

ENTOMOLOGY.—*New species of melolonthine Scarabaeidae from the Philippine Islands.*¹ EDWARD A. CHAPIN, Bureau of Entomology. (Communicated by HAROLD MORRISON.)

Of the species described in this paper, all but one originated on the island of Negros, an island whose scarabaeid fauna appears to have been somewhat neglected in the past. The remaining species, from southern Luzon, has been included because of its evident relationship to one of the others and because of its very interesting pronotal development.

STEPHANOPHOLIS Brenske.

This genus contains five species in addition to the one described below. Three of these are Ceylonese and are characterized by the presence of but five costae on each elytron. The type locality of the genotype, *S. melolonthoides* Brenske, is doubtful; however, the species agrees with the Philippine

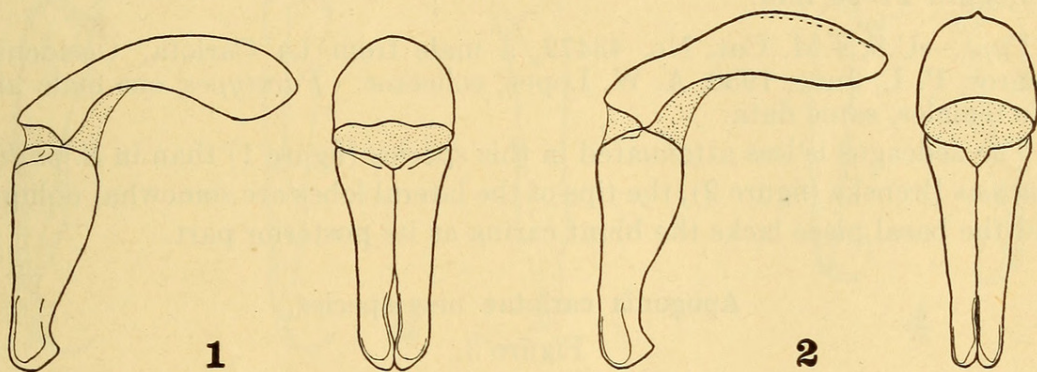


Figure 1. *Stephanopholis lopezi* n. sp. Aedeagus, side and front views.

Figure 2. *Stephanopholis philippinensis* Brenske. Aedeagus, side and front views.

members of the genus in having fourteen costae on each elytron. This species is described as having a median longitudinal furrow on the ventral face of the abdomen which is completely scaled. *S. philippinensis* Brenske and *S. lopezi* new species agree in having the scales of the ventral furrow, which is not continuous throughout its length, grouped in well-defined oval spots.

Stephanopholis lopezi new species.

Figure 1

Near *S. philippinensis* Brenske, but distinguished from that species by the more robust form, the more uniform elytral costae, and the differences in the aedeagus of the male. Head and clypeus coarsely, shallowly, and not densely punctured, each puncture bearing a single elongate scale. Pronotum one and one-half times as wide as long, laterally angulate, sides parallel from basal angles to median angulations, thence strongly convergent to anterior angles

¹ Received May 19, 1931.

where width is slightly less than median length, lateral margins narrowly reflexed. Surface, on either side of the moderately broad and flat, smooth median ridge, rather less densely punctured than head, each puncture bearing a broadly oval scale. Elytra each with fourteen broad and nearly uniform costae, the intervening sulci densely set with small oval scales. Costae 1, 4, 7, 10, 13, and 14 reaching and joining the basal margin; 5 and 6, also 11 and 12, anastomosing both anteriorly and posteriorly; 4 and 7, also 3 and 8, forming complete loops posteriorly; 8 and 9 anastomosing posteriorly. Pygidium evenly scaled, sides nearly straight and strongly convergent, apex narrowly truncate. Underparts densely clad with small scales, sternites 2, 3, and 4 polished medianly and each with an oval spot of scales on the median line. Legs slender, anterior tibia bidentate, claw with a small sharp tooth just in front of the slight basal swelling of lobe.

Male.—Clypeus more than twice as broad as long (by measurement), strongly reflexed, broadly and shallowly emarginate anteriorly, anterior angles rounded. Antennal club longer than stem.

Female.—Clypeus trapezoidal, more than three times as broad as long, anterior margin more strongly reflexed at middle where it is slightly notched, anterior angles obtuse. Antennal club shorter than stem.

Length 21–26 mm.

Type.—U.S.N.M. Cat. No. 43472, a male from La Carlota, Occidental Negros, P. I., June, 1930, A. W. Lopez, collector. *Paratypes*, one male and two females, same data.

The aedeagus is less attenuated in this species (figure 1) than in *S. philippinensis* Brenske (figure 2), the tips of the lateral lobes are somewhat oblique, and the basal piece lacks the blunt carina as its posterior part.

