. Antennæ as long as head, pronotum, and scutellum together, the first two joints subglabrous, taken together as long as head, first passing apex of head by half its length, second half the length of first, the last three joints very slender, thread-like, sparsely pilose, third joint slightly shorter than the first two joints united, fourth as long as first, fifth subequal to third. Pronotum laterally strongly sinuate, the shoulders distinctly prominent, subangularly rounded. Scutellum triangular, neither truncate nor notched at apex. Abdomen beneath with a fine, recumbent, whitish pilosity.

Length, female, 2 millimeters.

LUZON, Laguna, Los Baños.

Allied to *H. bengalensis* Dist., but with differently constructed antennæ, laterally more deeply sinuate pronotum, and different color markings of pronotum and elytra. I have seen three females, but no male of this species.

Hebrus rufescens sp. nov.

Ferruginous, head above, down the middle, and posterior half of pronotum a little infuscated; abdomen testaceous; elytra fuscous, basal two-thirds of clavus whitish, membrane with three testaceous spots, one near exterior basal angle, one opposite the first, near interior margin, the third a little behind the middle; antennæ, rostrum, and legs pale testaceous, the knees slightly

infuscated. Antennæ as long as head and pronotum together, the first two joints subglabrous, together shorter than head, first passing apex of head by half its length, second a little shorter than first, the last three joints very slender, filiform, finely and sparingly pilose, third joint somewhat longer than first, fourth slightly shorter than second, fifth subequal to third. Pronotum laterally deeply sinuate, humeri distinctly prominent, subangular. Scutellum triangular, neither truncate nor notched at apex.

Length, male, 1.5 to 1.6 millimeters; female, 1.6.

LUZON, Laguna, Los Baños.

Remarkable by its small size and pale coloration.

Distant has described and figured a Philippine species under the name *Merragata cruciata*, but as he describes the antennæ as five-jointed and also describes the length of each of these five joints, it is clear that this species belongs to *Hebrus*, not to *Merragata* B. White, which has four-jointed antennæ.

There can be no doubt that *Hebrus* Curt. and *Naeogeus* Lap. are identical, and the latter name has been considered to have one year's priority. Agassiz, however, has stated that Laporte's work, although bearing the date 1832, was not published until 1833. There is, therefore, no reason to prefer the name *Naeogeus*.

MESOVELIADÆ¹⁴

Mesovelgia vittigera Horv.

Mesovelgia vittigera HORVÁTH, Rev. d'Ent. (1895), 14, 160; Ann. Mus. Nat. Hung. (1915), 13, 550.

LUZON, Laguna, Mount Maquiling.

A common species, distributed from Egypt and Syria through the Ethiopian and Indo-Malayan Regions to New Guinea, but not previously recorded from the Philippines. As shown by Horváth in his monograph of this family, *M. orientalis* Kirk., *mulsanti* Dist. (nec B. White), and *proxima* Schout. are synonyms of it.

¹⁴ Berg and other zoölogists have correctly stated that family names derived from generic names ending in *-ia*, must, according to the rules of the Latin language, have the ending *-iadae* (not *-iidae*), and the correct ending has been accepted by Meyrick, Reuter, and several other entomologists. There are no exceptions to this linguistic rule; Horváth has recently [Ann. Mus. Hung. (1915), 539] referred to the ancient name Hesperides as a proof to the contrary, but the ending *-ides* is not the same as *-idae*, and the cited name does not signify "les filles de Hesperia," as Horváth says, but "the daughters of the West," or of the Night, being derived from the word Hesperos.

VELIADÆ

Microvelia atrolineata sp. nov.

Oblong, somewhat narrowed behind, black, beneath with a slight bluish gray pruinescence, head above with a whitish lateral line touching inner margin of eyes and a pale grayish median vitta, pronotum with whitish yellow apical margin and a slightly raised, longitudinal, dull velvet-black median line; elytra with the claval area, a short basal spot, an antemedian, elongate, interiorly rounded, exteriorly straight or subsinuate spot, two submedian spots abreast (the inner one much larger, more oblong, and including a blackish median dash), and an oblong more or less parallel apical spot white; underside of head, front acetabula (sometimes also apex of the other acetabula), lateral margins of abdomen, apical margin of last ventral segment, and genital segment brownish testaceous; antennæ fuscous, first joint testaceous toward the base; rostrum testaceous, last joint pitchy black; legs whitish testaceous, femora in their apical part, tibiæ, and tarsi usually somewhat infuscated. Head without an impressed median line, antennæ a little shorter than head and pronotum together, subglabrous, first joint a little longer than eye, passing apex of head by half its length, second much shorter than first, third equal in length to first, fourth as long as the two preceding joints together. Pronotum considerably broader than long, antehumeral part shorter than the posthumeral process, which is not very broadly rounded at apex, humeral angles distinctly prominent. Elytra reaching apex of abdomen, the veins well pronounced. Pleura with some short recumbent silvery hairs. Abdomen not broader than the closed elytra, connexivum very narrow, strongly reflexed. Legs subglabrous; fore tibiæ much shorter than femora, fore tarsi a little over half the length of tibiæ; hind femora not quite reaching apex of abdomen.

