

# NEW BUPRESTID BEETLES FROM BORNEO AND THE PHILIPPINE ISLANDS.

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This paper is based on part of a collection of Buprestidae received from Prof. Charles Fuller Baker, College of Agriculture, University of the Philippines, Los Banos, Philippine Islands, together with the material from that region in the collection of the United States National Museum. The bulk of the material has been collected by Professor Baker, and much credit is due him for his energetic collecting and additions to our knowledge of the insect fauna of these islands. In working over this material, a number of new species and one new genus have been found; these are described in the present paper. The Tribe Agrilini has been treated more fully in a previous paper which has been published in the Philippine Journal of Science.<sup>1</sup>

Through the kindness of Professor Baker, all the types of the new species here described have been placed in the Collection of the United States National Museum.

## PHRIXIA ALBOMACULATA, new species.

*Male*.—Form elongate, subcylindrical, uniformly shining green above with a slight golden reflection; each elytron with seven small round white deciduous pubescent areas arranged as follows: Four on the third interval, the first at the basal fourth, second at middle, third at apical fourth, and a more elongate one a short distance from the apex, also a feebly defined one near the humeral angle and two others on the seventh interval, slightly in advance of the inner ones on the third intervals at middle and apical fourth. Beneath golden green, becoming more cupreous on the prosternum.

Head as wide as pronotum, nearly flat, coarsely and densely punctate, the punctures becoming somewhat elongate on the front, feebly longitudinally grooved on occiput; epistoma not separated from front, deeply depressed and emarginate at middle. Pronotum strongly convex, one-fourth wider than long; sides parallel, without marginal carina except for a short smooth line at posterior angles;

<sup>1</sup> Philip. Journ. Sci., vol. 18, 1921, pp. 349-447.

anterior margin nearly straight; posterior margin strongly bisinuate; surface coarsely punctate, the punctures distinct and well separated from each other on the disk, becoming closer and coarser toward the sides and with a well-defined prescutellar fovea, intervals toward lateral margin minutely rugose, smooth on disk. Scutellum small, round; surface smooth. Elytra a little wider than pronotum; sides strongly sinuate at basal third, nearly parallel to apical fourth, then strongly attenuate to apices, which are strongly emarginate and bispinose, the outer spine being the longer; surface rather strongly punctate-striate on disk, the striae and punctures becoming confused toward sides; intervals flat and irregularly punctate. Beneath rather strongly punctate, the puncture distinctly separated from each other, sparsely clothed with rather long, inconspicuous hairs, the intervals vaguely rugose; posterior coxae and base of second, third, and fourth abdominal segments with a white deciduous pubescent spot along lateral margin; last abdominal segment broadly rounded at apex. Femora and tibiae sparsely, coarsely punctuate and vaguely rugose.

Length, 10 mm.; width, 3 mm.

*Type locality*.—Zamboanga, Mindanao, Philippine Islands.

*Type*.—Cat. No. 24668, U.S.N.M.

Described from a unique male from Zamboanga, Mindanao, Philippine Islands, collected by Prof. C. F. Baker.

This species is closely allied to *P. vittaticollis* Waterhouse, but can be easily distinguished from that species by the uniformly green color above, and also by each elytron having only seven white pubescent spots.

**NEOPTOSIMA PICEA, new species.**

Subcylindrical, moderately convex, strongly attenuate posteriorly, of a uniform bright piceous color with a slight purplish tinge; uniformly but not densely clothed with fine, erect cinereous pubescence.

Head strongly and uniformly convex, much narrower than pronotum; surface coarsely and rather densely punctate, the punctures becoming finer on the occiput; epistoma very short, separated from the front by a transverse groove, antennal cavities transverse and limited in front by the epistoma; antennae reaching to middle of pronotum, inserted at the base in a groove between the eyes and prosternum, the groove not prolonged on the latter. Pronotum moderately convex, nearly two times as wide as long, much narrower in front than behind; sides obliquely arcuate; anterior margin bisinuate with a feebly rounded median lobe; base feebly arcuate; disk regularly convex without any depressions, surface densely, regularly, and rather coarsely punctate. Scutellum small, smooth, truncate in front and rounded behind. Elytra at base equal in width to the

basal part of pronotum, regularly arcuately attenuate from base to the tips, which are separately rounded; surface striate-punctate, the striae becoming confused toward the lateral margin; intervals flat, with a single row of regularly placed punctures of the same size as those in the striae; pygidium exposed behind the elytra, rounded at apex. Abdomen beneath finely, densely punctate with the apical margin of the segments smooth; first and second segments united; last segment with the lateral margin dentate, apex entire and broadly rounded, and the surface feebly scabrous. Prosternum wide, flat, and broadly rounded behind; anterior margin feebly arcuately emarginate; surface coarsely punctate. Mesosternum narrow, entire, and broadly emarginate in front for the insertion of the prosternal process. Anterior and middle coxae nearly contiguous; posterior coxae feebly dilated in front and behind externally. Legs moderately long; femora subfusiform; tibiae nearly straight, feebly carinated on their outer edge; tarsi short, first joint of posterior tarsi much longer than second; tarsal claws dentate at base; tarsal lamellae pale brown.

Length, 5.75 mm.; width, 2.4 mm.

*Type locality*.—Dapitan, Mindanao, Philippine Islands.

*Type*.—Cat. No. 24660, U.S.N.M.

