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**NEW RECORDS AND SPECIES OF
NEOTROPICAL BARK BEETLES
(SCOLYTIDAE: COLEOPTERA)
PART IV**

by
STEPHEN L. WOOD



BIOLOGICAL SERIES — VOLUME X, NUMBER 2

JUNE 1969

BRIGHAM YOUNG UNIVERSITY SCIENCE BULLETIN
BIOLOGICAL SERIES

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NEW RECORDS AND SPECIES OF NEOTROPICAL BARK BEETLES (SCOLYTIDAE: COLEOPTERA)

PART IV¹

BY

Stephen L. Wood²

On the following pages 108 species and two subspecies of bark beetles (Scolytidae) are described as new to science. It was intended that most of these would be named in a synopsis of the Scolytidae of Costa Rica; however, the volume of undescribed material proved to be so large and the manuscript treating it so bulky that its completion became impractical. That manuscript, with its keys, host and geographical distributions, and biological notes is being expanded into a treatment of the entire American continent north of Panama. In order to stabilize new names for that project, they are validated below.

The new species represent the following genera: *Xylechinus* (1), *Phrixosoma* (1), *Phloeosinus* (1), *Chramesus* (8), *Phloeotribus* (5), *Chaetophloeus* (1), *Liparthrum* (2), *Cnemonyx* (5), *Camptocerus* (1), *Scolytus* (2), *Microborus* (2), *Scolytodes* (22 with 2 subspecies), *Pseudothysanoes* (16), *Cryptulocleptus* (13), *Thysanoes* (4), *Micracisella* (8), *Micracis* (9), *Hylocurus* (4), *Phloeocleptus* (3). They are from the following countries: Mexico (49), Guatemala (9), Honduras (7), Costa Rica (49), Panama (5); seven species occurred in two countries, and two species occurred in three countries.

Except as noted below, all type series were tentatively deposited in my personal collection presently housed at the Brigham Young University, in order to facilitate preparation of a monograph of the Scolytidae of the western hemisphere. Upon conclusion of that monograph, paratypes will be distributed, in so far as possible, to at least two European and two other American collections. The British Museum (Natural History) has already received paratypes of many species.

Xylechinus avarus, n. sp.

The large body size, the stout form, the elevated declivital interspaces 1 and 3 on the elytra, the fine ground vestiture, and the fine, low frontal carina serve to distinguish this species. Of the species known to me it is perhaps more closely allied to *fuliginosus* Blandford, although the relationship is remote.

Female.—Length 3.2 mm. (paratypes 2.4-3.3 mm.), 2.1 times as long as wide; body color brown, usually covered by an incrustation.

Frons convex, with a feeble transverse impression

just below upper level of eyes, a low acutely elevated median carina extending from this impression to epistomal margin; entire surface coarsely reticulate, punctures fine, inconspicuous; vestiture short sparse inconspicuous.

Pronotum 0.93 times as long as wide; sides widest and almost parallel on middle half, strongly constricted one-fourth length from anterior margin, rather broadly rounded in front; surface finely granulate and with rather sparse, round, small vulcanate punctures; vestiture consisting of short, rather stout, moderately abundant bristles.

Elytra 1.2 times as long as wide, 1.8 times as long as pronotum; sides almost straight, very slightly wider at declivital base, narrowly rounded behind; striae impressed, the punctures deeply, not sharply impressed; interstriae about one and one-half times as wide as striae, irregular, the punctures fine, abundant, confused, with a median row of larger, granulate punctures, crenulate toward base. Declivity convex, rather steep; striae impressed; interspace 2 impressed, strongly narrowed, ending before apex, 1, 3, and 9 elevated, about half as high as wide, 3 and 9 join apically, the elevation continued to 1, granules not as large as on disc. Vestiture of short, rather abundant, stout, hairlike setae, and interspatial rows of long bristles, spacing between bristles and between rows equal to length of a bristle.

Male.—Similar to female except frons flattened on lower half; and ground vestiture evidently more abundant.

Type Locality.—Volcan Irazu, Cartago Prov., Costa Rica.

Host.—*Oreopanax nubigenus*.

Type Material.—The male holotype, female allotype, and 205 paratypes were collected at the type locality on October 26, 1963, at an elevation of 2,300 m., by S. L. Wood, from the fallen epiphytic host that was about 10 cm. in diameter. The galleries were similar to those of *fuliginosus*. The holotype, allotype and paratype are in my collection.

Phrixosoma clusiae, n. sp.

This species is very closely related to *minor* Wood, but it may be distinguished by the larger size, by the much more strongly impressed female vertex, by having the interstitial granules three-ranked almost to elytral base, by the comparatively wider discal interstriae, and by the less definitely granulate anterior slope of the pronotum.

Female.—Length 2.5 mm. (paratypes 1.9-2.5 mm.), 1.9 times as long as wide; color black.

Frons broadly convex from epistomal margin to upper level of eyes; rather strongly, transversely, arcuately impressed from just above level of eyes to vertex, upper margin of this groove abruptly angled; lateral angles of groove produced laterally causing a pro-

¹Part of the field work that led to the discovery of these insects was sponsored by the National Science Foundation.

²Department of Zoology and Entomology, Brigham Young University, Provo, Utah. Scolytoidea contribution number 38.

nounced situation in line where pubescent and non-pubescent areas meet; vestiture hairlike, short, rather abundant, extending to vertex.

Pronotum 0.80 times as long as wide; widest at base, sides uniformly, convergently arcuate to weak constriction just before the rather narrowly rounded anterior margin; anterior third very minutely asperate, asperities on margin somewhat larger; surface rather closely marked by low, subtuberculate, short, irregular rugae (remnants of interspaces between obsolete punctures), depressed areas reticulate; vestiture consisting of very fine, short hair.

Elytra 1.2 times as long as wide, 1.7 times as long as pronotum; outline as in *obesa*; narrowly impressed, the punctures small, distinct; interstriae almost three times as wide as striae, reticulate, granules rather large, rounded, three-ranked almost to base except on 2, the marginal rows of granules becoming smaller by middle of disc and obsolete by upper fourth of declivity. Declivity and vestiture as in *minor*.

Male.—Similar to female except frontal carina absent, vertex and anterior margin of pronotum not modified, and asperities on anterior third of pronotum almost obsolete.

Type Locality.—Zamorano, Morazan, Honduras.

Host.—*Clusia flava*.

Type Material.—The female holotype, male allotype, and ten paratypes were collected at the type locality on April 18, 1964, 700 m. elevation, No. 561, in branches and bole of *Clusia flava*. This monogamous species constructs biramous, transverse egg galleries in the cambium region essentially as in *minor*.

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

Phloeosinus paleavis, n. sp.

This species is closely allied to *serratus* LeConte, but it may be distinguished by the smaller size, by the numerous minute points and/or fine lines in the interspaces between punctures on the pronotal disc, by the less numerous, smaller submarginal crenulations at the elytral bases, and by the less strongly compressed teeth on the male elytral declivity, the anterior profile of each tooth usually evenly arcuate (abruptly angled in *serratus*).

Male.—Length 2.4 mm. (paratypes 1.9-2.5 mm.), 1.95 times as long as wide; color very dark brown.

Frons feebly convex, almost flat, the lower fourth gradually ascending to epistomal margin; lower half marked by a fine, low median carina; surface smooth with rather line, deep, close punctures, some subgranulate in area median to upper half of eye; vestiture fine, moderately long, rather abundant. Vestiture on antennal club short, more abundant than in allied species.

Pronotum 0.82 times as long as wide; widest near base, the sides strongly, convergently arcuate to moderate constriction just before broadly rounded anterior margin; surface smooth, with some minute points and lines in interspaces between the moderately large deep punctures; interspaces one-fourth to equal in width to

diameter of a puncture. Vestiture fine, rather short, moderately abundant.

Elytra 1.2 times as long as wide, 1.6 times as long as pronotum; basal margins armed by 12 crenulations on interstriae 2-9; striae narrowly impressed, the small punctures somewhat obscurely indicated; interstriae about three times as wide as striae, feebly convex, the surface smooth but irregular, the punctures moderately coarse, close, confused, their anterior margins usually elevated, some rather coarsely crenulate at base. Declivity convex, rather steep; striae less strongly impressed; interstriae 1 and 3 moderately, 5, 7, 8 less strongly elevated, these and 6 armed by rather coarse teeth, those on 3 and particularly on 1 larger, 2 bearing two teeth near apex, 2 and 4 flat, finely punctured; interstriae 1 bearing eight teeth, each only slightly compressed and usually with anterior profile evenly arcuate, 3 bearing 13 teeth with none of them compressed. Vestiture scanty, but stout, some setae almost scalelike.

Female.—Similar to male except frons more strongly convex and more extensively granulate; pronotal lines and points much more abundant; a few elytral crenulations extend almost to declivity; declivital teeth smaller with interstriae 2 and 4 armed by at least a few small teeth; declivital vestiture largely of scales each only slightly longer than wide.

Type Locality.—Sixteen km. east Chiapa de Corzo, Chiapas, Mexico.

Host.—*Juniperus* sp.

Type Material.—The male holotype, female allotype, and 13 paratypes were collected at the type locality on June 17, 1964, at an elevation of about 2,300 m., No. 710, from a small *Juniperus* branch.

The holotype, allotype and paratypes are in my collection.

Chramesus gracilis, n. sp.

This species is in the subgenus *Prochramesus* and is allied to *annectans* Wood, but may be distinguished by the larger size, by the much more finely, shallowly punctured pronotum, by the smaller, shallow striae punctures, and by other characters.