***Apogonia carlotae* new species.**

Figure 3.

Near *A. adoretoides* Ritsema but larger and with distinctive differences in the aedeagus. Uniform deep piceous brown, evenly clad with short, depressed, ashy hairs. Clypeus evenly curved, anterior margin strongly reflexed, punctures coarse and closely set. Clypeo-frontal suture not sharply impressed. Frons slightly elevated, evenly convex, asperately punctured, the punctures smaller but about as numerous as those on clypeus. Pronotum twice as broad as long (by measurement), anterior margin not beaded, lateral and basal margins with fine bead, punctures moderately fine, notably more densely set laterally than on disc. Scutellum six-tenths as long as wide, uniformly and densely set with punctures similar in size to those on pronotum. Elytron evenly, densely and moderately finely punctured, toward apex the punctures becoming finer and even more closely set. Underparts densely and finely punctured. Anterior tibia bidentate toward apex and with a rudimentary tooth near base. Claw cleft to about middle of length, the inner ramus broader than outer.

Length 10–11 mm. (type 10.7 mm.).

Type.—U.S.N.M. Cat. No. 43473, a male from La Carlota, Occidental Negros, May 17, 1930, A. W. Lopez, collector. *Paratypes*, four males and two females, same data.

Compared with *A. adoretoides* Ritsema, the new species is larger. The longest of our twenty-three specimens of *A. adoretoides* Ritsema (from various localities on Luzon) measures 9.5 mm., the shortest 8.5 mm. In *carlotae* the tarsi, especially the posterior pair, and the posterior tibial spurs are broader than in *adoretoides*. The differences in the aedeagi of the two species are indicated in the drawings (figures 3 and 4). In both species the flagellum at the tip of the narrower of the lateral lobes is loosely attached and has freedom of motion in any direction.

***Holotrichia sexspecula* new species.**

Near *H. mindanaona* Brenske but with the integuments generally pruinose and with a quite different development of the pronotum and elytra. Dark castaneous above, abdomen somewhat paler. Head shining, coarsely and densely punctured, clypeus feebly bilobed with anterior margin reflexed, frons with a median shallow depression flanked either side by a low tubercle.

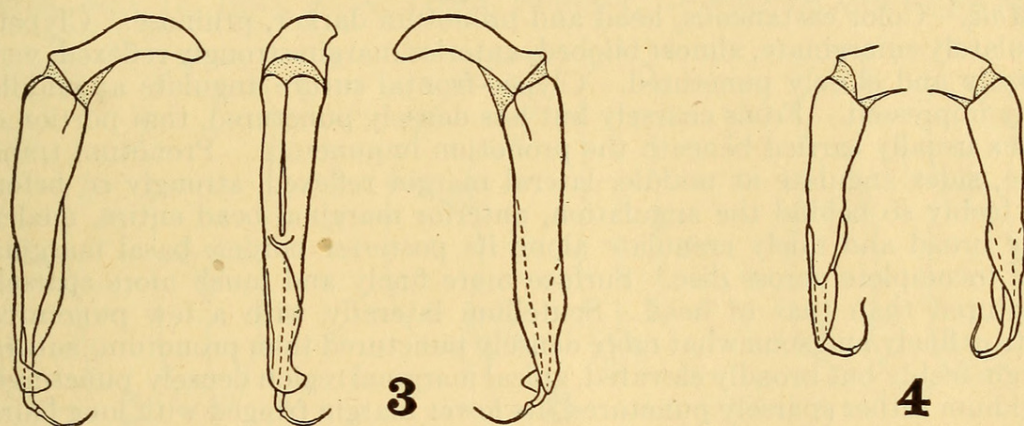


Figure 3. *Apogonia carlotae* n. sp. Aedeagus; right, front, and left views.

Figure 4. *Apogonia adoretoides* Rits. Aedeagus, right and left views.

Pronotum broader than long (length—width ratio = 46:76), sides angulately rounded at middle, anterior and posterior margins fine but complete, lateral marginal carina fine at posterior angle and continued so to the apex of the median angulation where it ceases. At the anterior angle the carina is modified into a broad, rounded explanate flap. Between the flap and the angulation, the normal course of the carina is traced by a series of punctures. Surface rather finely but not densely punctured, with an even pruinosity except for four spots: two semicircular spots on anterior margin, one either side of the middle, and one large rounded spot on anterior half of each lateral angular protuberance. Scutellum with a few scattered punctures. Elytra with suture tumid, densely punctured in the vicinity of the scutellum, more sparsely punctured elsewhere, pruinose except for a large lateral area commencing at humeral callus and reaching half way to apex. Close to the suture near apical fourth there is a roughened spot of small size from which grow two tufts of ferruginous hairs. Pygidium roughly triangular, apex rounded and very densely punctured, with a few hairs along its margin. Metasternum shaggy with whitish hairs, abdominal sternites with a few very short hairs, second

visible sternite with a dense patch of hair laterally. Anterior tibia tridentate, posterior tibial spurs acute-spatulate, first segment of posterior tarsus shorter than second, claw strongly hooked, furnished with a small, acute, sub-basal tooth.