Described from a unique specimen collected by Prof. C. F. Baker, at Dapitan, Mindanao, Philippine Islands. This genus was erected by Mon. A. Théry to include four species found in Madagascar, and Kerremans in his "Monographie des Buprestides, Tome II, p. 536," includes an additional species from the same locality. The above species received from the Philippine Islands fits the original description given for this genus so well that there is little doubt of its belonging to the genus and is the first species of *Neoptosima* found outside of the island of Madagascar. This species is closely allied to *Neoptosima sericea* Kerremans, but differs from it in coloration and the elytra not being wider than the pronotum at base.

**CHRYSOCHROA FULMINANS, var. COBALTINA, new variety.**

Form and sculpture of *C. fulminans*. Color above of a beautiful shining indigo blue with a strong violaceous tinge, with the apex of the elytra narrowly margined with bright green changing to a reddish coppery color at the extreme tip. Beneath of the same color as above; female with the abdomen greenish posteriorly and with a strong coppery reflection when viewed in certain lights, last segment broadly rounded at apex; male with the three posterior segments of the abdomen of a reddish coppery color and with the apical margin of the last segment broadly angulately emarginate.

Length, female, 40 mm.; male, 28 mm.; width, female, 13 mm.; male, 8.5 mm.

*Type locality*.—"Tangcolan, Bukidnon."

*Type and allotype*.—Cat. No. 24674, U.S.N.M.

Described from two specimens, male and female, labeled "Tangcolan, Bukidnon," collected by Prof. C. F. Baker (Baker's No.'s Female 14549, Male 14550).

This beautiful insect resembles *C. fulminans* in form and sculpture but differs from it in the color, which is of a beautiful dark violaceous blue. Doctor Kerremans in his "Monographie des Buprestides, Tome III, p. 102," mentions a blue form under *fulminans* from Java, but does not give it a separate name. As this form is so distinct it seems advisable to give it a new varietal name.

#### CYALITHOIDES, new genus.

Head wide in front, broadly concave and longitudinally grooved; epistoma short and deeply, arcuately emarginate anteriorly; antennal cavities small, rounded, the upper edge short and elevated. Antennae rather long; first joint elongate, cylindrical, about equal in length to the second and third united; second short, globular; third elongate, cylindrical and narrower than the second; fourth elongate, feebly triangular, and about equal in length to the second and third joints united; joints five to eleven triangular, poriferous on both sides of the joints, longer than wide, gradually becoming shorter anteriorly, the last joint ovate. Eyes large, elliptical, oblique, and slightly closer together on the vertex. Pronotum much wider than long, rather convex without a median longitudinal groove or carina; base sinuate. Scutellum small, transverse, and touching the pronotum. Elytra subparallel, attenuate posteriorly; base feebly lobed; lateral margin serrate posteriorly; surface feebly costate and with discal impressions. Prosternum wide, flat, and rounded at apex; anterior margin truncate. Metasternum feebly, longitudinally grooved. Posterior coxae strongly dilated internally, their anterior margin feebly sinuate and the posterior margin oblique. Legs rather robust; anterior and middle femora fusiform, strongly dilated at middle, posterior femora more cylindrical and flattened on both sides; anterior tibiae feebly arcuate, middle and posterior tibiae slender and straight; tarsi moderately long, the first joint of posterior pair longer than the two following joints united, claws broadly, obsoletely lobed at base.

*Genotype*.—*Cyalithoides fulgida*, new species.

This genus is closely allied to *Cyalithus* Thomson from Borneo. It differs, however, from that genus in having the head deeply concave in front, elytra with depressed punctured spaces and the different arrangement of the antennal joints.

## CYALITHOIDES FULGIDA, new species.

Elongate, subparallel, moderately convex; head green with a golden tinge; pronotum and elytra of a shining reddish coppery color; beneath golden green with a violaceous tinge; legs bluish-green.

Head deeply concave with a rather deep longitudinal groove reaching from the occiput to a deep pit on the front; surface coarsely, irregularly punctate, the punctures denser along the eyes; intervals obsoletely rugose and clothed with a few inconspicuous hairs; antennae reaching to near the posterior angles of pronotum, first three joints greenish, following joints piceous. Pronotum about one and one-half times as wide as long, slightly narrower in front than behind; sides bisinuate and nearly parallel, the posterior angles rather acute; anterior margin rather deeply arcuately emarginate with a broadly rounded median lobe; base bisinuate with the median lobe very broadly rounded, surface with a round shallow depression on each side in front of posterior angles and a similar depression behind them on the base, also a large, deep puncture in front of the scutellum; disk very sparsely and irregularly punctate with a few obsolete punctures intermixed, the punctures becoming denser and much coarser toward the sides, where they become somewhat confused; intervals obsoletely rugose with a few inconspicuous recumbent hairs at the sides. Scutellum smooth, two times as wide as long; anterior margin rounded; posterior margin nearly truncate. Elytra distinctly wider than pronotum at base, rounded at humeral angles, nearly parallel to apical third, then strongly attenuate to the tips, which are conjointly rounded and strongly serrate, the serration extending up the lateral margins for one-third their length; base feebly lobed; each elytron with four indistinct costae interrupted by the depressions, which are arranged as follows: A shallow transverse one along base, a shallow one at the humeral angle, a round shallow one behind the humerus between the third and fourth costae, a large round one slightly behind the post-humeral depression between the first and third costae, and a larger, transversely oblique one just behind the middle and situated between the first and fourth costae; surface finely, sparsely, and irregularly punctate, the punctures becoming denser in the depressed spaces; intervals feebly rugose and obsoletely pubescent. Abdomen beneath sparsely, irregularly punctate, the punctures denser toward the sides and base of segments, sparsely clothed with inconspicuous recumbent hairs; first segment feebly flattened at middle; last segment acutely rounded at apex. Prosternum transversely rugose in front; prosternal process flat, sparsely punctate, with the intervals obsoletely granulated. Legs

rather densely punctate, feebly rugose, and sparsely clothed with short cinereous pubescence, the hairs more erect and rigid on the tibiae.