Male.—Length 2.5 mm. (paratypes 2.2-2.7 mm.), 2.25 times as long as wide; color dark brown to black, with white vestiture.

Frons rather deeply, concavely impressed from upper level of eyes to epistoma, the lateral margins rounded, bearing mesad of margin just above antennal bases, a pair of large squared processes as in *annectans*; surface coarsely reticulate with a few fine, obscure punctures; vestiture fine, long, rather sparse. Antennal club acutely pointed.

Pronotum 0.9 times as long as wide; widest at base, sides weakly arcuate and converging slightly on basal two-thirds then rather strongly constricted before the broadly rounded anterior margin; surface reticulate, with fine, rather widely separated punctures, the punctures indistinctly vulcanate or subasperate in lateral areas; vestiture consisting of stout semi-recumbent bristles.

Elytra 1.5 times as long as wide, 1.9 times as long as pronotum; sides straight and parallel on basal two-thirds, rather broadly rounded behind, striae not im-

pressed, the punctures small, round, shallow, distinct; interstriae about three times as wide as striae, almost flat, smooth and shining with rather abundant, minute, setiferous, confused punctures and median rows of fine setiferous granules. Declivity steep, convex; striae weakly impressed, the interspaces feebly convex. Vestiture consisting of rather abundant, short, subplumose scales and interstitial rows of somewhat longer erect bristles, each bristle about two-thirds as long as distance between rows.

Female.—Similar to male except frons very shallowly impressed, the tubercles somewhat smaller; pronotal tubercles distinctly larger.

Type Locality.—University of Costa Rica Campus, San José, Costa Rica.

Host.—*Bambusa vulgaris*.

Type Material.—The male holotype, female allotype, and 83 paratypes were collected at the type locality on September 12, 1963, at an elevation of about 1,300 m., by S. L. Wood, from dead and dying stumps of Japanese bamboo which were 10 cm. or more in diameter. The diagonal, biramous, egg galleries were just under the surface of the wood. Larval mines were parallel to the grain of the wood.

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

Chramesus ingens, n. sp.

Among the species known to me this one is unique in having the antennal bases comparatively close together and higher than usual; in having the elytral vestiture fine and of uniform length; and in having the male frons not excavated, but the lateral margins elevated with the raised tubercle at a point well above the antennal insertion.

Male.—Length 2.7 mm. (paratypes 2.4-2.8 mm.), 1.6 times as long as wide; color dark brown or black.

Frons impressed from upper level of eyes to epistoma with a low elevation between antennal bases, lateral margins elevated on middle third with a rounded tubercle just above antennal base; surface reticulate, with very fine punctures at sides and above; antennal bases closer together than eyes, distance from epistomal margin (omitting lobe) to antennal bases 1.6 times greatest width of eye; frons subglabrous. Antennal scape with small tuft of hair.

Pronotum 0.8 times as long as wide; base strongly bisinuate, basal angles broadly rounded, sides strongly arcuate, widest just behind middle, moderately constricted just behind the broadly rounded anterior margin; entire surface reticulate and with small, sparse, finely subasperate punctures, finer in posteromedian area; glabrous.

Elytra 1.03 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel on basal half, broadly rounded behind; striae narrowly impressed, the punctures small, distinctly impressed; interstriae about three times as wide as striae, slightly convex almost smooth with numerous, confused, small rounded setiferous granules. Declivity convex, moderately steep; about as on disc. Vestiture consisting of fine, erect, confused, hairlike setae, all of equal length, each shorter than a distance equal to width of an interspace (about

two-thirds as long).

Female.—Similar to male except frontal margin feebly elevated and not armed; pronotal punctures almost entirely devoid of small asperities.

Type Locality.—Tapanti, Cartago Prov., Costa Rica.

Host.—*Serjania mexicana*? (probable error in identification).

Type Material.—The male holotype, female allotype, and 270 paratypes were collected at the type locality on October 24, 1963, at an elevation of about 1,300 m., by S. L. Wood, from a vine having three leaflets per leaf. The host was identified as *Serjania mexicana*, however, the tissues were very moist, soft and non-woody and turned black with age, suggesting an error in identification. This species was also collected at Puerto Viejo, Heredia Prov., and at Guapiles, Limon Prov., in humid lowland areas, but these specimens were not included in the type series.

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

Chramesus acacicolens, n. sp.

Similar to *crenatus* Wood, but distinguished by the deeper, wider striae punctures, by the much shorter, wider, erect interstitial scales, by the small tubercles of elytral interspaces, and by other characters.

Male.—Length 1.8 mm. (paratypes 1.5-1.8 mm.), 1.65 times as long as wide; color light brown.

Frons broadly, concavely excavated from upper level of eyes to epistoma, deepest point near middle, subfoveate; lateral margins acute below, armed by a pair of tubercles just below level of antennal insertion; surface coarsely reticulate, a few minute punctures scarcely visible; vestiture short, inconspicuous.

Pronotum 0.73 times as long as wide; median basal area produced slightly into scutellar notch, sides widest near base, rather strongly arcuate, constricted just behind the broadly rounded anterior margin; surface minutely rugulose, dull, rather finely, shallowly punctured, the punctures becoming finely asperate toward anterior and lateral areas; vestiture consisting of short, stout bristles.

Elytra 1.07 times as long as wide, 1.6 times as long as pronotum; sides straight and parallel on basal half, broadly rounded behind; striae impressed, the punctures rather large and deep; interstriae about twice as wide as striae, convex, with small, abundant, squamiferous punctures and median rows of tubercles that decrease in size posteriorly. Declivity convex, moderately steep; as on disc except tubercles not evident. Vestiture consisting of abundant short scales and interstitial rows of erect scales slightly more than twice as long as ground vestiture, each large scale about three times as long as wide.

Female.—Similar to male except frons weakly convex, transversely impressed just above epistoma, minute punctures more evident; pronotal asperities evident only at anterolateral angles.

Type Locality.—Finca La Pacifica, 4 km.

northwest of Cañas, Guanacaste Prov., Costa Rica.

Host.—*Acacia* sp.

Type Material.—The male holotype, female allotype, and 80 paratypes were collected at the type locality on July 13, 1966, at an elevation of 50 m., by S. L. Wood, from the cambium region of branches and twigs of the host tree less than 2 cm. in diameter.

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

Chramesus varius, n. sp.

This is the only species of *Chramesus* known to me in which the frons is concave in both sexes and the epistoma is armed in both sexes by a large median tubercle; the variegated color pattern of the scales is also unique in the genus.

Male.—Length 1.5 mm. (paratypes 1.4-1.7 mm.) 1.7 times as long as wide; color brown with light colored scales on basal fourth and lateral margins of pronotum and on interstriae 1 and lateral areas of elytral disc, dark scales predominate elsewhere.

Frons deeply, broadly, concave from eye to eye from well above eyes to epistoma; excavated area reticulate-granulate; lateral margin acute only at level of antennal bases, unarmed; epistomal margin bearing a large, pointed, median tubercle; vestiture consisting of moderately abundant, stout setae. Scape bearing a conspicuous tuft of long, yellow, subplumose setae; club rather small for this genus, its apex not pointed.

Pronotum 0.82 times as long as wide; widest on basal third, the sides strongly, convergently arcuate toward the broadly rounded anterior margin; anterolateral areas with a few fine asperities; surface coarsely reticulate, the punctures rather fine, shallow, moderately close, many of them subvulcanate on posterior area; basal margin bisinuate; vestiture stout, short, essentially scalelike.

Elytra 1.14 times as long as wide, 1.6 times as long as pronotum; bases armed by 11 marginal crenulations on interstriae 2-9; scutellum not visible in usual sense; striae weakly impressed, stronger toward declivity, the punctures small, impressed; interstriae twice as wide as striae, convex, the surface evidently superficially reticulate, the punctures very fine, usually obscured by setae. Declivity convex steep; striae slightly deeper, interstriae slightly narrower than on disc. Vestiture consisting of moderately abundant, stout, almost scalelike, erect setae, and rows of erect scales each about twice as long as ground vestiture and about four or five times as long as wide.

Female.—Similar to male except frons more narrowly, shallowly concave with median tubercle a little smaller; pronotal crenulations larger and more numerous.

Type Locality.—Twenty-seven km. north of Ixmiquilpan, Hidalgo, Mexico.

Host.—*Acacia* sp.

Type Material.—The male holotype, female allotype, and 12 paratypes were collected at the type locality on July 10, 1967, elevation 1,900 m., No. 188, in an *Acacia* branch about 4 cm. in

diameter, by S. L. Wood.

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

Chramesus secus, n. sp.

This species is exceedingly similar to *varius* Wood, described above, but differs by the larger size, by the uniformly light color of the vestiture, by the more finely sculptured pronotum, and by the shorter, more scalelike vestiture. This possibly could be a subspecies of *varius*.

Male.—Length 1.7 mm., 1.7 times as long as wide; color brown with white vestiture on pronotum and interstriae 1, tan elsewhere.

Exactly as in *varius* except as noted above and also setae on all margins of pronotum shorter and stouter; median extension of basal margin of pronotum less pronounced; elytral vestiture appearing more abundant and each seta conspicuously wider.

Type Locality.—Laguna Santa Maria, Nayarit, Mexico.

Type Material.—The unique male holotype was taken with a series of the following species on July 6, 1965, near 1,000 m. elevation, No. 201, by S. L. Wood. The host was a large woody vine (liana) having the larger stems square in cross section.

The holotype is in my collection.

Chramesus unicornis, n. sp.

This species is rather closely allied to *varius* Wood, described above, but it is easily distinguished by the less extensive male frontal impression, by the smaller tuft of setae on the scape, by the subquadrate pronotum, by the more strongly impressed striae and striae punctures, and by the uniformly light colored vestiture.

