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NEW RECORDS AND SPECIES OF NEOTROPICAL BARK BEETLES (SCOLYTIDAE: COLEOPTERA), PART II ¹

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While preparing a taxonomic review of the bark and ambrosia beetles (Scolytidae) of Costa Rica it was necessary to examine all available species of this group from Mexico, all of Central America, and northern South America. As a result, a large number of species new to science were recognized from areas outside of Costa Rica. In order to make names available for these species to facilitate this and other work, 23 species and one genus (*Stegomerus*) new to science are described below. The new species represent the genera *Loganius* (1), *Scolytus* (1), *Scolytodes* (10), *Stegomerus* (5), *Xyleborus* (3), *Corthylus* (1), and *Tricolus* (2). The type series of these species were collected in the following countries: Mexico (6), Guatemala (6), Honduras (3), Costa Rica (8), Panama (8), Colombia (2), and Bolivia (1). One species occurred in two countries and five were collected in three countries.

Loganius exilis, n. sp.

This species is rather closely related to *liratus* Wood, but it is distinguished by the less strongly serrate costal margins of the elytral declivity, by the more strongly elevated alternate interstriae on the elytral declivity, by the poorly developed funicular tuft of hair, and by the somewhat narrower frons.

MALE.— Length 1.4 mm. (paratypes 1.3-1.6 mm.), 2.7 times as long as wide; color very dark brown.

Frons flattened or very feebly concave on lower half, convex above; surface rather coarsely, closely, deeply punctured in impressed area, more sparsely punctured above; median third of epistomal margin bearing a shining, elevated, procurved carina as in *liratus*; vestiture limited to impressed area, consisting of abundant, erect, stout, uniformly rather short setae.

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Pronotum equal in width and length; widest near base, the sides weakly arcuate and converging slightly toward the rather narrowly rounded anterior margin; surface smooth, shining, the punctures rather large, deep, moderately close, oval; glabrous.

Elytra 1.8 times as long as wide, 1.7 times as long as pronotum; sides straight and parallel on basal two-thirds, narrowly, subserrately rounded behind; striae weakly impressed, the punctures moderately large, deep; interstriae shining, slightly wider than striae, very weakly convex, the punctures uniseriate, small, widely spaced. Declivity rather steep, convex, the punctures uniseriate, small, widely spaced. Declivity rather steep, convex; striae narrower than on disc; interstriae subshining, 1, 3, 7, and 9 moderately elevated, 7 joins 9 and continues almost to 3, elevated interspaces and 2 (somewhat less) uniseriately granulate, the granules moderately large, rounded, rather widely spaced; costal margin subserrate toward apex. Vestiture restricted to declivity, sparse; consisting of rows of erect, interstitial scales, each scale about five times as long as wide.

FEMALE.— Similar to male except frons less strongly impressed below, more broadly rounded above.

TYPE LOCALITY.— Volcan de Agua, Guatemala.

TYPE MATERIAL.— The male holotype, female allotype, and 81 paratypes were collected at the type locality on May 19, 1964, at an elevation of 1,000 m., by S. L. Wood, from the bole and branches of a common small tree that awaits identification.

The holotype, allotype, and paratypes are in my collection.

Scolytus aztecus, n. sp.

This species appears to be allied to *ventralis* Leconte, but it is easily recognized by the very much larger size, by the two pair of projecting lobes at elytral apex; by the broad, recurved, epistomal elevation, and by other characters. This is the largest American representative of the genus.

ADULT.— Presumably a female. Length 5.7 mm. (paratypes 4.7-6.3 mm.), 2.4 times as long as wide; color very dark brown, elytra reddish brown.

Frons convex, transversely impressed just above epistoma, a slight median impression at vertex; surface shining, the punctures small, rather close, substrigose above; epistoma with a distinctly elevated, dorsally arched ridge above epistomal brush, its lateral extremities blending into a marginal callus; vestiture short, sparse, inconspicuous.

Pronotum 1.03 times as long as wide; widest just behind middle, the sides very weakly arcuate, not converging until anterior third, rather strongly constricted at sides just before anterior margin, anterior margin broadly, very feebly emarginate; surface smooth, shining, the punctures fine, deep on disc, about twice as large in lateral areas; vestiture confined to lateral areas.

Elytra 1.4 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on basal two thirds, then converging very slightly to the rather abrupt posterolateral angles; median half of posterior outline occupied by two pairs of broad serrations, each serration half as long as wide; striae not impressed, the punctures small, deep, regular; interstriae about three to four times as wide as striae, almost flat, shining, the punctures moderately large, deep, uniseriate except confused on 2; declivity descending slightly; glabrous, except a few hairs on declivity. Venter as in female *ventralis*, except more coarsely punctured, the feeble, carinate elevation at posterior margin of sternum 2 present on all four specimens.

MALE.— Not represented in the series at hand.

TYPE LOCALITY.— Twenty-seven miles east of Morelia, Michoacan, Mexico.

HOST.— *Abies religiosa*.

TYPE MATERIAL.— The female holotype and three female paratypes were taken at the type locality on June 14, 1965, at an elevation of about 2,600 m., by S. L. Wood, from biramous, transverse egg tunnels in the bole of a standing fir tree about 60 cm. in diameter.

The holotype and paratypes are in my collection.

Scolytodes clusiacolens, n. sp.

This species is more closely allied to *clusiae* Wood than to other known species, but it may be distinguished by the larger size, by the coarsely, deeply punctured pronotum and elytra and, in the female, by the weakly convex frons.

FEMALE.— Length 2.3 mm. (paratypes 1.8-2.9 mm.), 2.5 times as long as wide; color black.

Frons plano-convex from a point well below upper level of eyes to epistoma, convex above that point, the transition rather abrupt; surface reticulate, finely, deeply, rather closely punctured; vestiture inconspicuous, consisting of very fine, moderately abundant, uniformly distributed hair.

Pronotum 1.1 times as long as wide; sides almost straight or very feebly constricted on basal two-thirds, broadly rounded in front; dorsal profile weakly arched from base, more strongly declivous on anterior fifth; surface reticulate, with rather coarse deep punctures from base to near anterior margin, gradually replaced by smaller punctures laterally and minute asperities medially on anterior fifth; glabrous except near lateral and anterior margins.

Elytra 1.5 times as long as wide, 1.5 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae impressed, the punctures rather large, deep; interstriae slightly narrower than striae, convex, shining, the punctures fine, sharply but not deeply impressed, uniseriate, some of them slightly subgranulate on anterior margins (variable in the series). Declivity convex, rather steep; striae 1 only distinctly impressed, the punctures distinctly smaller than on disc; interstitial

punctures minute, clearly impressed. Vestiture fine, hairlike, abraded on disc of type, in regular striae and interstriae rows on teneral specimens.

MALE.— Similar to female except frons convex to transverse impression just above epistoma, the punctures larger, deeper, the vestiture almost confined to epistomal area; more nearly subgranulate interstriae punctures.

TYPE LOCALITY.— About 10 km. east of Volcan Paracutin, Michoacan, Mexico.