Length, 17 mm; width, 6 mm.

*Type locality*.—Sandakan, Borneo.

*Type*.—Cat. No. 24659, U.S.N.M.

Described from a single specimen from Sandakan, Borneo, collected by Prof. C. F. Baker (Baker No. 10357).

This species superficially resembles some of the copper-colored specimens of *Chrysodema smaragdula* Olivier, but can be distinguished from any species of that genus by the absence of the longitudinal carina on disk of pronotum and by its parallel and shorter form.

CHRYSOBOTHRIS GLORIOSA, new species.

*Female*.—Large and robust, moderately convex, head green, pronotum greenish blue with the posterior angles of a reddish green color, elytra cyaneous, each elytron ornated with four light bluish-green areas; beneath bright green, glabrous.

Head with the front strongly triangular; occiput very narrow, longitudinally carinate, and coarsely, rather densely punctate; vertex coarsely, densely punctate, and strongly projecting over the front, the anterior margin of projection broadly concave; front broadly and deeply concave, the concavity extending beneath the projecting vertex, coarsely concentrically rugose in the concavity, coarsely, densely punctate toward the sides, the punctures becoming confluent along the eyes; eyes large and nearly contiguous on the occiput; epistoma large, broadly, and very deeply, arcuately emarginate in front; antennae greenish, becoming piceous on the serrated joints. Pronotum strongly transverse and moderately convex, about two and one-half times as wide as long, narrower in front than behind when viewed from above, narrowest at the middle; lateral margin strongly sinuate, arcuately rounded anteriorly and posteriorly to the middle, which is arcuately concave, anterior angles bent downward; posterior angles rather acute; anterior margin nearly truncate; posterior margin very deeply bisinuate with a large median lobe feebly arcuately concave in front of scutellum; surface coarsely and deeply punctate and somewhat transversely rugose toward posterior angles, the punctures widely separated on the disk, becoming coarser and denser toward the sides; a very vague depression on each side in front of elytral lobe. Scutellum large, very acutely pointed posteriorly; surface smooth. Elytra distinctly wider than the pronotum at base, rounded at humeral angles, then gradually arcuately attenuate to the tips, which terminate in a short spine; lateral margin coarsely serrate to near the humeral angles; base strongly lobed; surface without striae, coarsely and deeply punctate, the punctures

widely separated on the disk, becoming coarser and denser on the greenish depressed areas and along lateral margin, each elytron ornated with light bluish green areas, as follows: A short narrow band along suture behind the scutellum, a longitudinal area on humeral callus, a longitudinal area behind the anterior lobe extending into a deep depression near base, a transverse oval depressed spot on disk at middle, and a round depressed one at apical third, situated a little closer to the lateral margin than the suture. Abdomen beneath coarsely and rather densely punctate, the punctures widely separated on the median part, the surface becoming strongly longitudinally rugose along lateral margin; posterior margin of segments smooth; last segment arcuately emarginate at apex, with a strongly elevated longitudinal carina at middle. Prosternum coarsely transversely rugose, and rather strongly gibbose a little distance behind the anterior margin. Femora robust, anterior femora with a long, acute tooth on the outer edge at apical third.

Length, 19 mm.; width, 9 mm.

*Type locality*.—Iligan, Mindanao, Philippine Islands.

*Type*.—Cat. No. 24669, U.S.N.M.

Described from a single female from Iligan, Mindanao, Philippine Islands, collected by Prof. C. F. Baker (Baker No. 11979). This species is closely allied to *C. cyanipennis* Deyrolle, described from Amboine. It differs, however, from that species in having the head broadly concave in front and not longitudinally impressed, and epistoma deeply emarginate, the elytra not green at base, and also by having each elytron marked with four greenish spots instead of three, as in *cyanipennis*.

**BELIONOTA OBSCURIPENNIS, new species.**

*Female*.—Form robust, uniformly dark slate color above, feebly cupreous on pronotum, with the head and sides of pronotum, fiery red. Beneath dark greenish-blue with a strong violaceous reflection, sides of prosternum and posterior four abdominal segments with a fiery red spot on each side at the base; femora and tibiae greenish-blue, the anterior femora cupreous on the inner side.