Male.—Length 1.4 mm. (paratypes 1.3-1.6 mm.), 2.0 times as long as wide, color medium to light brown.

Frons deeply excavated from eye to eye from upper level of eyes to epistoma; lateral margins acute from just above level of antennal insertion to epistomal margin; surface rather coarsely reticulate above, becoming obscurely reticulate and shining below, armed by a large, pointed, median tubercle immediately above epistomal margin; vestiture sparse, inconspicuous. Antennal scape bearing a small tuft of fewer than a dozen long, yellow setae; club small for this genus.

Pronotum 0.83 times as long as wide; widest at base, the sides feebly arcuate and converging slightly on more than basal two-thirds, then rather abruptly constricted just before the broadly rounded anterior margin; surface rather coarsely reticulate, the punctures very close, rather shallow, irregular in outline, anterolateral asperities obscure. Vestiture consisting of short, rather abundant, stout, almost scalelike setae.

Elytra 1.2 times as long as wide, 1.5 times as long as pronotum; sides straight and subparallel on basal two-thirds to declivital base, then rather broadly rounded behind; basal margins armed by 14 crenulations; striae slightly impressed, the large punctures deeply impressed; interstriae as wide as striae, convex, each bearing a

row of fine, pointed tubercles. Declivity moderately steep, convex, essentially as on disc except area at junction of interstriae 3 and 9 slightly elevated. Vestiture consisting of moderately abundant, small, broad scales, and rows of erect interstitial scales about three times as long as ground cover, each half as long as distance between rows and almost equal in length to distance between erect scales within a row, about four times as long as wide; not longer on declivity.

Female.—Similar to male except frons convex, coarsely reticulate to epistoma, the median tubercle absent and pronotal asperities slightly larger.

Type Locality.—Laguna Santa María, Nayarit, Mexico.

Type Material.—The male holotype, female allotype, and 76 paratypes were collected at the type locality on July 6, 1965, about 1,000 m. elevation, No. 201, from the phloem tissues of the host, by S. L. Wood. The host was a large woody vine (liana) about 7 cm. in diameter, having the cross-section of the larger stems square. Four paratypes were taken 25 km. west of Armaria, Colima, Mexico, on June 30, 1965, No. 143, from the same host, by S. L. Wood.

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

Chramesus cecropiae, n. sp.

In this unique species the male frons is not excavated, but more nearly protuberant at a level just above the antennal bases; in addition, the elytral ground vestiture is totally absent, a row of stout bristles marks each interstriae.

Male.—Length 1.25 mm. (paratypes 1.3 mm.), 1.7 times as long as wide; color rather dark brown, the elytra somewhat lighter.

Frons longitudinally flattened, transversely, weakly convex on upper third, then ascending rather abruptly below to an indefinite, strongly arcuate line between antennal bases, its median point well above (dorsad) its lateral extremities; lower two-thirds almost flat, the lateral margins below very slightly elevated; surface above coarsely reticulate, lower area transversely strigose; vestiture consisting of a few hairlike setae on lateral areas on lower half. Antennal club moderately large for the genus.

Pronotum 0.82 times as long as wide; widest on basal third, sides arcuately converging to a slight constriction just before the rather broadly rounded anterior margin; surface shining, subreticulate, with scattered, rather abundant tubercles of variable size on anterior three-fourths, some of those on anterolateral area finely asperate; a few large, obscure punctures evident toward base. Vestiture rather sparse, consisting of a few stout setae over entire surface.

Elytra 1.1 times as long as wide, 1.4 times as long as pronotum; elytral bases armed by about 12 crenulations; striae feebly if at all impressed, the punctures large, moderately deep, distinct; interstriae very slightly wider than striae, very slightly irregular, brightly shining, each bearing a row of small, pointed, setiferous tubercles. Declivity rather steep, convex, sculptured essentially as on disc. Vestiture consisting of rows of interstitial bristles, each bristle somewhat flattened toward its apex

and equal in length to distances between bristles within and between rows; very minute strial hairs also evident.

Female.—Similar to male except frons more evenly convex, coarsely reticulate throughout, with a median fovea on upper half; pronotal asperities larger, the tubercles largely absent but replaced by shallow, rather obscure punctures.

Type Locality.—Four km. southwest of Rincon, Osa Peninsula, Puntarenas Prov., Costa Rica.

Host.—*Cecropia* sp.

Type Material.—The male holotype, female allotype, and two paratypes were collected at the type locality between February 21 and 28, 1967, by D. D. Sliwa, from the fallen leaf petiole of a *Cecropia* tree.

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

Chramesus periosus, n. sp.

Superficially this species resembles *vastus* Wood more closely than other species known to me, although its true affinities may lie nearer to *crenatus* Wood which shared the same host material. From *vastus* it differs by the more closely, deeply punctured pronotum, by the less strongly impressed striae, by the scalelike erect interstitial bristles, and in the male by the frontal impression extending above the eyes.

Male.—Length 2.2 mm. (paratypes 2.0-2.5 mm.), 1.4 times as long as wide, color brown.

Frons broadly concave from epistomal margin to just above upper level of eyes; lateral margins acutely elevated from just below upper level of eyes to epistomal margin, bearing a pointed tubercle at level of antennal insertion; surface reticulate except on smooth epistomal margin, the punctures small, shallow, obscure; vestiture fine, inconspicuous. Antennae as in related species.

Pronotum 0.73 times as long as wide; posterolateral angles one-third pronotum length from base, median area produced posteriorly; sides widest at posterolateral angles, strongly, arcuately convergent to moderate constriction just before the rather broadly rounded anterior margin; surface finely reticulate, with fine, moderately deep, rather close punctures, about half of those in central area finely asperate, the asperities larger toward anterolateral angles; vestiture consisting of stout, rather short, recumbent bristles and similar, very fine hair.

Elytra 0.90 times as long as wide, 1.4 times as long as pronotum; anterior margins armed by low basally fused crenulations that merge lateral to striae 4 into a continuous costa; striae moderately impressed, the punctures small, moderately deep, rather widely spaced; interstriae about twice as wide as striae, weakly convex, a median row of fine, nongranulate punctures and confused minute punctures on each interstriae. Declivity rather steep, convex; sculpture essentially as on disc. Vestiture consisting of ground covering of small, non-overlapping, interstitial scales each longer than wide, and median rows of erect interstitial bristles, each twice as long as ground vestiture and four to five times as long as wide and spaced within a row by slightly more than length of a bristle.

Female.—Similar to male except frons not impressed, almost flat; lateral asperities on pronotum coarsely de-

veloped; each interstriae bearing a uniseriate row of coarse, narrow tubercles, each almost as high as wide.

Type Locality.—Five km. west of Jaltipan, Vera Cruz, Mexico.

Type Material.—The male holotype, female allotype, and 56 paratypes were collected at the type locality on June 25, 1967, 50 m., No. 99, by S. L. Wood, from tunnels in the wood of branches 3-8 cm. in diameter. The host tree, awaiting identification, was also infested by *Chramesus crenatus* and *Scolytus propingus* Blandford.

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

Phloeotribus maurus, n. sp.

This species resembles *sulcifrons* Chapuis and may be rather closely related; it is easily distinguished, however, by the large tuft of hair on the male scape, by the much coarser asperities on the anterolateral angles of the pronotum, by the coarser sculpture of pronotum and elytra, with some interstriae bearing only one row of interstitial crenulations, and by the median row of coarse setae on each of the interstriae.

Male.—Length 3.0 mm. (paratypes 2.3-3.1 mm.), 1.7 times as long as wide, color very dark brown to black.

Frons similar to but much narrower than in *sulcifrons*; sculpture similar; vestiture above antennal bases much coarser than in *sulcifrons*. Scape bearing a rather large, dense tuft of dark hair.

Pronotum outline as in *sulcifrons*; surface less uniformly, more deeply punctured, some punctures toward base much larger than in *sulcifrons*; anterolateral asperities about twice as large as in *sulcifrons*, the vestiture at lateral margins coarser and longer.

Elytra 1.03 times as long as wide; striae strongly impressed, the punctures clearly indicated; interstriae distinctly less than twice as wide as striae, the punctures subrenulate on 2 and 3 to declivity, less distinctly so on 4 to 6, the crenulations uniseriate except somewhat biseriate at base of 2; interstriae narrower and more convex toward declivity. Declivity convex, moderately steep; interstriae narrower than on disc, each with a median, subserrate row of low tubercles. Vestiture consisting of a row of short, suberect bristles on each interstriae; each bristle not longer than a third the distance between rows; largely abraded on basal half; some fine hair also on sutural interstriae.

Female.—Similar to male except frons convex, foveate just above level of antennal insertion; tuft of hair on scape absent.

Type Locality.—Near Rincon, Osa Peninsula, Puntarenas Prov., Costa Rica.

Host.—*Ficus* sp.

Type Material.—The male holotype, female allotype, and 30 paratypes were collected at the type locality on August 11, 1966, near 30 m. elevation, No. 63, from a *Ficus* limb 15 cm. in diameter, by S. L. Wood.

The holotype, allotype, and paratypes are

in my collection.

Phloeotribus atavus, n. sp.

The large size, sculpture of the pronotum, and vestiture of pronotum and elytra serve to distinguish this species from all other representatives of the genus.

Female.—Length 3.6 mm. (paratypes 3.3-4.0 mm.), 2.0 times as long as wide; color very dark brown.

Frons shallowly, concavely impressed on lower two-thirds, the impression ending above in a small deep median fovea; lateral margins below antennal bases acute; surface rather coarsely reticulate above fovea, subreticulate to smooth below, the punctures small, deep, close; vestiture inconspicuous. Antennal club with segment 1 three times as wide as long, about as long as scape.