HOST.—*Clusia* sp.

TYPE MATERIAL.— The female holotype, male allotype and 66 paratypes were taken at the type locality on June 19, 1965, at an elevation of about 2,500 m., by S. L. Wood, from *Clusia* twigs and branches. Other paratypes include 16 from Volcan Pacaya, Guatemala, June 1, 1964, 1,300 m., from *Clusia*; 1 from Cerro Peña Blanca, Honduras, May 23, 1964, 2,000 m., from *Clusia*.

The holotype, allotype, and paratypes are in my collection.

Scolytodes clusiavorus, n. sp.

This species is rather closely related to *clusiae* Wood, but may be distinguished by the smaller size, by the more sharply, somewhat more deeply punctured pronotum and elytra, particularly the elytral declivity and, in the female, by the less deeply, less extensively concave frons.

FEMALE.— Length 1.5 mm. (paratypes 1.3-1.6 mm.), 2.6 times as long as wide; color black.

Frons shallowly, broadly plano-concave from just below upper level of eyes to epistoma; surface subshining, closely, finely, deeply, uniformly punctured from vertex to epistoma; vestiture consisting of rather coarse, moderately long, uniformly but rather sparsely distributed hair.

Pronotum 1.1 times as long as wide; sides almost straight or very feebly constricted on posterior two-thirds, broadly rounded in front; surface reticulate, the punctures rather fine, deep, moderately close, the anterior fifth more strongly declivous with a few minute asperities in median area, the punctures attaining anterior margin only in lateral areas; vestiture confined to anterior and lateral areas.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal two-thirds, narrowly rounded behind; striae not impressed, the punctures moderately large, deep; interstriae slightly narrower than striae, almost smooth, with some irregular lines, the punctures minute, almost uniseriate, not at all granulate. Declivity convex, rather steep; striae punctures smaller and shallower than on disc. Vestiture consisting of rows of minute striae hairs and longer, erect rows of coarser interstriae hair.

MALE.— Similar to female except frons strongly convex, reticulate, the punctures rather coarse, sparse, vestiture restricted to epistomal margin.

TYPE LOCALITY.— Volcan de Agua, Guatemala.

HOST.— *Clusia* sp.

TYPE MATERIAL.— The female holotype, male allotype, and three paratypes were collected at the type locality on May 19, 1964, at an elevation of 1,000 m., by S. L. Wood, from the phloem of small branches of a small *Clusia* tree.

The holotype, allotype, and paratypes are in my collection.

Scolytodes perditus, n. sp.

This species is more closely allied to *cecropiacolens* Wood than to other known species, but it is easily distinguished by the more slender body form, by the less deeply impressed, finer punctures on pronotum and elytra and, in the female, by the dense, long brush of frontal hair arising above the eyes.

FEMALE.— Length 2.0 mm. (paratypes 1.6-2.1 mm.), 2.1 times as long as wide; color yellowish brown, the anterior fourth of prothorax darker.

Frons flattened from well above upper level of eyes to epistoma, with low, submarginal, longitudinal carinae extending from epistoma about half the distance to upper level of eye; central area minutely granulate, lateral areas with a few punctures; vestiture consisting of abundant, coarse, long, subplumose setae mostly arising above eyes, none as low as level of antennal bases, some of the setae sufficiently long to reach epistoma.

Pronotum 1.1 times as long as wide; widest at base, sides almost straight, converging very slightly anteriorly, rather narrowly rounded in front; slightly less than anterior half very finely, closely asperate; posterior area reticulate, the punctures rather fine, shallow; glabrous.

Elytra 1.2 times as long as wide, 1.2 times as long as pronotum; sides straight and parallel on slightly more than basal half, rather narrowly rounded behind; striae not impressed, the punctures small, sharply but not deeply impressed, the striae punctures almost indistinguishable from the similar, abundant, confused, interstitial punctures; surface almost smooth, shining. Declivity convex, rather steep; striae punctures deeper than on disc, not reduced; interstitial punctures distinctly smaller, uniseriate except near upper area. Vestiture restricted to a few setae on sides.

MALE.— Similar to female except frons convex, with a transverse impression just above epistoma but interrupted by a small subcarinate median elevation; surface smooth, shining, the punctures rather coarse, deep; striae punctures on disc deeper and somewhat larger than those of striae.

TYPE MATERIAL.— Fort Clayton, Canal Zone, Panama.

HOST.— *Cecropia* sp.

TYPE MATERIAL.— The female holotype, male allotype, and 16 paratypes were collected at the type locality on December 22, 1963,

at an elevation of about 30 m., by S. L. Wood, from the terminals of *Cecropia* branches.

The holotype, allotype, and paratypes are in my collection.

Scolytodes nanellus, n. sp.

This species is somewhat allied to *pumilus* Wood, but it is much smaller, much less coarsely punctured, and the female frons is armed by a pair of submarginal, longitudinal carinae below and by a brush of long hair above upper level of eyes.

FEMALE.— Length 1.0 mm. (female paratype 1.0 mm.; males 0.9 mm.), 2.4 times as long as wide; color medium brown.

Frons flattened from upper level of eyes to epistoma, with submarginal, low carina extending from epistoma almost to upper level of eyes; surface subshining, very finely and closely punctured; vestiture consisting of rather abundant, coarse, subplumose setae, confined to area near or above upper level of eyes, some of setae almost reaching epistomal margin.

Pronotum 1.1 times as long as wide; widest just behind middle, the sides feebly arcuate, rather broadly rounded in front; summit distinctly in front of middle, very finely asperate in front, posterior area rather coarsely reticulate, the punctures rather fine, not deep; glabrous.

Elytra 1.4 times as long as wide, 1.3 times as long as pronotum; sides almost straight and parallel on slightly more than basal half, rather narrowly rounded behind; striae 1 weakly, others not impressed, the punctures small, not deep; interstriae slightly wider than striae, shining, almost smooth, the punctures fine, not always clearly impressed. Declivity convex, rather steep; all punctures somewhat reduced. Vestiture consisting of a few scattered bristles on or near declivity.

MALE.— Similar to female except frons convex, with a slight transverse impression just above epistoma, surface subreticulate, the minute punctures obscure, vestiture reduced, confined to epistomal area.

TYPE LOCALITY.— Barro Colorado Island, Canal Zone, Panama.

TYPE MATERIAL.— The female holotype, male allotype, and two paratypes were collected on December 27, 1963, at an elevation of about 70 m., by S. L. Wood, from phloem tissues of an unidentified tree branch.

The holotype, allotype, and paratypes are in my collection.

Scolytodes venustulus, n. sp.

This species appears to be closely related to *venustus* Wood, but is distinguished by the smaller size, by the reticulate, less closely punctured posterior area of the pronotum, by the unimpressed elytral striae and by the almost equal size of striae and interstriae punctures.

MALE.— Length 1.5 mm. (male paratypes 1.3-1.5 mm.), 2.3 times as long as wide; color dark brown, with a slight reddish cast.

Frons convex, with a transverse impression just above epistoma; surface smooth and shining to a level above eyes, the punctures very fine; vestiture fine, hairlike, largely confined to epistomal area.