Head with the front triangular, feebly convex, coarsely and sparsely punctate, the punctures becoming denser and more confluent along the margin of the eyes, strongly, transversely strigose on the anterior half; inner margin of antennal cavities feebly elevated; occiput feebly, longitudinally carinate; vertex with a deep elongate depression at middle; epistoma very feebly concave along anterior margin. Pronotum feebly convex, nearly two times as wide as long, distinctly narrower in front than behind; sides nearly parallel to middle, then obliquely narrowed to anterior angles; posterior angles acute and protruding; anterior margin arcuately emarginate; posterior margin deeply bisinuate, the median lobe truncate in front of

scutellum; surface rather coarsely and sparsely punctate on the disk; the punctures becoming denser and somewhat confluent along lateral margin, with a deep lunate depression on each side, the bottom of which is sparsely strigose. Scutellum triangular, elongate, about one-fourth as long as elytra, the apex very acute; finely, irregularly, and sparsely punctate over entire surface. Elytra feebly convex, distinctly wider than pronotum at base, and about two and one-half times as long, broadly rounded at humeral angles; sides feebly narrowed to apical third, then more strongly attenuate to the apex, which is broadly rounded, with a short tooth at the sutural angle, lateral margin smooth, without serration posteriorly; surface finely and rather densely punctate, the punctures becoming denser along lateral margin; each elytron with two smooth, very feebly elevated costae, the first extending from base to apex and parallel to the suture, the second parallel to the lateral margin, beginning behind the humerus and joining the margin near apex, there are also two smooth intermediate costae which are not elevated and nearly obsolete. Prosternum gibbose along anterior margin, rather densely and finely punctate, the punctures becoming nearly obsolete posteriorly. Abdomen feebly longitudinally depressed at middle, becoming broadly grooved on last segment; surface densely and rather coarsely punctate at middle, becoming coarsely, longitudinally strigose toward lateral margin; suture between first and second segments acutely angulate at middle; last segment feebly emarginate at tip, on each side of which is a deep emargination, the lateral tooth long and very acute. Femora coarsely, irregularly strigose.

Length, 24 mm.; width, 9.5 mm.

*Type locality*.—Butuan, Mindanao, Philippine Islands.

*Type*.—Cat. No. 24673, U.S.N.M.

Described from a single female from Butuan, Mindanao, Philippine Islands, collected by Prof. C. F. Baker (Baker No. 14558). This is closely allied to *B. prasina* Thunberg and *B. fallaciosa* Deyrolle. From the former it differs by having the pronotum less densely punctate and the sides more broadly margined with a fiery red color, elytra smoother, head fiery red, underside dark greenish-blue with red spots on the side of each abdominal segment, abdomen feebly grooved at middle, with the apex more feebly emarginate. From *B. fallaciosa* Deyrolle it differs by having the scutellum punctate; pronotum with the sides more reddish and the posterior angles protruding, head fiery red, and the abdomen feebly grooved at middle. This species is also closely allied to *B. mindorensis* described by Kerremans from Mindoro, but, according to his description, that species has the underside entirely black, and abdomen widely grooved at the middle.

## BELIONOTA RUBRIVENTRIS, new species.

*Female*.—Form robust, uniformly dark aeneous above, the pronotum and scutellum slightly more cupereous with the posterior angles of the former fiery red. Beneath with the median parts fiery red, forming triangular areas at the base of the last three abdominal segments, the area becoming less distinct on the last segment and divided into two small acute triangular spots on the lateral margin of the median groove; sides of prosternum and abdominal segments broadly aeneous with a violaceous reflection, becoming steel-blue along apical margin of the abdominal segments; femora and tibiae aeneous, the latter becoming greenish toward the apex.

Head with the front triangular, feebly convex, very coarsely and rather closely punctate, the punctures becoming confluent anteriorly, and finer and more closely placed along the margin of the eyes where the surface is also sparsely clothed with a series of rather long recumbent hairs; inner margin of antennal cavities strongly elevated; occiput longitudinally carinate; vertex with a moderately deep, broad depression at the middle; epistoma feebly bisinuate along anterior margin, the median tooth feebly developed. Pronotum feebly convex, nearly two times as wide as long, distinctly narrower in front than behind; sides nearly parallel to middle, then obliquely narrowed to anterior angles; posterior angles rectangular and not protruding; anterior margin arcuately emarginate; posterior margin bisinuate, the median lobe feebly emarginate in front of scutellum; surface coarsely and rather densely punctate, the punctures becoming coarser and confluent along lateral margin, with a broad oblique depression on each side, the bottom of which is strongly strigose. Scutellum triangular, elongate, about one-fifth as long as elytra, the apex very acute; surface smooth without trace of punctures. Elytra feebly convex, distinctly wider than pronotum at base, and more than three times as long, broadly rounded at humeral angles; sides parallel to middle, then strongly attenuate to the apex, which is acutely rounded, with a sharp tooth at the sutural angle, lateral margin smooth, without serration posteriorly; surface coarsely and densely punctate, the punctures becoming denser and somewhat confluent along the lateral margin; each elytron with four smooth, feebly elevated costae, as follows: The first parallel to suture and extending from base to apex; second very arcuate, extending from behind humerus to apical third; third sinuate and reaching from behind the humerus near lateral margin to the apical sixth; and the fourth parallel to the lateral margin beginning near the middle and joining it near the apex. Prosternum flat along anterior margin, coarsely and sparsely punctate, the punctures becoming transversely elongate along front mar-

gin. Abdomen broadly and deeply grooved at middle; surface coarsely and rather densely punctate at middle, becoming strigose laterally, the striae denser and more longitudinal along the lateral margin; suture between first and second segments nearly straight at middle; last segment deeply, arcuately emarginate at tip, obliquely broadening on each side to the lateral tooth, which is quite small. Femora coarsely, irregularly strigose.

Length, 27 mm.; width, 9.5 mm.

*Type locality*.—Sandakan, Borneo.