Pronotum 0.96 times as long as wide; widest at or just behind middle, sides rather strongly arcuate, converging very slightly anteriorly, rather strongly constricted just behind the rather broadly rounded anterior margin; surface completely devoid of asperities, reticulate, the punctures rather small, very close, deep; a faint median line weakly elevated; vestiture consisting of inconspicuous, very fine, short hair.

Elytra 1.4 times as long as wide, 1.8 times as long as pronotum; sides straight and parallel on basal two-thirds, broadly rounded and with apex rather narrowly extended on median third behind; striae narrowly impressed, the punctures rather obscure; interstriae twice as wide as striae, crenulate on basal half, some crenulations as wide as interspace, the elevations becoming narrower and uniseriate behind, some fine punctures also present; shining. Declivity rather steep, convex; striae impressed; interstriae convex, 1 slightly elevated on lower half, apical costal margin and posterior part of 9 also slightly elevated, each interspace with a row of small tubercles. Vestiture consisting of moderately sparse, small scales on posterior half of disc and on declivity, and sparse median interstitial rows of fine long hair, longest hairs equal in length to distance between rows and between adjacent hairs within a row.

Male.—Similar to female except frontal impression very slightly deeper and extending to upper level of eyes, the punctures larger, shallower; interspaces 1 and 2 on elytral declivity finely punctured and almost devoid of tubercles.

Type Locality.—Laguna Volcan Poas, Heredia Prov., Costa Rica.

Hosts.—*Clusia* sp. (type), and *Podocarpus oleifolius* (paratype).

Type Material.—The female holotype, male allotype, and 31 paratypes were collected at the type locality on October 6, 1963, at an elevation of about 2,700 m., by S. L. Wood, from a limb of *Clusia* about 25 cm in diameter. Three paratypes bear the same data but were taken July 14, 1963, from a *Podocarpus* root buttress. The egg tunnels were biramous, transverse, and almost entirely in the phloem. The species is aggressive; some specimens were attacking healthy living tissue, and it appeared to have killed several *Clusia* trees in the area.

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

Phloeotribus hystrix, n. sp.

This species evidently is allied to *discrepans* Blandford, although not closely related. It is distinguished by the more deeply striate elytra, by the more nearly scalelike vestiture, and by the declivital armature.

Male.—Length 1.7 mm. (paratypes 1.7-2.0 mm.), 2.1 times as long as wide; color brown.

Frons very shallowly concave below upper level of eyes, sides weakly elevated and armed at level of antennal insertion by a pair of small tubercles; surface coarsely reticulate, the punctures small, obscure; vestiture sparse, moderately long, coarse. Antennal club with segment 1 three times as wide as long.

Pronotum 0.9 times as long as wide; widest on basal half, the sides weakly arcuate, almost parallel on basal half, then converging to constriction just behind broadly rounded anterior margin; surface coarsely, deeply, closely, irregularly punctured, anterior and lateral areas subgranulate or even very finely asperate; vestiture short, stout, abundant, almost scalelike.

Elytra 1.4 times as long as wide, 1.7 times as long as pronotum; sides almost straight and parallel on basal three-fourths, obtusely angulate behind, with lateral declivital spines interrupting the profile; striae sharply impressed, the punctures large, deep, distinct; interstriae distinctly narrower than striae, irregular, each with a median row of fine setiferous granules and additional subgranulate setiferous punctures on each side. Declivity steep, convex; interspace 1 weakly elevated, 5 with two, 7 with three, 9 with five large pointed tubercles, the posterior most one on each interspace longer, 9 elevated slightly to final spine; costal margin near apex slightly elevated. Vestiture consisting of rather abundant interstitial subsquamose bristles, short except median row twice as long, erect; equally abundant on disc and declivity.

Female.—Similar to male except frons weakly convex, unarmed; pronotum more nearly asperate in lateral areas.

Type Locality.—Rio Damitas in the Dota Mountains, San José Prov., Costa Rica.

Type Material.—The male holotype, female allotype, and 20 paratypes were collected at the type locality on February 18, 1964, at an elevation of about 250 m., by S. L. Wood, from the phloem tissues in a stump of a broken unidentified tree 15 cm. in diameter.

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

Phloeotribus opimus, n. sp.

As in *demessus* Blandford, except smaller, the basal margin of the pronotum straight, and the discal interstriae smooth and shining except for the uniseriate granules.

Male.—Length 1.4 mm. (paratypes 1.4-1.8 mm.), 1.8 times as long as wide; color dark brown, almost black, with light vestiture.

Frons deeply excavated from upper level of eyes to epistoma, deepest near center, the lateral margins acute from middle to antennal bases; surface rather coarsely reticulate; vestiture largely confined to marginal areas. Antennal scape long, ornamented by a tuft of long

yellowish hair. Segment 1 of antennal club three times as wide as long.

Pronotum 0.8 times as long as wide; widest one-third length from base, sides rather strongly arcuate, anterior constriction weak, rather broadly rounded in front; surface coarsely, deeply punctured, spaces between punctures almost smooth, subshining, less than half the width of a puncture, with a small rounded, setiferous granule on anterior margin of each puncture; vestiture consisting of short, stout, whitish bristles.

Elytra 1.1 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel on basal two-thirds, broadly rounded behind; single row of crenulations at elytral base high, coarse; striae slightly impressed, the punctures coarse, deep; interstriae convex, narrower than striae, armed by a row of small setiferous tubercles. Declivity steep, convex; striae somewhat narrower and deeper, interspace 9 weakly elevated, more coarsely serrate. Vestiture consisting of uniseriate rows of suberect, flattened bristles, each bristle separated in its own row by distances equal to its own length, and from adjacent rows by distances about equal to one and one-half times its own length.

Female.—Similar to male except frons convex, the lateral margins rounded; and antennal scape without tuft of hair.

Type Locality.—Zamorano, Morazan, Honduras.

Hosts.—*Ficus glabrata* (type), *Ficus* spp. (paratypes), *Celtis iguanae* (paratype), and *Serjania triquetra* (paratype).

Type Material.—The male holotype, female allotype, and 39 paratypes were taken at the type locality on April 18, 1964, at an elevation of 700 m., by S. L. Wood, from the phloem tissues of twigs of *Ficus glabrata*; 35 paratypes bear identical data but were taken from *Serjania triquetra*; 1 bears the same data but is from *Celtis iguanae*; 16 paratypes were collected at the lower Rio Tempisque, Guanacaste Prov., Costa Rica, on March 25, 1964, at 15 m. elevation from *Ficus* twigs; 1 paratype is from Rio Damitas in the Dota Mountains, San José Prov., Costa Rica, taken on February 18, 1964, 200 m. elevation, from an unknown branch; and 1 paratype is from Palin, Esquintla Prov., Guatemala, taken on May 19, 1964, at 300 m. elevation, from a *Ficus* twig; all were collected by S. L. Wood.

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

Phloeotribus squamatus, n. sp.

This unique species is distinguished from other species in the genus by the small size, by the unarmed pronotum, by the short, squamose vestiture, by the shallowly impressed male frons, and by other characters.

Male.—Length 1.25 mm. (allotype 1.3 mm.), 2.1 times as long as wide; color black, with white squamose vestiture.

Frons shallowly concave from upper level of eyes to epistoma, the lateral margins not acutely elevated

or armed; epistomal margin weakly elevated, and with a median tubercle; surface coarsely reticulate; vestiture inconspicuous, mostly confined to marginal areas. Antennal club small, compact; segment 1 about 1.5 times as wide as long.

Pronotum 0.8 times as long as wide; widest just behind middle, sides moderately arcuate, moderately constricted just behind the rather narrowly rounded anterior margin; surface rather coarsely reticulate including the punctures, with close, coarse, shallow punctures; vestiture consisting of suberect, short, stout, almost scalelike bristles, most of them about three times as long as wide.

Elytra 1.4 times as long as wide, 1.9 times as long as pronotum; crenulations of elytral base coarse, rather high, forming a single row; striae weakly impressed, the punctures large, rather deep; interstriae about half as wide as striae, almost restricted to a narrow row of closely set, subvulcanate, squamiferous punctures. Declivity rather steep, convex; striae somewhat narrower and deeper than on disc. Vestiture consisting of uniseriate rows of erect interstitial scales, each scale less than twice as long as wide; separated from adjacent scales in the same row by distances equal to less than the width of a scale, and between rows by distances equal to almost twice the length of a scale.

Female.—Similar to male except frons convex, the median epistomal tubercle absent; vestiture of pronotum and elytra very slightly more slender.

Type Locality.—Tapanti, Cartago Prov., Costa Rica.

Type Material.—The male holotype and female allotype were collected at the type locality on July 8, 1963, at an elevation of 1,300 m., by S. L. Wood, from a dying tree that bore fruiting pods.

The holotype and allotype are in my collection.

Chaetophloeus phorodendri, n. sp.

This species has the same arrangement of crenulations at the base of the elytra as *braziliensis* (Blackman), but it differs by the much larger size, by the reduction of elytral striae, by the very different vestiture and by other characters.

Male.—Length 1.8 mm. (paratypes 1.5-2.0 mm.), 1.4 times as long as wide; color black, vestiture cinereous.

Frons broadly, deeply concave from vertex to the broadly emarginate epistomal margin, and from eye to eye; surface granulate-reticulate; vestiture sparse in concavity, a few erect gray setae along sides below eye, margin above eyes ornamented by a row of long reddish hair many of which reach mandibles; mandibles each with an anterior extension half as large as mandible. Antennal club about as in *braziliensis*.