Pronotum 1.0 times as long as wide; widest just behind middle, the sides rather weakly arcuate on basal two-thirds, rather narrowly rounded in front; dorsal profile arched from base, a little more strongly declivous on anterior fourth; surface reticulate, with rather coarse, deep, moderately close punctures on basal two-thirds, finely, closely asperate in median area in front, the punctures reaching anterior margin in lateral areas; punctures on disc separated by distances about equal to their own diameters; glabrous.

Elytra 1.5 times as long as wide, 1.7 times as long as pronotum; sides almost straight and parallel on slightly more than basal half, rather narrowly rounded behind; base of suture just behind scutellum acutely but not strongly elevated; striae not impressed, the punctures moderately large, deep; interstriae slightly wider than striae, smooth and shining, the punctures fine, distinct. Declivity convex, rather steep; stria punctures reduced; interspace 2 narrow, not wider than diameter of a stria puncture (noticeably wider on one paratype). Vestiture consisting of minute stria and interstria hairs, and longer, erect, bristles on declivital interspaces 1, 3, 5, and 7. Interspace 10 ending before level of hind coxa.

FEMALE.— Not represented in the series at hand.

TYPE LOCALITY.— Cerro Punta on Volcan Baru (Chiriqui), Panama.

HOST.—*Oreopanax* sp.

TYPE MATERIAL.— The male holotype and three male paratypes were collected at the type locality on January 11, 1964, at an elevation of about 1,800 m., by S. L. Wood, from phloem of a young *Oreopanax* sapling about 5 cm. in diameter.

The holotype and paratypes are in my collection.

Scolytodes ficivorus, n. sp.

This species is very closely related to *schwarzi* (Hopkins), but it may be distinguished by the more coarsely punctured, less shining pronotum and elytra, by the reticulate pronotal disc, by the more finely asperate anterior area of the pronotum, and by the somewhat more coarsely punctured marginal areas of the female frons. Additional data eventually may prove this to be only a subspecies of *schwarzi*.

FEMALE.— Length 1.6 mm. (paratypes 1.5-1.7 mm.), 2.3 times as long as wide; color yellowish brown.

Except for the characters noted in the above diagnosis this species appears to be identical to *schwarzi*.

MALE.— Similar to female except frons convex, reticulate, obscurely punctured, with frontal vestiture greatly reduced.

TYPE LOCALITY.— Palin, Escuintla, Guatemala.

HOST.— *Ficus* sp.

TYPE MATERIAL.— The female holotype, male allotype, and two male paratypes were collected at the type locality on May 19, 1964, at an elevation of about 300 m., by S. L. Wood, from a small, broken fig branch.

The holotype, allotype, and paratypes are in my collection.

Scolytodes facetus, n. sp.

This species is very closely related to *ficivorus* Wood, described above, but is distinguished by the very fine, somewhat obscure punctures of pronotum and elytra, by the slightly longer and more abundant vestiture on the female frons, and by the more narrowly separated eyes. Except for the fact that the two type series of this species and *ficivorus* were taken with two other species of *Scolytodes* from the same small branch, the differences are of such a nature that they might possibly be considered geographical replacements of one another.

FEMALE.— Length 1.6 mm. (male paratypes 1.4-1.5 mm.), 2.3 times as long as wide; color yellowish brown.

In addition to the characters noted in the above diagnosis, this species differs from *ficivorus* in having the eyes separated by 1.6 times the width of an eye (2.6 times in *ficivorus*), and the elytra are reticulate, with the punctures shallow and with those of the interspaces obscure. The obscure, minute pronotal punctures are separated by distances at least twice their own diameters (this distance less than the diameter of a puncture in *ficivorus*).

MALE.— Similar to female except male frons convex, reticulate, obscurely punctured; eyes separated by 2.1 times the width of an eye (3.1 in *ficivorus*).

TYPE LOCALITY.— Palin, Escuintla, Guatemala.

HOST.— *Ficus* sp.

TYPE MATERIAL.— The female holotype, male allotype, and two male paratypes were taken at the type locality on May 19, 1964, at an elevation of about 300 m., by S. L. Wood, from the same small branch of a native fig tree that contained the type series of *ficivorus*.

The holotype, allotype, and paratypes are in my collection.

Scolytodes ingavorus, n. sp.

This species is rather closely related to *ficivorus* Wood, described above, but it may be distinguished by the pubescent elytra, by the deeper punctures on the pronotal disc and, in the female, by the much more heavily pubescent frons that lacks a shining glabrous area at the center.

FEMALE.— Length 1.6 mm. (paratypes 1.3-1.7 mm.), 2.3 times as long as wide; color yellowish brown, with anterior half of pronotum darker.

Frons flattened from upper level of eyes to the somewhat elevated epistoma, with a pair of submarginal, low, longitudinal carinae (or elevations; obscured by vestiture) extending dorsad from epistomal margin, its upper limits obscured by vestiture; surface smooth and shining with fine punctures below, becoming finely granulate and obscurely punctured in central area above; vestiture consisting of abundant, long, coarse, subplumose setae above upper level of eyes, continuing on lateral areas to epistomal margin as somewhat shorter setae, central area bearing shorter, fine, moderately abundant, hair-like setae.

Pronotum 1.1 times as long as wide; sides almost straight and parallel on slightly less than basal two-thirds, rather broadly rounded in front; summit just in front of middle, the anterior area rather coarsely asperate, the interior margin armed by an almost continuous ridge; posterior areas reticulate, the punctures coarse, deep, close, separated from one another by less than half the diameter of a puncture; scanty hairlike setae confined to sides and asperate area.

Elytra 1.3 times as long as wide, 1.2 times as long as pronotum; sides almost straight (feebly arcuate) and parallel on slightly less than basal two-thirds, broadly rounded behind; striae not impressed, the punctures coarse, distinctly but shallowly impressed; interstriae slightly wider than striae, the punctures uniseriate, almost identical to those of striae. Declivity steep, convex; all punctures reduced, in rows; surface shining. Vestiture consisting of fine, short, erect strial and interstitial hair, and longer interstitial hair on declivity.

MALE.— Similar to female except frons broadly convex, transversely impressed just above epistoma; short vestiture on declivity stout, almost scalelike.

TYPE LOCALITY.— Los Corchos, Nayarit, Mexico.

HOST.— *Inga* sp.

TYPE MATERIAL.— The female holotype, male allotype, and 43 paratypes were collected at the type locality on July 10, 1965, at an elevation of less than 10 m., by S. L. Wood, from the phloem of *Inga* branches.

The holotype, allotype, and paratypes are in my collection.

Scolytodes proximus, n. sp.

This species is rather closely related to *tenius* Wood, but may be distinguished by the very minute, obscure punctures on the pronotal disc, by the finer, shallower, elytral punctures, by the finer elytral vestiture, and by the less abundant vestiture on the female frons.

FEMALE.— Length 1.8 mm. (paratypes 1.7-1.9 mm.), 2.8 times as long as wide; color dark brown.