*Type*.—Cat. No. 24672, U.S.N.M.

Described from a single female from Sandakan, Borneo, collected by Prof. C. F. Baker (Baker No. 14560). This species is closely allied to *B. prasina* Thunberg and *B. fallaciosa* Deyrolle. From the former it differs by having the scutellum without any trace of punctures, pronotum more coarsely punctate and the underside fiery red along the middle. From *B. fallaciosa* it differs by having the pronotum more densely punctate, prosternum flat along front margin, suture between first and second abdominal segments not acutely angulate at middle, underside fiery red along middle, and the last abdominal segment without lateral depressions and more rectangularly emarginate at tip.

PHILANTHAXIA OBSCURA, new species.

Oblong-oval, head, pronotum and elytra of a uniform dull, blackish bronze color, glabrous; beneath more shining bronzy than above and sparsely clothed with fine, recumbent, cinerous pubescence.

Head flattened, broadly depressed on vertex; surface densely, strongly reticulate, the reticulation forming a network of small, irregular sunken areas; eyes large, prominent, extending slightly beyond the pronotum on either side; epistoma wide, anterior margin broadly arcuately emarginate. Pronotum convex nearly two times as wide as long, distinctly narrower in front than behind; sides strongly arcuate and feebly sinuate near the posterior angles, which are produced and acute; anterior margin arcuately emarginate with a feebly rounded median lobe; base truncate; surface with a slight impression on each side near posterior angles, punctation similar to that on the head, the reticulation becoming transverse on the disk near the scutellum. Scutellum broadly triangular, nearly two times as wide as long, truncate in front; surface finely granulated and feebly concave. Elytra about equal in width to the pronotum at base; sides strongly sinuate behind the humeri, and nearly parallel to the apical third, then obliquely attenuate to the tips, which are separately narrowly rounded; lateral margin finely serrate; each elytron with a transverse depression situated a little before the base and becoming deeper externally; humeri prominent; surface deeply

and regularly striate, the striae not quite reaching to the apex and becoming obsolete at the scutellar region and toward the lateral margin; intervals flat, densely, transversely rugose, rather densely, finely punctate, and becoming finely scabrous at the apex. Abdomen beneath densely and rather coarsely ocellate-punctate, becoming somewhat longitudinally rugose on the last segment, which is broadly rounded at apex; posterior coxae with the posterior margin deeply concave externally; prosternum and middle of body strongly and densely scabrous; femora and tibiae finely but not densely rugose.

Length, 7 mm.; width, 3.25 mm.

*Type locality*.—Davao, Mindanao, Philippine Islands.

*Type*.—Cat. No. 24664, U.S.N.M.

Described from a single specimen collected by Prof. C. F. Baker (Baker No. 8318) at Davao, Mindanao, Philippine Islands.

*PHILANTHAXIA ELONGATA*, new species.

Oblong, more elongate than either *Philanthaxia obscura* or *P. cyanescens*, head, pronotum and elytra of a uniform dark-reddish, coppery color with a slight violaceous tinge, glabrous; beneath dark bronzy and very sparsely clothed with short, recumbent, cinereous pubescence.

Head flattened, surface densely, strongly reticulate, the reticulation forming a network of small, irregular sunken areas; eyes large, prominent, extending slightly beyond the pronotum on either side; epistoma wide, anterior margin broadly, arcuately emarginate. Pronotum convex, nearly two times as wide as long, slightly narrower in front than behind; sides feebly arcuate and strongly sinuate near posterior angles, which are produced and acute; anterior margin arcuately emarginate, with the median lobe broadly rounded; base truncate; surface with an obsolete depression on each side near posterior angles, punctation similar to that on the head. Scutellum subcordiform, truncate in front, wider than long; surface finely granulated and feebly concave. Elytra slightly wider than pronotum at base; sides sinuate behind the humeri and feebly diverging to the apical third, then obliquely attenuate to the tips, which are separately, narrowly rounded; lateral margin finely serrate; each elytron with a transverse depression situated a little below the base and becoming deeper externally; surface deeply and regularly striate, the striae not quite reaching to the apex and becoming somewhat confused at the scutellar region; intervals flat, densely, transversely rugose, rather densely finely punctate, and becoming finely scabrous at the apex. Abdomen beneath densely and coarsely ocellate-punctate, becoming longitudinally rugose on the last segment, which is rather broadly rounded at apex; posterior coxae with

the posterior margin deeply concave externally; prosternum and middle of body roughly and densely scabrous; femora and tibiae finely but not densely rugose.

Length, 8.5 mm.; width, 3.5 mm.

*Type locality*.—Davao, Mindanao, Philippine Islands.

*Type*.—Cat. No. 24665, U.S.N.M.

Described from a single specimen collected by Prof. C. F. Baker (Baker No. 8349) at Davao, Mindanao, Philippine Islands.

PHILANTHAXIA CYANESCENS, new species.

Oblong-oval, head pronotum and elytra uniformly cyaneous with a slight violaceous tinge, glabrous; beneath piceous with a slight greenish tinge and sparsely clothed with fine, recumbent, cinereous pubescence.