Pronotum 0.53 times as long as wide; widest at base, strongly arcuately converging to the broadly rounded anterior margin; surface reticulate, with small, rather close setiferous punctures; lateral areas armed by two groups of asperities; vestiture consisting of mixed slender and stout, short bristles and a few bifid hairs in lateral areas.

Elytra 1.1 times as long as wide, 2.1 times as long as pronotum; anterior margins armed by six pairs of crenulations, the median pair twice as wide as others, an additional submarginal pair at base of interspace 1;

striae reduced, obscure, the punctures only slightly larger than those of interspaces; interspaces wide, flattened, with numerous punctures variable in size. Declivity steep, convex. Vestiture consisting of short, rather abundant, slender scales, and median rows of erect interstitial scales, each scale about three times as long as wide, separated from other scales in same row by distances equal to length of scale and between rows by one and one-half times length of a scale.

Female.—Similar to male except frons flattened, with a small median impression, frontal vestiture short, not specialized; pronotum armed by three paired groups of asperities.

Type Locality.—Zamorano, Morazan, Honduras.

Host.—*Phoradendron robustissimum* (type), and *Phoradendron* sp. (paratypes).

Type Material.—The male holotype, female allotype, and 40 paratypes were collected at the type locality on April 18, 1964, at an elevation of 700 m., by S. L. Wood, from twigs of the above mistletoe; 4 paratypes were taken at Cañas, Guanacaste Prov., Costa Rica, on April 10, 1966, from *Phoradendron* twigs; one paratype was taken 20 km. southeast of Liberia, Guanacaste Prov., Costa Rica, on July 10, 1966, from *Phoradendron* twigs; all were collected by S. L. Wood.

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

Liparthrum americanum, n. sp.

This species is allied to *squamosum* (Blackman), but is readily distinguished by the much smaller, more strongly impressed elytral striae, and by the broadly concave male frons.

Male.—Length 0.8 mm., about 2.1 times as long as wide; color rather light brown.

Frons shallowly concave almost from eye to eye and from vertex to epistoma; surface reticulate; vestiture largely confined to impressed area, consisting of very fine, minute, abundant, pilose hair of uniform length.

Pronotum 0.8 times as long as wide; widest one-third from base, sides moderately arcuate, rather narrowly rounded in front; surface obscured by vestiture, evidently minutely subgranulate and with small setiferous granules uniformly distributed; vestiture consisting of stout recumbent bristles and erect broad scales in about equal numbers.

Elytra 1.3 times as long as wide, 1.7 times as long as pronotum; sides straight and parallel on basal two-thirds, rather broadly rounded behind; bases armed by six pairs of crenulations between striae 4; striae not impressed, the punctures rather large, deep; interstriae almost as wide as striae, weakly convex, the moderately large, setiferous punctures uniseriate, feeble granulate on anterior side. Declivity steep convex; striae and interstriae somewhat narrower than on disc. Vestiture consisting of striae rows of short recumbent, stout hair, and interstitial rows of erect, broad scales, each scale almost as wide as long.

Type Locality.—The lower Rio Tempisque, Guanacaste Prov., Costa Rica.

Host.—*Ficus* sp.

Type Material.—The unique male holotype was collected at the type locality on March 25, 1964, at an elevation of about 20 m., by S. L. Wood, from small branches of the common narrow leafed fig that grew near the river.

The holotype is in my collection.

A second specimen, tentatively assigned to this species, possible the female, is identical to the type except the frons is less deeply, less extensively impressed and the pilose vestiture is not evident. It was taken at Dominical, Puntarenas Prov., Costa Rica, on December 9, 1963, from an unidentified branch.

Liparthrum cracentis, n. sp.

This species is allied to the four previously described American species but it may be distinguished by the small size, by the more slender body form, by the poorly developed female frontal vestiture, and by the narrower elytral scales.

Female.—Length 0.8 mm. (paratypes 0.75-0.85 mm.), 2.2 times as long as wide; color brown.

Frons moderately convex, slightly impressed just above epistomal margin; surface rather coarsely reticulate; vestiture sparse, more conspicuous toward epistoma, consisting of stout, subplumose setae. Eye and antenna as in allied species.

Pronotum 0.81 times as long as wide; widest on basal third, sides weakly arcuate from base, converging on anterior half to the broadly rounded anterior margin; surface shining, feebly subreticulate, the obscure, setiferous punctures rather close, their anterior margins very finely asperate. Vestiture consisting of truncate, subtriangular scales, each about one and one-half times as long as wide, and equally abundant stout hairlike setae, each about one and one-half times as long as scales.

Elytra 1.6 times as long as wide, 1.96 times as long as pronotum; basal margins armed by five pairs of crenulations between interstriae 4; striae not impressed, the punctures coarse, rather deep; interstriae about half as wide as striae, the punctures fine, uniseriate, evidently not granulate. Declivity rather steep, convex; sculpture about as on disc. Vestiture consisting of strial rows of bristles equal in length to scales in interstitial rows; each scale almost as wide as a strial puncture and slightly longer than wide.

Male.—Similar to female except pronotum bearing a pair of small, median tubercles on anterior margin and a smaller submarginal pair about one-fourth pronotum length from anterior margin.

Type Locality.—Twenty-nine km. west Niltipee, Oaxaca, Mexico.

Type Material.—The female holotype, male allotype, and 29 paratypes were collected at the type locality on June 23, 1967, at about 30 m. elevation, by S. L. Wood, from the phloem of small twigs of a small tree having narrow, thick, waxy, simple leaves. The identification of the host is not yet available.

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

Cnemonyx nitens, n. sp.

Evidently allied to *atratus* (Blandford), but distinguished by the more extensive frontal impression of the male, by the elongate pronotal punctures and minutely, longitudinally strigose pronotal surface, and by the coarser interstitial punctures of the elytra.

Male.—Length 2.5 mm. (paratypes 2.0-2.5 mm.), 2.1 times as long as wide; color almost black.

Frons shallowly concave on median half from upper level of eyes to epistoma; surface reticulate above, the punctures rather coarse, deep, close, becoming finer and closer below in concave area; vestiture short and rather abundant in concave area, longer at sides of this area, evidently glabrous elsewhere. Antennal club subtriangular, finely, closely covered by hairlike pubescence; sutures not evident.

Pronotum 1.0 times as long as wide; widest at base, sides weakly arcuate and converging slightly to the slight constriction just behind the broadly rounded anterior margin; surface shining, shallowly etched by minute, longitudinally strigose lines, becoming reticulate anteriorly, the punctures fine and elongate posteriorly, almost round and larger anteriorly and laterally; glabrous.

Elytra 1.2 times as long as wide, 1.3 times as long as pronotum; sides straight and parallel on basal half, then arcuately converging to the rather narrowly rounded, suturally subemarginate, posterior margin; striae 1 weakly, others feebly impressed, the punctures rather small, deep, close; interstriae smooth, shining, about twice as wide as striae, the punctures about half as large as those of striae, uniseriate behind, moderately confused on anterior half of disc; elytral bases with fine raised line; base of interspace 1 not depressed; scutellum small, as wide as long, almost flush with elytral surface. Declivity moderately steep, convex; striae and interstriae narrower than on disc, the striae narrowly impressed; interstriae moderately, broadly convex, shining except sutural half of 1 dull, the punctures uniseriate. Vestiture confined to declivity, consisting of sparse minute, short, suberect scales arising from interstitial punctures.

Female.—Similar to male except frons flattened, the vestiture reduced; strigose lines on pronotum rather obscure; interstitial punctures on elytral disc not as confused; and surface of declivity less brightly shining.

Type Locality.—Puerto Viejo, Heredia Prov., Costa Rica.

Type Material.—The male holotype, female allotype, and 34 paratypes were collected at the type locality on March 12, 1964, at an elevation of about 70 m., by S. L. Wood, from bark of the limb of a fallen tree.

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

Cnemonyx insignis, n. sp.

This species evidently is allied to *panamensis* (Blandford), but is distinguished by the larger size, by the procurved epistomal carina, and by other characters.

Male.—Length 3.5 mm. (paratypes 3.5-3.9 mm.), 2.0 times as long as wide; color dark brown.

Frons shallowly concave on median two-thirds from upper level of eyes to epistoma; surface reticulate-gran-

late, and closely, deeply, rather coarsely punctured in concave area, shallowly, less closely punctured above; slightly less than median half of epistoma armed by an elevated, procurved, transverse carina; vestiture confined to concavity, consisting of short, erect, rather abundant, dark hair.

Pronotum 0.9 times as long as wide; widest at base, the sides weakly arcuate and converging toward the rather broadly rounded anterior margin; surface smooth and shining on posterior three-fourths, with minute points and fine punctures, anterior fourth rather coarsely subreticulate, dull, faintly, longitudinally etched in lateral areas, the punctures very slightly larger in anterior area, much larger laterally; glabrous.

Elytra 1.1 times as long as wide, 1.2 times as long as pronotum; scutellum as wide as long, not depressed; basal margins of elytra with an irregular raised line; outline as for *nitens*, above; striae rather strongly impressed, the punctures fine, shallow, distinct; interstriae smooth, shining, at least twice as wide as striae, moderately convex at base, becoming rather narrowly costiform by declivital base, the punctures fine and uniseriate behind, confused toward base. Declivity moderately steep, convex; striae broadly impressed, the fine shallow punctures evident; interstriae narrowly, acutely, subserrately elevated; striae and interstriae minutely reticulate-granulate; costal margin rather coarsely serrate. Rows of very minute interstitial scales evident on declivity.

Female.—Presumably the female is represented by specimens having the frons less strongly impressed, but otherwise similar to the male.