Frons narrowly plano-concave from below upper level of eyes to epistoma; surface reticulate, obscurely punctured; vestiture scanty, consisting of fine, rather sparse, long hair uniformly distributed from upper level of eyes to epistoma.

Pronotum 1.1 times as long as wide; widest slightly in front of middle, sides feebly constructed on posterior half, rather broadly rounded in front; summit indefinite, about one-third from anterior margin; surface reticulate, minutely, sparsely punctured, anterior third finely asperate; anterior margin armed by a series of low, indefinite teeth; glabrous except a few setae in asperate area.

Elytra 1.7 times as long as wide, 1.7 times as long as pronotum; sides almost straight and parallel on slightly more than basal two-thirds, rather narrowly rounded behind; striae not impressed, the punctures rather fine, shallow, obscure; interstriae as wide as striae, somewhat irregular, subshining, the punctures fine, uniseriate, obscure. Declivity convex, steep; the punctures obscure, about as on disc. Vestiture consisting of minute, recumbent striae and interstitial hair, and longer, erect, sparse, interstitial hair.

MALE.— Similar to female except frons convex, with a transverse impression above epistoma, the surface reticulate with fine, obscure punctures.

TYPE LOCALITY.— Base of Volcan Baru (Chiriqui) near El Hato del Volcan, Panama.

HOST.—*Clusia* sp.

TYPE MATERIAL.— The female holotype, male allotype, and 31 paratypes were collected at the type locality on January 11, 1964, at an elevation of about 1,500 m., by S. L. Wood, from the phloem of twigs and branches of a *Clusia* tree.

The holotype, allotype, and paratypes are in my collection.

Scolytodes amoenus, n. sp.

Superficially, this species resembles *multistriatus* Wood, but it is brightly shining, has the declivity more gradual, the female frons is entirely different, and the tenth interspace is acutely elevated to the declivity. Among species with an asperate anterior slope of the pronotum, continued tenth elytral interspace, and a tubercle on the posterior face of the front tibia, this species is unique. The large size, the multistriate elytra and the unique female frons also help to distinguish this unusual species.

FEMALE.— Length 2.0 mm. (paratypes 1.9-2.3 mm.), 2.2 times as long as wide; color of basal third of pronotum, most of elytra and most of body yellowish brown, with head, anterior two-thirds of pronotum, all margins of each elytron and some parts of meso- and metasternum dark brown (variable in series).

Frons flattened from just above upper level of eyes to epistoma; most of area between eyes occupied by a very finely granulate, perfect circle extending from upper level of eyes to epistoma; lower half of circle bearing on its lower half a smooth, shining, transverse, pro-curved band with small, median, orad extension, this area about equal to half the width of circle; area outside of circle rather coarsely, very closely punctured; vestiture consisting of equally long, fine,

plumose setae on a continuous band surrounding circular area, numerous additional setae along epistoma; central area glabrous.

Pronotum 1.1 times as long as wide; widest at base, the sides very feebly arcuate, almost straight, and converging anteriorly very slightly on basal two-thirds, rather narrowly rounded in front; indefinite summit near middle, anterior fourth finely asperate; anterior margin armed by a continuous ridge; posterior areas obscurely subreticulate, coarsely, deeply, closely punctured, the punctures separated by slightly less than their own diameters; glabrous except near lateral and anterior margins.

Elytra 1.3 times as long as wide, 1.2 times as long as pronotum; sides almost straight and parallel on basal half, rather narrowly rounded behind; elytra with basal margin marked by a fine, raised line; striae 1 weakly, others not impressed, the punctures rather fine, deep; interstriae shining, one and one half times as wide as striae, the punctures rather fine, deep, rather abundant, confused. Declivity convex, steep; striae 1 strongly impressed; all punctures reduced, those of striae little larger than the abundant interstitial punctures. Glabrous except at sides.

MALE.— Similar to female except frons convex, with a transverse impression just above epistoma, surface reticulate with coarse deep punctures above, a few granules below.

TYPE LOCALITY.— Thirty-five km. north of Juchitlan, Jalisco, Mexico.

HOST.— *Ficus* sp.

TYPE MATERIAL.— The female holotype, male allotype, and 66 paratypes were collected at the type locality on July 3, 1965, at an elevation of about 1,300 m., by S. L. Wood, from fig branches.

The holotype, allotype, and paratypes are in my collection.

Stegomerus, n. g.

This genus superficially resembles several genera in the Cryphalini and the Micracini, but it is sufficiently unique that a question exists concerning the tribal group to which it should be assigned. Schedl (personal communication) placed it in the specialized Micracini because the pronotum lacks a finely raised, basal and lateral line; I include it with the primitive Cryphalini, near *Cryphalomorphus* Schaufuss, because the anterior coxae are contiguous, because the eye is emarginate, because of the *Cryphalus*-like antennae, and because fimbriate hairs are absent from the head.

DESCRIPTION.— Head subglabrous; frons convex, slightly impressed in male. Eye very long, broadly emarginate, finely granulate. Antennal scape rather short, club-shaped; funicle 5-segmented, the distal segments not conspicuously wider. Pronotum coarsely asperate on anterior slope, the anterior margin usually armed; summit well defined; basal and lateral margins rounded, not marked by a fine lateral line. Elytra elongate, costal margins descending behind. Anterior tibiae gradually widened on basal two-thirds, obliquely

narrowed toward apex, the lateral margin armed by several small teeth on distal two-thirds; third tarsal segments narrow, laterally compressed. Monogamous; phloeophagous in vines and lianas.

TYPE-SPECIES.— *Stegomerus vulgaris* Wood, described below.

1. Interstrial scales and hair in uniseriate rows on disc and declivity; striae clearly evident; small species, usually less than 1.2 mm. PYGMAEUS
Elytral vestiture and punctures abundant, confused at least on declivity; usually larger than 1.4 mm. 2
- 2(1). Setae on basal half of elytral interspaces 9 and 10 consisting of fine, long hair; suture 2 on antennal club much more strongly procurved than suture 1; scales on elytral disc almost in uniseriate rows 3
Setae on basal half of elytral interspaces 9 and 10 primarily scalelike, short; sutures 1 and 2 on antennal club equally, weakly procurved; scales on elytral disc abundant, confused 4
- 3(2). Smaller, 1.3-1.6 mm.; scales on declivital interspaces 2 and 3 mostly uniseriate; punctures of striae and interstriae somewhat smaller, essentially in rows; in *Canavalia villosa* CHIRIQUENSIS
Larger, 1.8-2.1 mm.; scales on all declivital interspaces strongly confused; punctures of striae and interstriae coarser, completely confused; in *Muelenbeckia tamnifolia* MONTANUS
- 4(2). Scales on at least some of discal interstriae between 3 and 9 in uniseriate rows; declivital scales broad, usually less than twice as long as wide, the apex of each scale truncate MEXICANUS
Scales on all discal interstriae multiple, confused; declivital scales more than twice as long as wide, the apex of each scale rounded VULGARIS

Stegomerus pygamaeus, n. sp.