Length (from apex of clypeus to apex of elytral suture) 19 mm.

Type.—U.S.N.M. Cat. No. 43474, a female from Cuernos Mountain, Oriental Negros, C. F. Baker, collector.

Owing to the unnatural distortion of the abdomen due to shrinkage, the over-all measurement is not given. The fascicles of hair on the elytra appear most unusual.

***Holotrichia negrosiana* new species.**

Figure 5.

In size, comparable to *H. philippinica* Brenske but differs from this species by the presence of a well-marked pruinosity in the male and by the long first posterior tarsal segment.

Male.—Color castaneous, head and pronotum darker, pruinose. Clypeus angulately emarginate, almost bilobed, anterior margin strongly reflexed, very coarsely and closely punctured. Clypeo-frontal suture angulate at middle, finely impressed. Frons coarsely but less densely punctured, that portion of vertex usually carried beneath the pronotum impunctate. Pronotum transverse, sides angulate at middle, lateral margin reflexed, strongly so before and feebly so behind the angulation, anterior marginal bead entire, moderately broad and finely crenulate along its posterior border, basal marginal bead incomplete across disc. Surface more finely and much more sparsely punctured than that of head. Scutellum laterally with a few punctures. Elytron finely and somewhat more densely punctured than pronotum, sutural margin feebly but broadly elevated, apical marginal region densely punctured. Pygidium rather sparsely punctured, its lower margin fringed with long hairs. Underparts sparsely punctured, median portions shining, lateral portions dull, legs shining, anterior tibia tridentate, first posterior tarsal segment as long as second, claw with a small, sharp, submedian tooth.

Female.—Similar to male except that the elytra are more coarsely punctured and, when clean, strongly shining.

Length 12.5–14.5 mm. (type 14 mm.).

Type.—U.S.N.M. Cat. No. 43475, a male from La Carlota, Occidental Negros, May 17, 1930, A. W. Lopez, collector. *Paratypes*, 22 males and 28 females (pinned) and numerous males and females in alcohol, same data.

The pinned material was passed through strong alcohol and xylol before pinning in order to extract the contained fat; in such specimens the more shining integuments of the females are readily observed. The aedeagus is figured (figure 5).

***Holotrichia stylifer* new species.**

Figure 6

Size and form of *H. mindanaona* Brenske. Shining, color pale brown with head, pronotum, and legs dark. Clypeus feebly, angulately emarginate at middle, anterior margin not strongly reflexed, punctures moderate in size and

rather sparsely placed, clypeo-frontal suture sinuate, front more sparsely punctured than clypeus. There is a faint median depression on the frons. Pronotum transverse, widest across middle, sides obtusely angulate but not strongly produced, marginal bead fine and complete laterally and basally, anterior marginal bead broader and flat, its margins entire, surface more sparsely but equally coarsely punctured with head, anterior angles rounded and very slightly produced, lateral margin just behind the anterior angles slightly reflexed, basal angles rounded. Scutellum sparsely punctured. Elytron with punctures of equal size and density to those of pronotum, sutural margin faintly and broadly elevated, without other costae. Pygidium sparsely punctured, its lower margin fringed with long hairs. Underparts feebly punctured, shining but with latero-ventral opaque spots on 3rd and 4th sternites. Anterior tibia tridentate, first posterior tarsal segment equal in length to second, claw with a minute, sharp, recurved denticle on the basal lobe. Aedeagus shown in figure 6.

Length 16.5–19 mm. (type 18 mm.).

Type.—U.S.N.M. Cat. No. 43476, a male from La Carlota, Occidental Negros, May 17, 1930, A. W. Lopez, collector. *Paratypes*, two males and