Type Locality.—Moravia, Cartago Prov., Costa Rica.

Type Material.—The male holotype, female allotype, and 5 paratypes were taken at the type locality on March 11, 1964, at an elevation of about 500 m., by S. L. Wood, as dead specimens under loose bark of an unidentified log about 40 cm. in diameter.

The holotype, allotype and paratypes are in my collection.

Cnemonyx opacus, n. sp.

This species, at least superficially, resembles *insignis* Wood, above, but is easily distinguished by the smaller size, by the narrow frontal carina, by the much more extensively granulate elytra, and by characters mentioned in the key. However, the antennal club has an entirely different shape and has three strongly procurved sutures clearly marked by rows of setae suggesting that the relationship is superficial at best.

Male.—Length 2.2 mm. (paratypes 2.0-2.5 mm.), 2.2 times as long as wide; color dark brown.

Frons shallowly concave on median half from upper level of eyes almost to epistoma, the surface closely, deeply, rather coarsely punctured; median fourth of epistoma bearing a strongly elevated, procurved, transverse carina; vestiture consisting of short, erect, rather abundant, stout hair in concave area. Antennal funicle with inner angle of segments projecting and bearing tufts of long yellow hair; club obovate, longer than wide, with three strongly procurved sutures conspicuously marked by rows of closely set setae.

Pronotum about as wide as long; widest on basal third, the sides rather weakly arcuate and converging to the weak, transverse constriction just behind the rather narrowly rounded anterior margin; surface smooth and shining behind, becoming reticulate anteriorly and toward lateral margins, the punctures rather coarse, deep, close, somewhat larger in lateral areas; glabrous.

Elytra 1.2 times as long as wide, 1.3 times as long as pronotum; sides straight and parallel on more than basal half, rather narrowly rounded behind; scutellum very small, rounded, not depressed; basal margins of elytra marked by a fine, irregular, raised line; striae impressed, the punctures rather large, deep, clearly impressed in basal area, obscure behind; interstriae convex, finely, completely granulate (including striae) posteriorly, coarsely punctured on basal third of disc. Declivity moderately steep, convex, striae deeply impressed, the punctures obscure; interstriae narrow, strongly convex, minutely granulate, finely subserrate; interspace 9 moderately elevated, continuing to apex, highest at junction with 3. Vestiture confined to declivity, consisting of uniseriate rows of minute interstitial scales.

Female.—Similar to male except frons less strongly impressed, almost flat.

Type Locality.—Playa del Coco, Guanacaste, Costa Rica.

Host.—*Hippomane mancinella*.

Type material.—The male holotype, female allotype, and 64 paratypes were collected at the type locality on October 18, 1963, at sea level, by S. L. Wood, from the bark of the above host tree. This aggressive species constructs biramous, transverse, egg tunnels in the bole and branches of the host tree. Adult and the irregular larval tunnels were almost entirely in the phloem tissues.

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

Cnemonyx gracilens, n. sp.

This species is very closely related to *exilis* Wood, but it may be distinguished by the smaller size, by the more broadly impressed frons with the epistomal carina higher, by the less numerous, more nearly oval pronotal punctures, and by the shorter, finer, less strongly flattened elytral setae.

Male.—Length 1.3 mm. (paratypes 1.2-1.4 mm.), 2.6 times as long as wide; color dark brown.

Frons as in *exilis* but more broadly planoconcave, the transverse epistomal carina less procurved, slightly higher, occupying at least two-thirds width of epistomal margin; pubescence perhaps a little more abundant.

Pronotum 1.09 times as long as wide; punctures distinctly less numerous than in *exilis*, each about one and one-half times as long as wide. Glabrous.

Elytra 1.6 times as long as wide, 1.5 times as long as pronotum; as in *exilis* interstitial bristles on declivity much shorter, very weakly or not at all flattened, narrower, not increasing in width apically.

Female.—Similar to male except frons less strongly impressed.

Type Locality.—Fifty-seven km. southeast of

El Cameron, Oaxaca, Mexico.

Type Material.—The male holotype, female allotype, and 98 paratypes were collected at the type locality on June 22, 1967, No. 81, by S. L. Wood. Specimens were taken from phloem tissues of twigs of a small tree that had peeling bark, thin simple leaves, and abundant white latex; a sample awaits identification.

The holotype, allotype and paratypes are in my collection.

Cnemomyx recavus, n. sp.

This species is allied to *impressus* Wood, but it is readily distinguished by the larger size, by the much more strongly impressed frons and by the dull pronotal surface.

Male.—Length 1.7 mm. (paratypes 1.5-1.8 mm.), 2.1 times as long as wide; color dark reddish brown.

Frons broadly, rather deeply concave from just below upper level of eyes to epistomal margin; concavity densely pubescent, the setae moderately, uniformly long; surface of marginal areas and above coarsely reticulate, with fine, close punctures; surface in concavity obscured by pubescence. Scape short; funicle bearing a dense tuft of long hair; club obovate, with three strongly procurved sutures marked by setae, 1 extending almost two-thirds club length from base.

Pronotum 0.92 times as long as wide; basal margin bisinuate, marked by a fine, raised line; widest at base, accurately converging to a slight constriction just before the broadly rounded anterior margin; surface dull, minutely, longitudinally etched, the punctures fine, oval, close, moderately deep. Glabrous.

Elytra 1.2 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on slightly more than basal half, rather narrowly rounded behind; basal margins indistinctly raised along a fine line; striae impressed, the punctures fine, distinctly impressed; interstriae almost twice as wide as striae, convex, dull, each with a uniseriate (confused on 2) row of fine, short, transverse crenulations, the puncture posterior to each crenulation fine, obscure. Declivity convex, moderately steep; about as on declivity, with interstriae 9 weakly elevated and more coarsely tuberculate, 10 with a row of fine tubercles posteriorly. Vestiture confined to declivity, consisting of interstitial rows of very short, flattened bristles each about twice as long as wide.

Female.—Similar to male except frons very slightly less strongly impressed.

Type Locality.—Forty-eight km. east of Tehuantepec, Oaxaca, Mexico.

Type Material.—The male holotype, female allotype, and 87 paratypes were collected at the type locality on June 22, 1967, 120 m., No. 84, by S. L. Wood. The host was a small tree with simple leaves; a sample awaits identification.

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

A series taken from "Leche Sillo," 16 km. northwest of Acatlan, Puebla, Mexico, June 15, 1967, 1,700 m., No. 36, by S. L. Wood, not designated as paratypes, have the posterior half of the pronotum smooth and shining, and the punctures

behind the interstitial crenulations are more conspicuous. The series overlap in these characters to such an extent that geographical races cannot be designated.

Camptocerus infidelis, n. sp.

This species is allied to *auricomus* Blandford, but is not closely related. It differs in the female by the more strongly convex frons above, and narrower below, by the much less closely punctured pronotum, by the more sparsely punctured elytra, by the near absence of elytral scales, by the smaller size, and by other characters.

Female.—Length 2.7 mm. (paratypes 3.2 mm.), 2.0 times as long as wide; color black.

Frons rather strongly convex above, more nearly flattened below, with a distinct, transverse impression just above epistomal margin; surface rather coarsely reticulate and with rather abundant, shallow, indefinite punctures; vestiture sparse, inconspicuous. Antenna essentially as in *auricomus*.

Pronotum 0.98 times as long as wide; widest near base, sides rather weakly arcuate and converging slightly to the rather strongly rounded anterior angles, broadly rounded in front; surface minutely reticulate and dull on anterior half, almost smooth and subsining behind; the punctures minute, sharply impressed, separated by distances equal to two or more diameters of a puncture; glabrous.

Elytra 1.2 times as long as wide, 1.3 times as long as pronotum; widest at base, the sides converging posteriorly to the narrow, subemarginate posterior margin; striae not impressed, the punctures small, shallow, rather widely spaced; interstriae twice as wide as striae, shining, somewhat irregular, very sparsely punctured, the shallow punctures almost as large as those of striae. Declivity gradual, convex; striae weakly impressed. Vestiture consisting of very sparse interstitial scales on sides and declivity.

Male.—Not represented in the material at hand.

Type Locality.—Peralta, Cartago Prov., Costa Rica.

Type Material.—The female holotype and one female paratype were collected at the type locality on March 10, 1964, at an elevation of about 500 m., by S. L. Wood, from a dead tree seedling 1 cm. in diameter. The egg tunnel followed the central axis of the host for several centimeters, the larval cradles extended into the wood at an acute angle to the central axis. Two adult females and small larvae were in the only tunnel found.

Both specimens are in my collection.

Scolytus nodatus, n. sp.