As indicated in the key, this species is distinguished from others in the genus by its small size, and by the uniseriate striae and interstrial punctures, with the elytral scales and hair in rows.

MALE.— Length 1.1 mm. (paratypes 0.9-1.2 mm.), 2.5 times as long as wide; color dark brown, the summit of pronotum and the elytra somewhat lighter.

Frons narrow, convex above, flat below, the epistomal margin and its obtuse, median lobe slightly elevated; surface reticulate above, subreticulate below, and finely, sparsely punctured; vestiture on flattened area moderately abundant, consisting of fine, rather long

hair. Eye elongate, about three times as long as wide; shallowly, broadly emarginate; rather finely faceted. Antennal scape shorter than the 5-segmented funicle; club marked by three equally, slightly procurved sutures.

Pronotum 1.0 times as long as wide; widest one-third of length from base, the sides weakly arcuate, broadly rounded in front; armature on anterior margin poorly developed; summit at middle, prominent; anterior area rather coarsely asperate; posterior and lateral areas almost smooth and shining, with small, rounded, isolated granules; vestiture consisting of hairlike setae over entire surface with erect scales intermixed on posterior half.

Elytra 1.4 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel on more than posterior two-thirds, rather broadly rounded behind; striae 1 feebly, others not impressed, the punctures small, shallow; interstriae slightly wider than striae, the punctures fine, uniseriate. Declivity moderately steep, convex; similar to disc except striae and interstriae punctures smaller and somewhat obscure. Vestiture consisting of uniseriate rows of short, semi-recumbent, striae hair and erect interstriae scales, each scale about three times as long as wide.

FEMALE.— Similar to male except lower half of frons more nearly convex.

TYPE LOCALITY.— Los Corchos, Nayarit, Mexico.

HOST.—*Canavalia villosa* (type), *Cestrum scandans* (paratype), and *Dioclea megacarpa* (paratype).

TYPE MATERIAL.— The male holotype, female allotype, and 35 paratypes were collected at the type locality from stems of the above host on July 10, 1965, at an elevation of about 20 m., by S. L. Wood. Eight paratypes were collected at Zamorano, Morazan, Honduras, on April 18, 1964, from *Dioclea megacarpa*, elevation 700 m.; one paratype bears the same date but was taken from *Canavalia villosa*; two paratypes were taken at La Lima, Cortez, Honduras, on May 5, 1965, from *Cestrum scandans*; all were collected by S. L. Wood. One specimen, not included in the type series, was taken at San Jose, San Jose Prov., Costa Rica, on October 22, 1963, at an elevation of 1,600 m., evidently from *Canavalia villosa*.

The holotype, allotype, and paratypes are in my collection.

Stegomerus chiriquensis, n. sp.

As indicated in the key this species is allied to *montanus*, described below, but it may be distinguished by the smaller size, and by the different arrangement of elytral punctures and scales.

MALE.— Length 1.4 mm. (paratypes 1.3-1.6 mm.), 2.6 times as long as wide; color light brown, a few paratypes much darker.

Frons convex above, rather strongly, transversely impressed near middle, flattened below; a median epistomal lobe present; surface reticulate, with moderately abundant, fine, obscure punctures; vesti-

ture fine, rather sparse. Eye elongate, about three times as long as wide; broadly, rather deeply emarginate; rather coarsely faceted. Antennal scape shorter than the 5-segmented funicle; club large, longer than combined length of scape and funicle, three procurved sutures subangulate at middle, the first partly septate.

Pronotum as in *pygmaeus*, except anterior margin armed by a series of about six small teeth.

Elytra 1.6 times as long as wide, 1.7 times as long as pronotum; punctures of striae and interstriae very close, moderately large and deep, in obscure rows. Declivity rather steep, convex; striae punctures slightly smaller and interstitial punctures much smaller on disc, shallow, in rows. Vestiture consisting of uniseriate rows of short, fine, recumbent striae hair and longer, erect interstitial scales, each scale four or five times as long as wide; sutural margin on declivity with an additional row of shorter scales; an occasional scale on declivity not in the rows.

FEMALE.— Similar to male except transverse frontal impression obscure or absent.

TYPE LOCALITY.— Cerro Punta, Chiriqui, Panama.

HOST.— *Canavalia villosa*.

TYPE MATERIAL.— The male holotype, female allotype, and 47 paratypes were collected at the type locality along Rio Viejo on January 11, 1964, at an elevation of 1,800 m., by S. L. Wood from stems of the above host.

Stegomerus montanus, n. sp.

As indicated in the above key this species is distinguished from the closely allied *chiriquensis* Wood by the larger size and by the different arrangement of elytral setae.

MALE.— Length 2.0 mm (paratypes 1.8-2.1 mm.), 2.6 times as long as wide; color dull black or grayish black, with elytra and summit of pronotum having a reddish cast.

Frons, eye, and antenna as in *chiriquensis*.

Pronotum 1.0 times as long as wide; widest on basal fourth, the sides very feebly arcuate and converging slightly toward the rather narrowly rounded anterior margin; summit at middle, impressed behind; surface and vestiture about as in *chiriquensis*.

Elytra 1.5 times as long as wide, 1.7 times as long as pronotum; disc densely, deeply, rather finely punctured, the punctures separated by distances less than half the width of a puncture, confused. Declivity rather steep, convex; striae and interstriae not distinguishable, the punctures obscure. Vestiture consisting of rows of minute, striae hair between confused rows of slender scales; setae on interspaces 9 and 10 from base to declivity consisting of fine hair only.

FEMALE.— Similar to male except frons flattened, not transversely impressed.

TYPE LOCALITY.— Volcan Irazu, Cartago Prov., Costa Rica.

HOST.— *Muelenbeckia tamnifolia*.

TYPE MATERIAL.— The male holotype, female allotype, and 15 paratypes were collected from the above locality and host on June 28, 1963, at an elevation of 2,800 m., by S. L. Wood. Fourteen additional paratypes were collected at Villa Mills on Cerro de la Muerte, Cartago Prov., Costa Rica, on August 1, 1966, at 3,000 m. elevation by S. L. Wood.

HABITS.— This species inhabits the cambium region or the outer woody layers of stems larger than about 1 cm. of the host, a woody vine (or liana). The beetles are monogamous; each pair constructs an H-shaped system of egg galleries, with the entrance tunnel entering on the short transverse bar and the arms extending parallel to the grain of the wood. The larvae feed in the phloem tissues and usually construct tunnels parallel to the grain of the wood. Young adults commonly tunnel into the deeper tissues.

Stegomerus mexicanus, n. sp.

This species is closely allied to *vulgaris* Wood, described below, but it is distinguished by the shape and arrangement of the elytral scales as indicated in the above key.

MALE.— Length 1.7 mm. (paratypes 1.4-1.7 mm.), 2.5 times as long as wide; color rather light brown, some specimens dull black, with light vestiture.

Frons, eye, antennal scape and funicle as in *chiriquensis*; antennal club large, 1.3 times as long as wide, with three equally, weakly procurved sutures indicated.

Pronotum as in *chiriquensis*, but narrowly rounded in front, armed by four large teeth.