Length, male and female, 1.7 millimeters.

LUZON, Laguna, Los Baños and Mount Maquilung.

Allied to *M. singalensis* Kirk., but with nonsulcate head and differently constructed antennæ.

GERRIDÆ

HALOBATINÆ

Rhagadotarsus kraepelini Bredd.

Rhagadotarsus kraepelini BREDDIN, Mitt. Nat. Mus. Hamb. (1905), 22, 137.

LUZON, Laguna, Los Baños.

A rare, but widely distributed insect, new to the Philippine

Islands. It has been redescribed by Distant under the name *Nacebus dux*. The differences in "the structure of the head and thorax," alleged by Distant to exist between his and Bredin's genus and species, are not evident to me. He has probably not understood Breddin's description, which is written in German. Distant's description, although not quite exact in all details, is better than usual, but his statement "rostrum reaching the intermediate coxæ" is quite wrong. The rostrum is never so long in any gerrid, the distance between the fore and middle coxæ being very long in this family. In *Rhagadotarsus* the rostrum is extended somewhat beyond the fore coxæ, but does not by far reach the middle coxæ.

ACANTHIADÆ

Acanthia balnearum sp. nov.

Oblong-oval (male) or oval (female), including elytra a little over two times (male) or not quite two times (female) longer than broad, subglabrous, black; exocorium (excepting two spots behind the middle, one in the embolium and the other in the adjacent area, and apical margin of embolium), one spot before and five spots behind middle of mesocorium, a (sometimes indistinct) subapical spot to clavus, and extreme apical margin of ventral segments white; apical border of last female segment broadly whitish, apical margin of head narrowly testaceous, membrane whitish, sometimes a little smoky here and there, the three interior cells with a blackish spot behind the middle, the veins fuscous-black; antennæ fuscous-black, first, and sometimes second, joint very obscurely testaceous; rostrum piceous or dark testaceous; legs whitish testaceous, coxæ and extreme apex of tibiæ and of tarsal joints blackish, femora often more or less infuscated in their apical half; very slightly shining, more so beneath, clavus and in fresh well-preserved specimens corium (excluding exocorium and the white spots) quite dull, velvet-like. Head considerably broader than apex of pronotum, antennæ about half the length of body (including elytra), without exserted hairs, first joint scarcely as long as the shortest distance between the eyes, second less than twice the length of first, third slightly shorter than second and a little longer than fourth. Pronotum three times broader than long in the middle and about one-half broader than head, apical margin slightly shorter than the almost straight lateral margins, the transverse impression in its median part distinctly more distant from apical than from basal margin, the anterior lobe with a transverse median fovea.

Scutellum about as long as median length of head and pronotum together, the transverse impression placed in the middle. Elytra much longer than abdomen, impunctate, clavus and corium with scattered, extremely short, golden hairs easily rubbed off, embolium in the male slightly passing apex of abdomen, in the female reaching the apex of the protruding ovipositor. Sixth female ventral segment as long as the three preceding segments together, broadly rounded at apex, covering the genital segment and the basal half of the ovipositor. Hind tibiae armed with scattered, short, dark, bristlelike spines; second and third tarsal joints of equal length.

Length, male and female, 2.4 millimeters; including elytra, male, 3.4, female, 3.

Variety.—The white embolium with black base, but without the postmedian black spot, the adjacent area of the exocorium black with an oblong basal spot and an oval subapical spot white, mesocorium with only two or three postmedian white spots.

LUZON, Laguna, Los Baños.

A true *Acanthia*, the first one from the Philippines.

Bredden¹⁵ has redescribed the Indian *Salda dixonii* Dist. as belonging to *Chartoscirta* Stål, but this is certainly a mistake. There is nothing either in Distant's description and figure or in Bredden's redescription indicative of a *Chartoscirta*, and it is apparently a true *Acanthia*.

Saldoidea bakeri Poppius.

Saldoidea bakeri POPPIUS, Wien. Ent. Zeit. (1914), 33, 52.

LUZON, Laguna, Mount Maquilang.