Fig. 1

In the American *Scolytus* fauna this species is unique. The female abdominal sternae are unarmed; in the male sternum 2 is armed by a large median tooth, 4 is armed by a large, median, rounded knob, and the lateral margins of 2 and 3 are each armed by a pair of small teeth; the frons is convergently aciculate and pubescent in

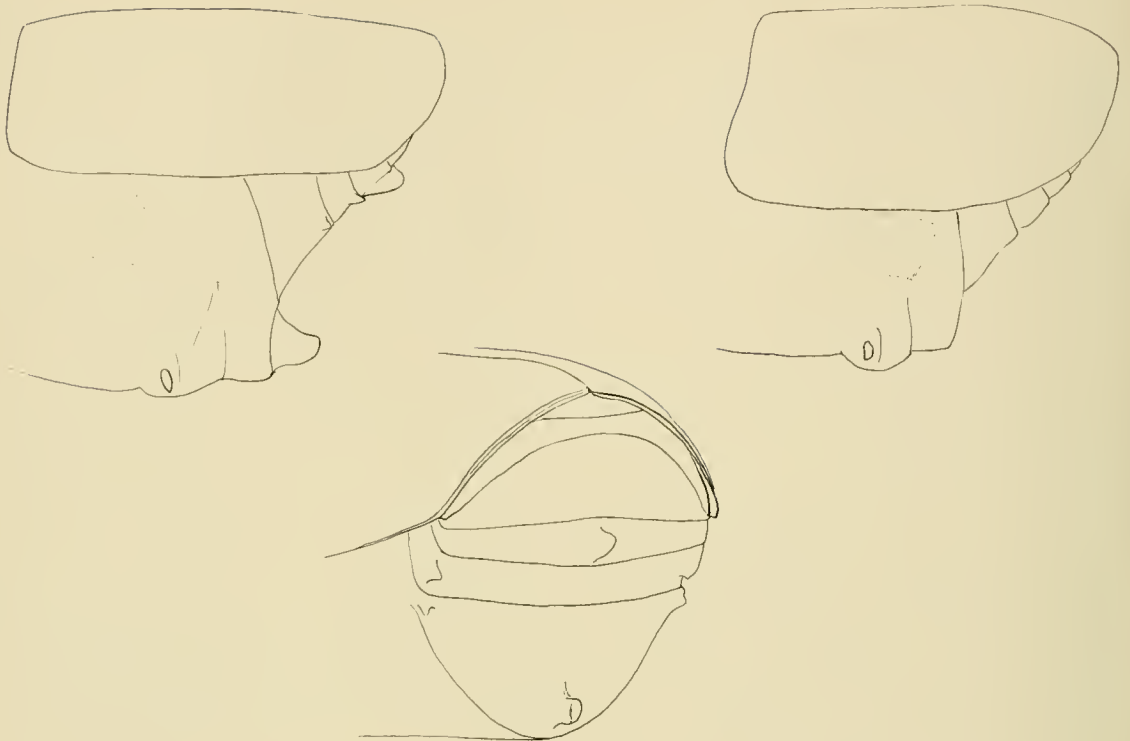


Fig. 1. *Scolytus nodatus* abdomen and elytra: male at upper left and below; female at upper right.

both sexes, it is devoid of tubercles in both sexes.

Male.—Length 3.8 mm. (paratypes 3.1-3.8 mm.), 2.0 times as long as wide; color dark brown, anterior margin of thorax, bases and apices of elytra may be reddish.

Frons weakly convex; surface coarsely, somewhat convergently strigose toward the shallowly, broadly emarginate epistomal margin; punctures not evident; vestiture consisting of fine, rather long, moderately abundant hair. Eye emarginate; very finely granulate. Antennal club 2.0 times as long as wide; sutures not evident, very finely, closely pubescent.

Pronotum equal in length and width; widest at base, the sides moderately arcuate and converging to distinct constriction just behind broadly rounded anterior margin; surface smooth, brightly shining, the punctures rather small, deep, oval, larger in lateral and anterior areas; glabrous on disc, sparse hair at sides and in front.

Elytra 1.1 times as long as wide, 1.1 times as long as pronotum; sides straight and parallel on basal half, converging slightly behind to the broadly rounded posterolateral angles, almost straight on median half; posterior margin smooth, striae and interstriae moderately impressed, the punctures small, rather deep, those of striae very slightly larger; elytra descending very slightly near posterior margin; vestiture confined to scutellar impression. Sternum 2 ascending sharply, the margin not produced, armed by a laterally compressed, median spine, its base extending from anterior margin to middle of segment, longitudinal length of base and height of spine about equal; sternum 4 armed by a large, rounded tubercle, 2 and 3 each armed at lateral margins by a pair of small teeth; surface finely, obscurely punctured, dull except anterior half of 2 shining; pubescence sparse, hairlike.

Female.—Similar to male except frons more nearly flat; all abdominal sterna unarmed.

Type Locality.—Santa Ana, San José Prov., Costa Rica.

Type Material.—The male holotype, female allotype, and 4 paratypes were taken at the type locality on November 8, 1963, at an elevation of 1,300 m., by S. L. Wood, from the limb of an unidentified tree. Nineteen other paratypes were collected at Fort Clayton, Panama Canal Zone, on December 22, 1963, at an elevation of 30 m., by S. L. Wood, from a large, woody vine (liana) about 5 cm. in diameter.

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

Scolytus cristatus, n. sp.

Fig. 2

This species does not appear to be closely related to any known Neotropical representative of the genus. The frons of both sexes is convex, convergently strigose, with a very fine, low, long, median, subcarinate ridge, and in the male moderately abundant, uniformly distributed, long, frontal hair; the second abdominal sternum ascends rather abruptly, not sharply, and is armed by a high, narrow carina on anterior two-thirds, its highest point near its posterior extremity.



Fig. 2.

Scolytus cristatus posterolateral aspect of male abdomen.

Male.—Length 2.4 mm. (paratypes 2.3-2.7 mm.), 2.0 times as long as wide; color reddish-brown (mature paratypes dark reddish-brown).

Frons convex, somewhat flattened below; surface convergently strigose, the grooves usually wider than the ridges, the median ridge higher, subcarinate, extending from epistomal margin almost to upper level of eyes; vestiture fine, long, rather abundant, uniformly distributed.

Pronotum very slightly wider than long; widest on basal third, sides moderately arcuate and converging slightly to constriction just behind the broadly rounded anterior margin; surface smooth, shining, with some very minute points and rather widely separated, moderately small, deep, oval punctures, the punctures larger in lateral areas and in front; glabrous.

Elytra 1.1 times as long as wide, 1.2 times as long as pronotum; striae and interstriae strongly, equally impressed, the punctures moderately large, shallow, the ridges between rows of punctures smooth, shining, convex, almost as wide as grooves; declivity descending slightly; a few scattered, slender scales on declivity. Venter with sternum 2 ascending abruptly, not sharply, armed by a median, laterally compressed, rather high elevation extending from near anterior margin of segment two-thirds of its length, highest point on elevation near its posterior limits; sternum 2 very coarsely, shallowly punctured, the surface within each puncture reticulate, the interspaces subreticulate; sternum 3 with one row of punctures, 4 and 5 not clearly punctured, dull.

Female.—Similar to male except frons subglabrous; carinate armature of sternum 2 not as high, occupying middle third of length of segment.

Type Locality.—Lower Rio Tempisque, Guanacaste Prov., Costa Rica.

Type Material.—The male holotype, female allotype, and 29 paratypes were collected at the type locality on March 25, 1964, at an elevation of about 20 m., by S. L. Wood, from the bark of an unidentified broken branch. The transverse, biramous egg tunnels engraved the wood rather deeply; larvae were not present.

A series of this species, not included in the type series, was collected 8 km. south of Atenquique, Jalisco, Mexico, on June 25, 1965, from an unidentified woody vine (liana).

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

Microborus limatus, n. sp.

This species differs from all previously described representatives of this genus by the more

narrowly rounded (subangulate) posterior margin of the elytra, by the more gradual elytral declivity, and, particularly, by the brightly shining subglabrous elytral surface with the sparse, declivital, hairlike setae that are separated from one another by one to two or more times the length of a seta.

Male.—Length 1.4 mm. (paratypes 1.3-1.5 mm.), 2.7 times as long as wide; body color dark brown, elytra medium brown.

Frons narrow and feebly convex between eyes, protruding very slightly just above antennal bases; surface smooth and polished, with a few scattered, minute punctures; almost glabrous. Eyes very large, almost touching below; anterior margin very broadly emarginate; very coarsely faceted. Antennal scape short, about twice as long as pedicel; funicle 6-segmented; club subglobular, sutures obscurely marked by rows of setae.

Pronotum 1.25 times as long as wide; sides almost straight and parallel on basal three-fourths, rather broadly rounded in front; anterior angles not narrowed; surface shining, weakly reticulate, the punctures rather small and shallow, separated from one another by one to two diameters; glabrous.

Elytra 1.9 times as long as wide; sides almost straight and parallel on basal three-fourths, narrowly (subangulately) rounded behind; striae 1 moderately, 2 weakly impressed, narrow, the punctures small, separated by distances equal to their own diameters; interstriae distinctly wider than striae, smooth, brightly shining, each with a sparse row of minute punctures. Declivity rather steep, not precipitous; striae and interstriae about as on disc, except interstitial punctures very finely granulate; interspaces 7 and 9 acutely elevated from declivital base to point of fusion, the acute elevation continuing to apex. Vestiture short, sparse, almost entirely restricted to declivity; each hairlike seta about equal to half the width of an interspace, and separated from one another by about one and one-half to two times the length of a setae.

Female.—Similar to male except more finely sculptured; the declivital granules scarcely visible.

Type Locality.—Finca Gromaco on Rio Coto Brus (34 km. from mouth), Puntarenas Prov., Costa Rica.

Type Material.—The male holotype, female allotype, and 11 paratypes were taken at the type locality on July 14, 1963, at an elevation of about 500 m., by S. L. Wood, from the phloem tissues of a large limb of an unknown tree that had been cut at the margin of the jungle.

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

Microborus ambitus, n. sp.

This species is closely related to *limatus* Wood, described above, but it may be distinguished by the slightly deeper pronotal punctures, by the impressed, much more coarsely punctured declivital striae, and by the fine interstitial granules on the declivity.

Female.—Length 1.3 mm. (paratypes 1.3-1.4 mm.), 2.9 times as long as wide; color of head and pronotum very dark brown, posterior areas and legs reddish brown.