Elytra 1.5 times as long as wide, 1.7 times as long as pronotum; sides straight and parallel on basal three-fourths, broadly rounded behind; disc with shallow, confused, close indefinite punctures. Declivity rather steep, convex; surface as on disc except punctures evidently very feebly granulate. Vestiture consisting of uniseriate rows of fine, strial hair and confused rows of erect interstitial scales, at least some of the rows between interspaces 4 and 9 uniseriate; each scale about three to four times as long as wide.

FEMALE.— Similar to male except frons not as strongly flattened.

TYPE LOCALITY.— Twenty-one km. west of Morelia, Michoacan, Mexico.

HOST.— *Serjania* sp.

TYPE MATERIAL.— The male holotype, female allotype, and 51 paratypes were taken at the type locality on June 15, 1965, at an elevation of 2,300 m., by S. L. Wood, from *Serjania* stems less than 1 cm. in diameter.

The holotype, allotype, and paratypes are in my collection.

Stegomerus vulgaris, n. sp.

In the above key this species is placed near *mexicanus* Wood, but it is distinguished by the shape and arrangement of the elytral scales.

MALE.— Length 2.0 mm. (paratypes 1.7-2.0 mm.), 2.6 times as long as wide; color light brown, some specimens with areas almost dull black.

Frons weakly convex, slightly impressed just above epistoma; epistomal process evident, projecting very slightly as a median epistomal lobe; surface coarsely reticulate, with moderately large, indefinite, isolated granules in central area, reduced in marginal areas. Eye three times as long as wide; coarsely faceted; about one-fourth divided by a broad emargination. Antennal scape and 5-segmented funicle short, subequal in length, their combined lengths distinctly less than length of club; club subcircular, 1.1 times as long as wide, divided into four subequal segments by three broadly procurved sutures, suture 1 partly septate at both ends.

Pronotum 1.0 times as long as wide; widest one-third of length from base; basal angles rounded, sides rather strongly, arcuately converging toward the narrowly rounded anterior margin; anterior margin armed by about six teeth; oval area on anterior slope coarsely asperate; summit elevated, near middle; posterior areas subreticulate-granulate, with moderately large, rather close, rounded granules; vestiture hairlike, except mixed with scales on basal fourth.

Elytra 1.7 times as long as wide, 1.8 times as long as pronotum; scutellum rather large triangular, flat; sides straight and parallel on basal three-fourths, somewhat narrowly rounded behind; disc closely, obscurely punctured, the punctures shallow, confused. Declivity rather steep, convex; striae 1 and 2 obscurely indicated (largely by color), otherwise similar to disc. Vestiture consisting of small, obscure, uniseriate rows of striaal hair and abundant, confused, erect, interstriaal scales, each scale about four times as long as wide.

FEMALE.— Similar to male except frons very slightly, more strongly convex.

TYPE LOCALITY.— Volcan Zunil, Quezaltenango, Guatemala.

HOST.— An unidentifiable woody vine or liana (type); *Serjania mexicana* and *S. triquetra* (paratypes).

TYPE MATERIAL.— The holotype, allotype, and 66 paratypes were collected at the type locality on May 27, 1964, at an elevation of 1,000 m., by S. L. Wood, from an unidentifiable cut. woody vine about 3-5 cm. in diameter. Other paratypes include 15 from San Lucas, Paraiso, Honduras, April 22, 1964, 800 m., from *Serjania mexicana*; 17 from Zamorano, Morazan, Honduras, April 18, 1964, 700 m., from *Serjania triquetra*; 1 from Palin, Esquintla, Guatemala, May 19, 1964, 350 m., from *Serjania* sp.; 33 from San Jose, San Jose Prov., Costa Rica, October 22, 1963, 1,300 m., evidently from

Serjania sp.; and 14 from Tapanti, Cartago Prov., Costa Rica, August 17, 1963, 1,300 m., evidently from *Serjania* sp.

The holotype, allotype, and paratypes are in my collection.

HABITS.— Essentially as described above for *montanus*.

Xyleborus horridatus, n. sp.

This species is very closely related to *horridus* Eichhoff, but it may be distinguished by the more slender body, by the more finely sculptured pronotum and elytral disc, and by the more broadly impressed, more coarsely and shallowly punctured elytral declivity that lacks a submarginal, lateral row of fine tubercles. Specimens labeled *horridus* from southern Central America probably are of this species.

FEMALE.— Length 4.2 mm. (female paratypes 3.7-4.3 mm.), 2.3 times as long as wide; color rather dark reddish brown.

Frons rather evenly, broadly convex from epistoma to vertex, the surface reticulate, rather deeply, somewhat obscurely punctured; almost glabrous, except a few fine setae near epistoma.

Pronotum 1.0 times as long as wide; widest one-third from base, the sides moderately arcuate from base to the somewhat narrowly rounded anterior margin; summit behind middle closely asperate from anterior margin to summit; posterior areas smooth and shining, with small, sharply but shallowly impressed punctures; disc glabrous, a few inconspicuous, hairlike setae in marginal areas.

Elytra 1.6 times as long as wide, 1.6 times as long as pronotum; sides straight and diverging slightly to middle, then converging slightly to a level near apex, then rather abruptly, very broadly rounded behind; striae 1 slightly, others not at all impressed, the punctures small, clearly impressed; interstriae about four times as wide as those of striae, shining, transversely wrinkled (particularly 1 and 2). Declivity beginning slightly in front of middle on interspaces 1 and 2, increasing in width and steepness posteriorly; apical and lateral margins acute on lower third, rather abrupt on middle third, broadly rounded above, the margins distinctly, not strongly elevated; declivital face similar to but broader than in *horridus*, the median tubercles (2 pair of larger ones near middle, with 1 very fine pair below and 3 above these) about as in *horridus*, lateral tubercles just within lateral margin almost entirely absent. Vestiture fine; scanty, particularly on declivity (abundant on declivity in *horridus*).

MALE.— Length 3.3 mm. (male paratype 3.5 mm.); frons medially impressed on upper half; eye reduced; anterior third of pronotum concavely excavated, the anterior margin elevated and armed by one median, subacute process, the asperites reduced within the concavity; elytra evidently somewhat shorter, otherwise similar to female.

TYPE LOCALITY.— San Isidro del General, San Jose Prov., Costa Rica.

HOST.— *Citrus* sp.

TYPE MATERIAL.— The female holotype, male allotype, and 16 paratypes were collected at the type locality on December 5, 1963, at an elevation of about 1,000 m., by S. L. Wood, from Naranjo dulce. Additional paratypes were taken as follows: 5 at Dominical, Puntarenas, December 9, 1963, and 1 Pandora, Limon Prov., Costa Rica, August 23, 1963, by S. L. Wood, from an unknown woody vine and a log; 1 at Hamburg Farm, Sta. Clara Pr., Costa Rica, June 10, 1928, by Nevermann; 9 at Finca El Encanto, La Plata Huila, Colombia, April 28, 1959, by B. Humides, from Naranjo dulce (*Citrus* sp.); 1 from Barro Colorado Island, Canal Zone, Panama, February 26, 1929, by S. W. Frost.