Head strongly convex, transversely concave between the antennae; surface densely, strongly reticulate, the reticulation forming a network of small, irregular, sunken areas; eyes not projecting beyond the pronotum on either side; epistoma wide, truncate in front. Pronotum convex, nearly two times as wide as long, slightly narrower in front than behind; sides feebly arcuate and sinuate near posterior angles, which are rather obtuse; anterior margin arcuately emarginate with a feebly rounded median lobe; base truncate; surface with a very feeble broad impression on each side near posterior angles, punctuation similar to that on the head, but becoming finer on the disk. Scutellum cordiform, truncate in front, wider than long; surface finely granulated and strongly concave. Elytra slightly wider than pronotum at base; sides sinuate behind the humeri and feebly diverging to the apical third, then obliquely attenuate to the tips, which are separately, narrowly rounded; lateral margin finely serrate; each elytron with a deep transverse groove situated a little below the base at the outer margin, the space between the base and groove being raised and rounded; humeri prominent; surface deeply and regularly striate, the striae not quite reaching to the apex and somewhat confused at the scutellar region; intervals flat, densely, transversely rugose, rather densely, finely punctate, and becoming scabrous at the apex. Abdomen beneath finely and rather densely ocellate-punctate, becoming somewhat longitudinally rugose on the last segment, which is rather acutely rounded at apex; posterior coxae with the posterior margin truncate; prosternum and middle of body strongly and densely scabrous; femora and tibiae finely but not densely rugose.

Length, 7.5 mm.; width, 3.5 mm.

*Type locality*.—Philippine Islands, without definite locality.

*Type*.—Cat. No. 24666, U.S.N.M.

Described from a unique specimen in the United States National Museum collection labeled "Acc. No. 905, Bur. Agri., P. I., collected by C. R. Jones," without any definite locality given.

*ANTHAXIA ATTENUATA*, new species.

Elongate, strongly attenuate posteriorly, shining blackish olivaceous, with the head, front and sides of pronotum, and a narrow band along base of elytra of a bright green color, beneath piceous with a strong brassy tinge, sparsely clothed with inconspicuous recumbent cinereous hairs; legs greenish.

Head small, not as wide as pronotum at anterior margin; front flat and feebly concave, the distance between the eyes equal to about two times the diameter of the eye when viewed from the front; surface densely and coarsely ocellate-punctate; eyes small and not projecting; epistoma small with the anterior margin broadly arcuately emarginate. Pronotum transverse, about one and one-half times as wide as long, front and base about equal in width, widest at middle; lateral margin strongly, regularly arcuate; anterior margin deeply, arcuately emarginate with scarcely any median lobe; base truncate; surface with a broad, shallow depression in front of posterior angles, densely and coarsely ocellate-punctate, similar to that of the head but not quite as deeply impressed. Scutellum ogival in shape, base truncate, feebly convex and finely punctate. Elytra about equal in width to the pronotum at base, strongly attenuate to the tips, which are separately, narrowly rounded, not covering the sides of abdomen which is broadly visible from above, moderately convex; each elytron with a deep transverse groove situated a little distance below the base, a narrow, very deep one between the humerus and lateral margin, a broad, obsolete one behind the humerus and a similar one at basal third along suture; humeri rather prominent; surface finely, very densely rugose and sparsely clothed with very short, inconspicuous cinereous pubescence. Abdomen beneath finely ocellate-punctate; last segment broadly rounded at apex. Prosternum finely ocellate-punctate; prosternal process rather wide and flat.

Length, 3.9 mm.; width, 1.5 mm.

*Type locality*.—Cuernos Mountains, Negros, Philippine Islands.

*Type*.—Cat. No. 24667, U.S.N.M.

Described from a single specimen collected by Prof. C. F. Baker (Baker No. 8348) in the Cuernos Mountains, Negros, Philippine Islands.

*ANTHAXIA MINDANAOENSIS*, new species.

Elongate, nearly parallel, dull, piceous with a strong bronzy tinge; posterior angles of pronotum of a reddish coppery color, a narrow green band at base on inner half of elytra and a similar band behind

scutellum, extending along suture for about one-sixth the distance to apex, glabrous; beneath black with a feeble bronzy tinge and very sparsely clothed with inconspicuous cinereous hairs; anterior tarsi bluish green.

Head large, as wide as pronotum at anterior margin; front feebly convex, the distance between the eyes equal to about four times the diameter of the eye when viewed from the front; surface densely and rather coarsely ocellate-punctate; eyes large and projecting; epistoma small, with the anterior margin broadly, arcuately emarginate. Pronotum fully two times as wide as long, front and base about equal in width, widest at middle; lateral margin strongly, regularly arcuate; anterior margin deeply, arcuately emarginate, with a broadly rounded median lobe; base truncate; surface with a broad, shallow depression in front of posterior angles, densely and rather coarsely ocellate-punctate, similar to that of the head. Scutellum triangular, flat, and finely rugose. Elytra a little wider than pronotum at base, parallel to apical third, then arcuately attenuate to the tips, which are separately, narrowly rounded, moderately convex; each elytron with a deep transverse groove situated a little distance below the base, a short deep one between the humerus and lateral margin and a broad shallow one behind the humerus; humeri rather prominent; surface very finely rugose, the rugae becoming nearly obsolete posteriorly. Abdomen beneath obsoletely ocellate-punctate; last segment feebly truncate at apex. Prosternum coarsely ocellate-punctate; prosternal process narrow, and longitudinally gibbose, with the surface finely, densely scabrous.

Length, 3.6 mm.; width, 1.5 mm.

*Type locality*.—Davao, Mindanao, Philippine Islands.

*Type*.—Cat. No. 24671, U.S.N.M.