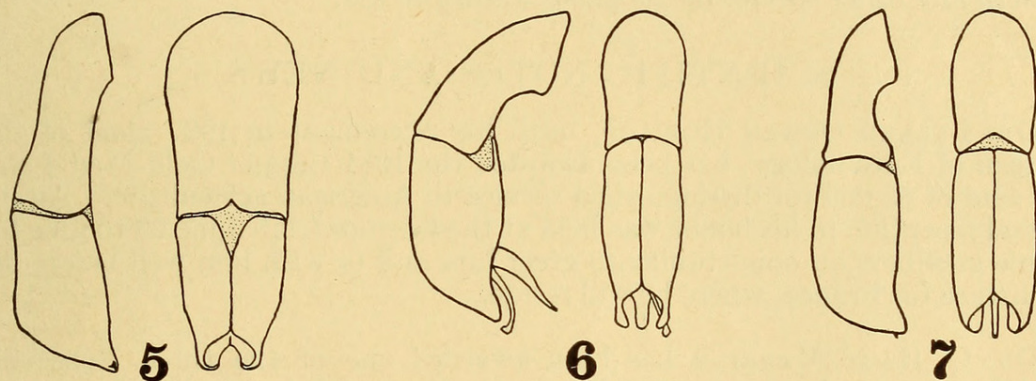


Figure 5. *Holotrichia negrosiana* n. sp. Aedeagus, side and front views.

Figure 6. *Holotrichia styliifer* n. sp. Aedeagus, side and front views.

Figure 7. *Holotrichia sorsogona* n. sp. Aedeagus, side and front views.

one female, same data as type; one male from Saravia, Occidental Negros, May 12, 1929, W. D. Pierce, collector; three males and one female from Victorias, Occidental Negros, Oct. 4 and 7, 1927, Nov. 28, 1928, and Oct. 16, 1929, W. D. Pierce, collector; two males and one female, Cuernos Mountain, Oriental Negros, C. F. Baker, collector.

Holotrichia sorsogona new species.

Figure 7.

Near to *H. styliifer* new species; shining, color light castaneous, head and pronotum slightly darker. Clypeus with a shallow, angulate emargination, anterior margin reflexed, surface rather coarsely and quite densely punctured, clypeo-frontal suture sinuate, frons as coarsely but less densely punctured than clypeus, with a broad, shallow, but very evident depression, vertex strongly punctured. Pronotum transverse, widest across apices of lateral angulations, lateral margins, commencing at the rounded and hardly produced anterior angle, running straight back for one-fourth length of pronotum,

there turning sharply outward to form an angle of about 140° , then turning inward to the obtuse basal angle, forming a lateral angle of about 90° , which is itself broadly rounded. Marginal bead fine and entire, the anterior lateral margins slightly flattened and produced. Surface more finely and sparsely punctured than head. Scutellum evenly and densely punctured. Elytron more finely and densely punctured, with three faintly indicated costae in addition to the slightly raised sutural margin. Pygidium coarsely, deeply, but not densely punctured. Underparts finely and sparsely punctured, metasternum clad with long hairs, anterior tibia tridentate, first posterior tarsal segment shorter than second, claw with minute denticle on basal lobe. Aedeagus figured (figure 7).

Type.—U.S.N.M. Cat. No. 43477, a male from Sorsogon, Southern Luzon, C. F. Baker, collector.

In the structure of the male genitalia and in the tarsal claws this species is closely related to the preceding. There appears to be no supplementary style attached to the wall of the internal sac as in that species, however. The development of the sides of the pronotum is much more exaggerated here than in any other species of the genus known to me.

SCIENTIFIC NOTES AND NEWS

DR. LELAND OSSIAN HOWARD, until his retirement in 1927 chief of the Bureau of Entomology, has been awarded the 1931 Capper Gold Medal and the sum of \$5,000 for distinguished service to American agriculture. An informal reception in his honor was held at the Cosmos Club June 29 to give his fellow members an opportunity to greet him and to wish him well before his departure for France, where he will reside.

DR. C. HART MERRIAM has been awarded one of the three Roosevelt medals given each year by the Roosevelt Memorial Association for distinguished service. The award was given to Dr. Merriam for distinguished service in the advancement of the study of natural history. He founded, in 1885, the division of ornithology and mammalogy in the Federal Department of Agriculture, which later became the Bureau of Biological Survey, and, as its chief for 25 years, introduced methods of research and study which constitute the basic structure of the present American school of mammalogy.

DR. ALEXANDER WETMORE has been elected an honorary member of the Hungarian Ornithological Society, and has also been awarded the Otto Herman silver medal by that society.

NATHAN W. BASS has been reinstated in the Geological Survey and assigned to the geologic branch.

E. T. WHERRY, Associate Professor of Botany, University of Pennsylvania, is collecting and studying the Polemoniaceae or Phlox family in the Northwestern States.

On July 1, the division of agricultural engineering of the Bureau of Public Roads became an independent bureau of the Department of Agriculture, with the name, Bureau of Agricultural Engineering. S. H. McCrory, head of the former division, has been appointed chief of the new bureau.



1931. "New species of Melolonthine Scarabaeidae from the Philippine Islands." *Journal of the Washington Academy of Sciences* 21, 309–314.

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