The holotype, allotype, and paratypes are in my collection.

Xyleborus horridicus, n. sp.

The only species known to me that are even remotely related to this are *horridus* Eichhoff and *horridatus* Wood, described above. It may be distinguished from those species by the larger size, and by the very different elytral declivity.

FEMALE.— Length 6.5 mm., 2.5 times as long as wide; color reddish brown.

Frons rather narrow, moderately convex from epistoma to vertex; surface subshining, punctate-granulate; vestiture fine, rather sparse, epistomal brush rather well developed. Eye coarsely faceted; one-third divided by an emargination.

Pronotum 1.1 times as long as wide; widest about a third from base, very feebly arcuate on basal third, more strongly arcuate and converging on middle third, rather narrowly rounded in front; summit just behind middle, anterior area rather finely asperate; posterior area shining, finely punctured. Vestiture fine, erect, sparse on disc, more abundant and longer in lateral areas.

Elytra 1.4 times as long as wide, 1.4 times as long as pronotum; sides straight on basal half, slightly wider just behind middle, arcuate and narrowed slightly to level of sutural apex, then abruptly, broadly, submarginately truncate behind; striae not impressed, the punctures small, moderately deep, somewhat staggered; interstriae shining, irregular, about three times as wide as striae, the punctures somewhat staggered, some granulate on 1-3. Declivity beginning very slightly in front of middle, rather gradual; upper half broadly flattened, the margins rounded, not at all elevated; lower half with lateral margins very strongly elevated, abruptly above, the summit dorsally pointed as seen in profile, the elevation decreasing gradually below to apex of suture; punctures in the broadly excavated area moderately large, shallow, confused; upper third armed by one pair of moderately large tubercles in line with striae 2, a few additional small tubercles near declivital margin on interspaces 1-3. Vestiture fine, confined to lateral areas except for a few minute, recumbent hairs in excavated area of declivity.

TYPE LOCALITY.— Reyes, Bolivia.

TYPE MATERIAL.— The female holotype was collected at the type locality in October, 1921, by W. M. Mann.

The holotype is in my collection.

Xyleborus bicornatulus, n. sp.

This species is allied to *reconditus* Schedl, but it is easily distinguished by the very different sculpture of the declivity. This species has the row of tubercles on interspace 3 interrupted on the lower half, with the tubercle near the middle of the declivity much longer; the tubercles on interspaces 4-6 are also larger than in *reconditus*.

FEMALE.— Length 2.2 mm. (female paratypes 2.0-2.8 mm.), 2.8 times as long as wide; color almost black.

Frons broadly, transversely convex, longitudinally straight to well above eyes, the epistoma slightly, gradually raised; surface reticulate, with rather coarse, deep, sparse punctures; vestiture inconspicuous except along epistoma. Eye finely faceted; half divided by a narrow emargination.

Pronotum 1.2 times as long as wide; widest just behind middle, sides weakly arcuate, feebly if at all converging before the rather abrupt anterolateral angles, rather broadly rounded in front; anterior margin sub serrate; summit at middle; posterior area smooth and shining on disc, reticulate laterally, with sparse, very fine punctures; vestiture sparse, inconspicuous.

Elytra 1.6 times as long as wide, 1.3 times as long as pronotum; sides almost straight and parallel on basal two-thirds, then broadly rounded, almost straight on median third of posterior margin, the arcuate portion strongly serrate; striae not impressed, the punctures very small, distinct; interstriae shining, not entirely smooth, about four or five times as wide as striae, the punctures about as small as those of striae. Declivity beginning very slightly more than one-third the elytral length from base, gradual, rather broadly excavated, the sides moderately elevated, rounded; striae 1 and 2 wider than normal, distinctly punctured; interspaces 1 and 2 shining and uniseriately punctured, each with three or four tubercles at declivital base, 1 weakly elevated, 2 impressed; interspace 3 somewhat elevated, upper third armed by a row of up to five tubercles, an additional much longer spine at middle of declivity; apex of interspace 3 near declivital margin with one or two tubercles; interspace 4 with a row of rather coarse, pointed tubercles on upper third, 5 with a similar series on middle half, 6 and 7 with similar series on most of lower half, a few tubercles extending almost to apex. Vestiture consisting of rows of interstrial hair, rather fine on disc and sides, stout on declivity.

MALE.— Not represented in the material at hand.

TYPE LOCALITY.—Moravia, Cartago Prov., Costa Rica.

HOSTS.— *Ochroma* sp., and *Theobroma cacao* (paratypes).

TYPE MATERIAL.— The female holotype and 21 paratypes were taken at the type locality on March 11, 1964, at an elevation of about 500 m., by S. L. Wood, from an unknown log. Additional paratypes were taken in Costa Rica as follows: 15 at Finca La Lola, Limon, Prov., December 27, 1962, J. L. Saunders; 1 at Rio Damitas in the Dota Mountains, San Jose Prov., Feb. 18, 1964, 250 m.; 3 Finca Gromaco on Rio Coto Brus, Puntarenas Prov., July 14, 1963, 500 m. One paratype was taken 12 km. southeast of El Hato del Volcan, Chiriqui, Panama, January 7, 1964, 1,000 m.; and 5 paratypes were taken at Pamplona, San Vicente, Santander, Colombia, on June 26, 1959, by S. Betancourt, from balsa.

Corthylus splendens, n. sp.

This species is very closely related to *collaris* Blandford and possibly could be a subspecies. It differs from *collaris* by the shorter frontal pubescence on the female, by the much smaller cirrus on the female antennal club, by the shining, more finely punctured elytra, and by the more shallowly, more narrowly impressed elytral declivity.

FEMALE.— Length 2.0 mm. (paratypes 1.8-2.1 mm.), 2.3 times as long as wide; color yellowish to reddish brown, the elytra slightly darker (variable in series; elytra black in some paratypes).

Frons rather shallowly concave from eye to eye, from epistoma to vertex well above upper level of eyes, all margins rounded except lower lateral margins abrupt; surface of concavity evidently minutely subgranulose, obscured by abundant, erect, uniformly distributed, short hair of uniform length. Eye large, very coarsely faceted; deeply emarginate. Antennal club large, asymmetrically produced anteriorly as in *collaris*, with sutures 1 and 2 indicated by grooves; cirrus present along distal margin, scanty, not extending beyond apex.

Pronotum 1.0 times as long as wide; sides almost straight and parallel on about basal half, anterolateral angles rather abrupt, somewhat narrowly rounded in front; anterior margin armed by about a dozen low, irregular teeth; anterior area asperate to indefinite summit at middle; posterior area reticulate, subshining, punctures not evident; vestiture inconspicuous, confined to anterior and lateral marginal areas.