Described from a single specimen collected by Prof. C. F. Baker (Baker No. 8332) at Davao, Mindanao, Philippine Islands.

*CORAEBUS CYANEOVIRIDIS*, new species.

Short, moderately convex, uniformly brilliant bluish-green; beneath shining black with a strong aeneous tinge, prosternum greenish.

Head not produced in front beyond the eyes, widely and rather deeply longitudinally grooved from the vertex to epistoma, feebly punctate-rugose and sparsely clothed with inconspicuous black pubescence, the hairs becoming whitish and more conspicuous along the apical margin; epistoma large, anterior margin broadly, and deeply arcuately emarginate, strongly constricted at middle by the insertion of the antennae, deeply transversely grooved in front of clypeal suture, which is slightly elevated on each side. Pronotum much

wider than long, front and base about equal in width, widest at the apical third; disk convex and regularly rounded, with the sides narrowly depressed from apical angles to base; lateral margin finely crenulate, strongly arcuate to apical third, then feebly narrowed to the posterior angles, which are nearly rectangular; anterior margin arcuately emarginate, with the median lobe feebly angulate at middle; base strongly bisinuate with a broadly rounded median lobe in front of scutellum; surface rather finely punctate and feebly rugose, sparsely clothed with inconspicuous black hairs, becoming cinereous near the apical angles; lateral carina not present. Scutellum cordate, very feebly rugose. Elytra about equal in width to the pronotum, slightly convex, each elytron with a deep depression at the base, a similar one along the lateral margin behind humerus, and a broad, shallow one along suture near apex; sides slightly sinuate and nearly parallel to the apical third, then arcuately attenuate to tips, which are conjointly broadly rounded; lateral margin finely crenulate anteriorly, becoming strongly serrate toward apex; surface strongly imbricate, sparsely clothed with short black, curved hairs, which are scarcely visible, except when viewed from the side. Beneath coarsely imbricate and sparsely clothed with short recumbent cinereous hairs.

Length, 7 mm.; width, 2.75 mm.

*Type locality*.—Baguio, Luzon, Philippine Islands.

*Type*.—Cat. No. 24670, U.S.N.M.

Described from a single specimen collected by Prof. C. F. Baker, on oak (*Quercus*, species) at Haight's Place, in the mountains above Baguio, Luzon, Philippine Islands, at an altitude of 8,000 feet. This species is closely allied to *Coræbus melibaciformis* Saunders and *Coræbus azureus* Fisher. From both these species it differs by not having a lateral carina on the pronotum. It can also be distinguished from the former by being more elongate and of a bluish-green color and from the latter by the absence of pubescent markings on the elytra.

SAMBUS PHILIPPINUS, new species.

Large, rather robust and moderately convex, head and pronotum brilliant green, elytra bronzy and marked with irregular bands of cinereous pubescence on apical part; beneath bronzy, and sparsely clothed with short white pubescence.

Head with front slightly rounded, narrowly, longitudinally grooved, the groove becoming obsolete on the front; surface finely and rather densely punctate, feebly rugose and sparsely clothed with short, recumbent cinereous pubescence; antennae bronzy, not quite reaching to middle of pronotum; clypeal suture distinct; epistoma rather wide, transverse between the antennae. Pronotum two times as wide as long, slightly narrower in front than behind, widest at the middle;

sides narrowly flattened and regularly arcuate, with the margin feebly crenulate; anterior margin bisinuate, with the median lobe broadly rounded; base strongly bisinuate, with the median lobe broadly rounded in front of scutellum; lateral carina arcuate, reaching from posterior angle to apical third, but not touching the lateral margin; disk strongly convex anteriorly, with a rather deep depression on the inside of the lateral carina, becoming broader posteriorly and reaching along the base; surface rather densely punctate, finely reticulate and sparsely clothed with short inconspicuous black and cinereous pubescence. Scutellum large, triangular, dark green; surface finely reticulate. Elytra at base about equal in width to pronotum at middle, rather convex, with a shallow depression at base and another along lateral margin behind the humerus; sides feebly sinuate and nearly parallel to middle, expanded at apical third, then arcuately attenuate to the tips, which are separately rounded and finely dentate; surface rather coarsely imbricate, sparsely clothed with inconspicuous recumbent black hairs and each elytron marked with a series of sparsely placed, short white hairs, as follows: A distinct transverse zigzag band at apical fourth, a narrower transverse one near the apex, joining the anterior one along the suture. Abdomen finely reticulate, last segment deeply arcuately grooved along the apical margin.

Length, 6.25 mm.; width, 2.5 mm.

*Type locality*.—Kolambugar, Mindanao, Philippine Islands.

*Type*.—Cat. No. 24663, U.S.N.M.

Described from a unique specimen collected by Prof. C. F. Baker, at Kolambugar, Mindanao, Philippine Islands.

This species is allied to *Sambus ornatus* Fisher and *Sambus confusus* Fisher, but it can, however, be distinguished at once from either of these species by its larger size and by the absence of distinct cinereous pubescence on the anterior half of the elytra.

#### NEOSAMBUS CYANEUS, new species.

Elongate, robust, and strongly convex, shining; head blue, becoming brassy on the front; pronotum and elytra bright blue; scutellum brassy; beneath shining black, with a bluish tinge, becoming more pronounced toward the sides, glabrous except for a few scattered hairs on prosternum and last abdominal segment.