The specimen from the above locality has the scutellum quite black and is, like the single type from Los Baños, a macropterous female. The last ventral segment in this sex is roundedly produced over the genital segment and the basal half of the ovipositor and is broadly white at apex. The claval commissure (in the macropterous form) is as long as the scutellum. This species differs from *S. armata* Horv., apart from the distinctive characters pointed out by Poppius, by the much more convex scutellum. The geographical distribution of this curious genus—Florida, the Philippines, and Formosa—is very remarkable, but it is probably more widely dispersed in both the Neotropical and the Indo-Malayan Region. Not only are these insects great rarities, but they are difficult to catch on account of their rapid movements.

¹⁵ Arch. f. Naturgesch. (1912), 6, 86.

NOTONECTIDÆ

Helotrephes balnearius sp. nov.

Obovate, above finely and thickly punctulate with fuscous, the punctation of the head and apical part of pronotum extremely fine and thick, almost concolorous on the head. Head considerably narrower than humeral width of pronotum, seen from before one-third broader than long, the anteocular part a little shorter than the vertical diameter of the eye, vertex over three times broader than an eye, the distance between upper end of eyes and top of head seen in profile much shorter than that between lower end of eyes and apex of head, the triangular acute subgenal appendices directed downward and somewhat backward. Pronotum conspicuously narrowed from the humeral to the apical angles, the lateral margins seen from above straight, seen from the side profoundly arcuately sinuate, the sinuosity reaching upward above the middle of the eye, the uppermost point of the sinuosity being midway between the crown of the pronotum and the lower margin of the sternum so that the sternum is completely visible in the sinuosity, the lateral margins of the pronotum and head forming together a continuous narrow ledge. Scutellum at the base slightly broader than the vertex, the apex subacute. Elytra without a claval suture, passing and deflected over the apex of the abdomen, their exterior base lying considerably above the inferior surface of the body, the lateral margins rather strongly descending from the base to the apex. Abdomen somewhat acclivous toward its posterior end. Color above pale testaceous with the following fuscous markings: A basal fascia to head emitting two narrowly separated vittæ to middle of head, a broad, posteriorly deeply sinuate apical fascia to pronotum behind and confluent with the basal fascia of the head, a narrow basal fascia to scutellum, and numerous irrorationes on basal two-thirds of pronotum (excluding the unspotted basal margin), on scutellum, and on elytra; underside of body piceous; rostrum pitchy testaceous; legs testaceous, tarsi tinged with piceous.

Length, 2.5 millimeters.

LUZON, Laguna, Los Baños.

A species remarkable by the deep lateral sinuosity of the body (as seen in profile). Very distinct from the type of the genus and differing still more from *H. indicus* Dist., but possibly more allied to *H. martini* Kirk., as far as can be judged from Kirkaldy's utterly inadequate descriptions of the species of this genus.

In this genus the head is not independently moveable, being

practically fused with the thorax, forming (as in the Arachnida) a cephalothorax, into the cephalic part of which (rather than into the sternum) the fore legs are fitted. Only above, behind the eyes, there is a faint trace of a short suture, which does not reach the lateral margins. In Distant's figure of *H. indicus* the suture between head and pronotum is represented as distinct and curved forward, rendering the head crescent-shaped, but I doubt very much the exactness of this detail in the drawing. If that suture can be made fully visible by boiling the cephalothorax in a solution of potassium hydrate, I think the suture will prove to be straight, and the limits of the head and pronotum should in the above description be conceived accordingly. In *Helotrephes* there is on each side of the head near its apex a small acutely triangular piece protruding from under the margin of the head. I have called these pieces subgenal appendices, but I have had no opportunity to prove from what part of the head they take their origin. They are not fused with the genæ, as represented in Stål's and Distant's figures.

CORIXIDÆ

Micronecta quadristrigata Bredd.

Micronecta quadristrigata BREDDIN, Mitt. Nat. Mus. Hamb. (1905), 22, 156.

LUZON, Laguna, Los Baños.

Hitherto known only from Java, where it is common. Bredin's excellent description renders its identification easy. It is generally a little smaller than the Philippine *M. vanduzeei* Kirk., the pronotum is longer, the mesoxypus is subacute, and the claws of the middle tarsi are shorter.

In the paper where Kirkaldy described the above-mentioned species he also gave a list of the exotic species of *Micronecta* known up to that date, but he omitted the East African *M. hydroporina* Gerst. (1873) and the Philippine *M. proxima* Leth. (1877). Distant¹⁶ describes two species under the names *M. thelxinae* Kirk. and *M. memonides* Kirk.; but these names are printer's errors, corrected in the author's separate copies, the correct names being *thelxinoe* and *mnemonides*.

¹⁶ Fauna Brit. Ind., Rhynch. (1910), 5.



Bergroth, Ernest Evald. 1918. "Studies in Philippine Heteroptera, I (Concluded)." *The Philippine journal of science* 13, 75–126.

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