Elytra 1.2 times as long as wide, 1.2 times as long as pronotum; sides very slightly arcuate, not converging behind before declivital base, rather broadly rounded behind; elytral disc smooth, shining, with a few lines, the punctures minute, shallow, distinct, sparse, those on striae almost in identifiable rows. Declivity convex, rather steep, very slightly impressed on upper half toward interspace 2; interspace 1 convex, slightly elevated, striae 1 and interspace 2 (medially) impressed, gradually ascending laterally to interspace 3; punctures of striae 1 moderately large, in rows, those on 2 small, almost entirely obsolete, others not discernible; some punctures of

interspaces 3 evident. A few, fine, hairlike setae present on sides and lower declivity.

MALE.— Similar to female except frons convex, with a conspicuous, transverse impression just above epistoma, very coarsely, deeply, sparsely punctured, glabrous; pronotum more narrowly rounded in front and armed by only two large, pointed teeth.

TYPE LOCALITY.— Sixteen km. southeast of Cartago on the Pan-American Highway, Cartago Prov., Costa Rica.

HOSTS.— *Miconia globuliflora* (type), *M. dodecandra*, *Conostegia oerstediana*, *Phoebe mexicana*, *Solanum torvum*, *Theobroma cacao*, and several other woody plants.

TYPE MATERIAL.— The female holotype, male allotype, and 37 paratypes were collected at the type locality on September 24, 1964, at an elevation of 1,800 m., by S. L. Wood, from branches of the above *Miconia*. Other paratypes were taken in Costa Rica, in 1963, by me, as follows: 6 at the type locality, July 3; 2 at Peralta, March 10, 1964, 500 m.; 11 on July 2 and 13 and on Oct. 24 at Tapanti at 1,300 m.; and 1 at Turrialba on July 5, 700 m., Cartago Prov.; 8 at San Ignacio de Acosta, San Jose Prov., on July 5, 1,500 m.; 14 at Pandora, Limon Prov., on July 23, 50 m.; and 1 at Volcan, Puntarenas Prov., December 11, 700 m. Ten paratypes were taken December 27, 1962, and 2 in July, 1963, at Finca La Lola, Limon Prov., Costa Rica, by J. L. Saunders; and 4 at 12 km. southeast of El Hato del Volcan, Chiriqui Prov., Panama, on January 7, 1964, 1,000 m., by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Tricolus saundersi, n. sp.

This species is in the same species group as *nodifer* Blandford, but it is smaller, reddish brown in color, and has the lateral profile of the third declivital tooth more nearly quadrate.

MALE.— Length 2.3 mm. (paratypes 2.3-2.6 mm.), 2.8 times as long as wide; color reddish brown.

Frons broadly convex, the surface rather finely reticulate and finely punctured, with a large, transversely oval, slightly elevated, coarsely reticulate area occupying central half, its upper limits slightly above upper level of eyes; vestiture limited to epistomal margin. Antennal funicle three-segmented; club broadly obovate, suture 1 weakly, 2 moderately procurved, both sutures partly septate.

Pronotum 1.4 times as long as wide; widest near base, sides almost straight, almost imperceptibly converging anteriorly on basal half, then very narrowly, almost subangulately rounded in front; anterior margin armed by a series of about a dozen teeth, the median one larger and projecting more nearly forward; asperities decreasing in height posteriorly, appearing a short distance behind summit as shining wrinkles; posterior areas reticulate, very finely, sparsely punctured; glabrous.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides almost straight and subparallel to base of declivity then arcuately narrowed about a fourth to the projecting third declivital teeth, very broadly, shallowly emarginate behind; surface almost smooth, shining, the punctures rather fine, not close, striae and interstriae punctures not close, in obscure rows except confused near suture. Declivity abrupt, broadly excavated, the lateral and upper margins abruptly elevated; upper margin bearing a small, acute tooth as tall as wide, in line with striae 1, the second tooth located on lateral elevation just above middle of declivity, subquadrate, about one and one-half times as long as basal thickness, projecting caudad and slightly dorsad; teeth 1 and 2 connected by an acutely margined ridge thicker than high; tooth 3 just above and basally separated from the acutely marked posterior declivital margin, subquadrate, with upper basal margin expanded, twice as thick and almost twice as long as 2, directed primarily caudad but slightly inward and upward; ridge connecting 2 and 3 thicker than above, but with the same continuous acute inner margin that ends in 3; excavation broadly, transversely concave, the suture slightly elevated, the punctures rather fine, shallow, not sharply defined, confused. Glabrous.

FEMALE.— Similar to male except posterior face of antennal club bearing several scattered, long hairs.

TYPE LOCALITY.— Dominical, Puntarenas Prov., Costa Rica.

HOST.— *Theobroma cacao*.

TYPE MATERIAL.— The male holotype, female allotype, and 4 paratypes were collected at the type locality on September 29, 1964, near sea level, by J. L. Saunders, from a branch of cacao.

The holotype, allotype, and paratypes are in my collection.

Tricolus spectibilis, n. sp.

This species is very closely related to *speciosus* Schedl from which it is distinguished by the more strongly projecting second declivital spine which is horizontal on its upper, distal half.

FEMALE.— Length 2.4 mm. (paratypes 2.3-2.5 mm.), evidently 3.0 times as long as wide (elytra slightly spread); color very dark brown.

Frons not visible, head withdrawn into prothorax in all specimens except allotype, evidently as in male, described below.

Pronotum 1.3 times as long as wide; sides subparallel but feebly arcuate on basal half then convergently arcuate to the narrowly rounded, subserrate, anterior margin; asperities decreasing in size posteriorly, ending at or before summit; posterior area subreticulate, finely, deeply, rather sparsely punctured; glabrous.

Elytra 1.7 times as long as wide, 1.3 times as long as pronotum; sides almost straight and parallel to level of middle of declivity, then very broadly rounded behind, with a rather broad, deep, sutural

emargination; striae punctures fine, shallow, in rather indefinite rows; interstriae smooth, with a few irregularly placed punctures identical to those of striae. Declivity beginning two-thirds elytral length from base, broadly, deeply excavated, with upper and lateral margins acutely, rather strongly elevated except rounded on interspace 1; upper margin armed on interspace 2 by a small, pointed tooth; a second prominence on lateral margin just below middle, its basal margins in lateral profile form a 90 degree angle (somewhat blunt); the acute margin continuing to apex; profile as in *speciosus* except the second prominence higher; excavated area broadly concave, shining, sutural interspace finely, not strongly elevated, smooth, the remaining area finely, rather closely punctured. Glabrous.

MALE.— Similar to female except serrations on anterior margin of pronotum much more prominent. Frons rather strongly, broadly convex; surface reticulate and rather coarsely, deeply punctured except on a small, more coarsely reticulate, impunctate area below upper level of eyes equal in diameter to one-fifth width of frons; vestiture limited to epistomal area.

TYPE LOCALITY.— Finca La Lola, Limon Prov., Costa Rica.

HOST.— *Theobroma cacao*.

TYPE MATERIAL.— The female holotype, male allotype, and four paratypes were collected at the type locality on June 22, 1963, by J. L. Saunders, collection number 53.

The holotype, allotype, and paratypes are in my collection.



1967. "New records and species of Neotropical bark beetles (Scolytidae: Coleoptera). Part 2." *The Great Basin naturalist* 27, 119–141.

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