Head with the front wide, strongly convex, feebly gibbose on the vertex, with a feeble longitudinal median groove on vertex and occiput, becoming obsolete on middle of front; surface strongly strigose, the strigae transverse on the front and becoming concentric on the gibbosities; intervals with moderately large, shallow punctures; epistoma transverse, anterior margin broadly, but not deeply, arcuately emarginate, the angles extending beneath the antennal cavities; cly-

peal suture transverse, and feebly elevated. Pronotum one and one-half times as wide as long, widest at about the middle, slightly narrower in front than behind; sides feebly margined and crenulate, strongly arcuate from apex to basal sixth, then nearly straight to the posterior angles, which are nearly rectangular; anterior margin deeply emarginate, with a large, broadly rounded lobe at middle, the angles acute; base strongly bisinuate with a large median lobe, which is truncate in front of the scutellum; disk strongly gibbose behind the middle; surface with a broad, irregular depression along the lateral margin, extending from apical sixth to base, then transversely to the scutellum, coarsely, transversely rugose, except on the gibbosity, where the rugae are more or less concentric; intervals smooth with elongate punctures connected posteriorly to the rugae. Scutellum triangular, very acute posteriorly; surface obsoletely rugose. Elytra as wide as pronotum at base, strongly convex; humeral angles obtusely angulate; sides strongly sinuate at posterior coxae, broadly expanded just behind the middle, then arcuately narrowed to tips, which are separately broadly rounded, and finely dentate; surface very coarsely, transversely rugose, becoming much smoother toward apex, intervals with coarse elongate punctures behind the rugae. Abdomen rather convex, glabrous except for a few scattered hairs on the tip of the last segment, surface sparsely punctate and feebly marked with crenulate lines, last segment feebly emarginate at apex and broadly concave at middle; prosternum coarsely scabrous and sparsely pubescent; prosternal process nearly parallel to behind coxae, then abruptly narrowed to apex, which is acute and bent downward; tarsi and claws black; tarsal lamellae brownish.

Length, 5.75 mm.; width, 2.25 mm.

*Type locality*.—Mount Banahao, Luzon, Philippine Islands.

*Type*.—Cat. No. 24661, U.S.N.M.

Described from a single specimen from Mount Banahao, Luzon, Philippine Islands, collected by Prof. C. F. Baker. This species is closely allied to *Neosambus cupricollis* Fisher, but differs from it in the coloration of the head and pronotum.

#### TOXOSCELUS ACUTIPENNIS, new species.

Large, rather robust and moderately convex, head and pronotum dull bronzy, with a slight purplish tinge, elytra bronzy with irregular black and purplish markings; beneath of a brighter bronze color than above.

Head convex, feebly gibbose on each side of the occiput, with a deep longitudinal groove extending from the occiput into a rather deep, round impression on the vertex, the groove becoming obsolete on the front; surface strongly rugose, the rugae becoming somewhat concentric on the gibbosities, intervals finely granulated;

antennae short, reaching a little beyond the apical angles of pronotum, serrate from the fifth joint; epistoma narrow between the antennae, a narrow, deep groove behind the antennae, extending longitudinally down the epistoma to near the anterior margin, which is narrow and arcuately rounded; cheeks unarmed; antennal cavities large and situated a certain distance from the inner margin of the eyes; eyes rather large, oval, and feebly oblique. Pronotum two times as wide as long, wider in front than behind, widest at the apical third; sides broadly rounded in front to apical third, then converging rapidly in nearly a straight line to the posterior angles, which are broadly rounded; anterior margin arcuately emarginate with a large, broadly rounded median lobe; base strongly bisinuate with a large median lobe feebly concave in front of scutellum; lateral carina short, parallel to sides, and reaching from apical fourth to just behind the middle; surface concentrically rugose, the intervals finely granulated, with a narrow depression between the lateral carina and lateral margin, two round depressions on each side at about the middle, the outer one near the anterior part of the lateral carina, and the inner and deeper one slightly behind the outer one and near the median part, there is also a large, shallow depression in front of the scutellum. Scutellum large, triangular, and acute at apex; surface finely granulated. Elytra much wider than pronotum at base, rather flat, with a shallow depression on each side at base; sides sinuate, nearly parallel anteriorly, feebly expanded behind the middle to partially cover the widely expanded abdomen, then rapidly converging to the tips, which are acuminate and finely dentate at sides; surface strongly rugose anteriorly, becoming finely granulated with a few short rugae intermixed toward the apex, marked with irregular bronze, black, and purplish designs, and with a large, conspicuous, irregular black area along the suture at apical third, this area is smooth, sparsely and finely punctate, and surrounded by a bronze zigzag band. Abdomen densely marked with finely crenulate lines and sparsely clothed with short white hairs; last abdominal segment with three short knifelike projections at the apex; prosternum broadly, arcuately emarginate in front.

Length, 7.5 mm.; width, 2.6 mm.

*Type locality*.—Baguio, Luzon, Philippine Islands.

*Type*.—Cat. No. 24662, U.S.N.M.

Described from a single specimen collected by Prof. C. F. Baker (Baker No. 16423) on oak (*Quercus*, species) at Haight's Place, in the mountains above Baguio, Luzon, Philippine Islands, at an altitude of 8,000 feet. This specimen is not a typical *Toxoscelus* but is placed temporarily in this genus. It differs from the typical species of this genus by having the front margin of the epistoma rounded and the tips of the elytra acuminate.