Head, pronotum, and elytral disc as in *limatus* except, as noted above, the pronotal punctures slightly deeper. Elytral declivity convex, steep; striae slightly impressed, the punctures coarse, deep; interstriae slightly narrower than striae, very slightly convex, each bearing a uniseriate row of fine granules; interstriae 7 very acutely, strongly elevated, joining 9 and continuing but declining in height slightly along costal margin to sutural apex, 9 narrowly, not strongly elevated from level of hind coxae to junction with 7. Vestiture confined to declivity, consisting of interstitial rows of fine, short, almost hairlike bristles.

Male.—Although both sexes are probably represented in the series sexual differences are not apparent.

Type Locality.—Twenty-five km. east of Coatzacoalcos, Veracruz, Mexico.

Type Material.—The female holotype and two paratypes were collected at the type locality on June 26, 1967, 30 m., No. 110, by S. L. Wood. Three paratypes were taken 22 km. west of Cardenas, Tabasco, Mexico on June 26, 1967, 30 m., No. 106, by S. L. Wood. Both series were taken from phloem tissues of limbs and bole 10-20 cm. in diameter of the same unidentifiable species of cut tree.

The holotype and paratypes are in my collection.

Scolytodes (s. str.) clusiae, n. sp.

Evidently not closely related to previously known species. It has interstriae 10 ending before level of metacoxae, the protibiae armed by a small tooth on posterior face just before tarsal insertion and between terminal mucro and first or second marginal tooth; female frons broadly, shallowly concave.

Female.—Length 1.8 mm. (paratypes 1.7-1.9 mm.), 2.4 times as long as wide; color black.

Frons broadly, shallowly concave from upper level of eyes to level of antennal insertion; surface closely, deeply, somewhat coarsely punctured over entire frontal area in and out of concavity; median epistomal lobe conspicuous, broad, short, continuous with surface of frons; vestiture very fine, not abundant, longer above, not evident along epistoma.

Pronotum 1.0 times as long as wide; widest at base, very slightly constricted one-third from base, weakly arcuate on anterior half then broadly rounded in front; surface reticulate, with fine, obscure, rather widely spaced punctures on posterior half, equally fine sparse, minute granules on anterior third; almost glabrous.

Elytra 1.4 times as long as wide, 1.7 times as long as pronotum; widest one-third from base, the sides feebly arcuate, abruptly rounded at declivital base, narrowly rounded behind; striae not impressed, the punctures very small, not deep; interstriae about twice as wide as striae, shining, irregular due to obscure surface lines, the punctures not evident. Declivity convex, rather steep; striae 1 weakly impressed above, the punctures on all striae obscurely indicated. Vestiture consisting of a few rather short hairs and, on lower half, more numerous, very short, semirecumbent hair.

Male.—Similar to female except frons rather strongly convex, finely, obscurely punctured, surface reticulate, vestiture sparse, short, inconspicuous; striae punctures rather obscure.

Type Locality.—Summit of Volcan Poas, Heredia Prov., Costa Rica.

Host.—*Clusia* sp.

Type Material.—The female holotype, male allotype, and 16 paratypes were collected at the type locality on August 19, 1966, by S. L. Wood, from green phloem of dying twigs of the common *Clusia* tree in the area.

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

Scolytodes (s. str.) volcanus, n. sp.

Closely related to *clusiae* Wood, described above, but smaller, the small tooth on posterior face of protibiae absent, the striae punctures larger, and the female frons more narrowly impressed to vertex.

Female.—Length 1.3 mm. (paratypes 1.2-1.4 mm.), 2.3 times as long as wide; color very dark brown, almost black.

Frons narrowly, shallowly concave from epistomal margin to above upper level of eyes; surface finely, shallowly but distinctly, densely punctate, epistomal lobe mostly shining; vestiture largely confined to margin of impressed area, fine, short below, somewhat longer above, moderately abundant, minute in concavity.

Pronotum 1.1 times as long as wide; sides almost straight and parallel on basal half, then somewhat arcuate and rather narrowly rounded in front; surface reticulate, the punctures fine, sparse, rather obscure, devoid of granules; glabrous.

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 wider than striae, shining, with very few lines, the punctures obscure, mostly obliterated. Declivity rather steep, convex; an occasional deep, interstitial puncture present; shining. Glabrous.

Male.—Similar to female except frons convex, reticulate, obscurely punctured, the vestiture greatly reduced, inconspicuous; a few interstitial punctures clearly impressed.

Type Locality.—Volcan Poas, Heredia Prov., Costa Rica.

Type Material.—The female holotype, male allotype, and 24 paratypes were collected at the type locality on July 14, 1963, 100 m. (elevation) below the summit, by S. L. Wood, from a small woody vine and cut tree seedlings.

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

Scolytodes (s. str.) parvulus, n. sp.

Similar to *vulcanus* Wood, described above, but smaller, the female frons armed by a pair of longitudinal carinae, the striae punctures reduced; the female frontal vestiture uniformly distributed.

Female.—Length 1.1 mm. (paratypes 0.9-1.1 mm.), 2.3 times as long as wide; color rather dark brown.

Frons flattened from upper level of eyes to epistoma, the median half of each side just inside of lateral margin armed by a shining longitudinal carina; the pair of carinae beginning at level of antennal insertion and ending before upper level of eyes; surface finely, rather closely punctured in impressed and lateral areas, reticulate above eyes; vestiture fine, moderately long around margin, somewhat shorter in central area, moderately abundant.

Pronotum 1.0 times as long as wide; sides very weakly arcuate and feebly narrowed anteriorly on basal two-thirds, broadly rounded in front; surface reticulate, with sparse, minute punctures extending from base to anterior margin; glabrous.

Elytra 1.3 times as long as wide, 1.5 times as long as pronotum; sides almost straight and parallel on basal half, rather narrowly rounded behind; striae 1 weakly impressed, others not at all impressed, the punctures fine, shallow, rather obscure; interstriae wider than striae, not entirely smooth, the punctures sparse, fine, obscure. Declivity convex, steep; essentially as on disc but interspaces narrower and punctures smaller, the features not sharply defined. Vestiture consisting of less than a dozen moderately long, erect interstitial bristles.

Male.—Similar to female except frons convex, with a slight transverse impression just above epistoma, surface obscurely reticulate, shining, sparsely punctured, vestiture very sparse, mostly near epistoma; pronotum obscurely reticulate, subshining.

Type Locality.—Pandora, Limón Prov., Costa Rica.

Host.—*Cecropia* sp.

Type Material.—The female holotype, male allotype, and 12 paratypes were collected at the type locality on August 23, 1963, at an elevation of about 50 m., by S. L. Wood, from *Cecropia* leaf petioles.

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

Scolytodes (s. str.) acares, n. sp.

Allied to *parvulus* Wood, described above, but the female frontal vestiture longer and much more abundant near vertex, and the pronotal punctures more coarsely, deeply impressed in posterior area.

Female.—Length 1.1 mm. (paratypes 0.9-1.1 mm.), 2.4 times as long as wide; color dark brown.

Frons narrowly flattened from well above upper level of eyes to epistoma, margined at sides by a pair of shining, longitudinal carinae extending almost from epistoma (half way between level of antennal insertion and epistomal margin) to near upper level of eyes; surface sculpture obscure between carinae, evidently smooth and finely punctured; vestiture largely confined to vertex above upper level of eyes, consisting of a dense, long brush of subplumose, yellow hair that extends in length to a point below level of antennal bases.

Pronotum and elytra as in *parvulus* (above), except pronotum more narrowly rounded in front and its punctures somewhat larger.

Male.—Similar to female except frons convex with a slight transverse impression just above epistoma, the surface reticulate, sparsely punctured, the vestiture reduced to a few setae near epistoma.

Type Locality.—Rio Damitas in the Dota Mountains, San José Prov., Costa Rica.

Host.—*Cecropia* sp.

Type Material.—The female holotype, male allotype, and 14 paratypes were collected at the type locality on August 22, 1963, at an elevation of about 250 m., by S. L. Wood, from the petioles of fallen *Cecropia* leaves. Other paratypes were taken from the same host material, by S. L. Wood, as follows: 17 from Barro Colorado Island, Panama Canal Zone, December 27, 1963, elevation about 70 m.; 11 from Palin, Esquintla Prov., Guatemala, May 19, 1964, elevation 350 m.; 1 from Rincon de Osa, Puntarenas Prov., Costa Rica, August 11, 1966, elevation 30 m.

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

Scolytodes irazuensis, n. sp.

Rather closely related to *parvulus* Wood, described above, but larger, the female frons only shallowly impressed with setae on vertex extending half the distance to the antennal insertion, and the general sculpture coarser.

Female.—Length 1.7 mm. (paratypes 1.5-1.9 mm.), 2.4 times as long as wide; color very dark brown.

Frons rather broadly, longitudinally impressed from upper level of eyes to epistoma; the lateral margins above level of antennal insertion subcarinately elevated almost to upper level of eyes; surface finely, closely, deeply punctured; vestiture mostly confined to vertex, rather long, moderately abundant (largely abraded in type), none of setae long enough to reach half the distance to level of antennal insertion, only a few setae arise below upper level of eyes.

Pronotum 1.0 times as long as wide; sides weakly arcuate and converging slightly on basal two-thirds, rather broadly rounded in front; surface reticulate, rather coarsely, shallowly, not closely punctured, the punctures intermixed with very minute asperities on the rather strongly declivous anterior fourth; glabrous.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae not impressed, the punctures small, not sharply defined; interstriae almost twice as wide as striae, the punctures small, deep, almost uniseriate. Declivity convex, steep; striae and interstitial punctures smaller than on disc, rather deep. Vestiture consisting of less than a dozen widely scattered, erect, hairlike bristles on disc and declivity, mostly on interspace 3.

Male.—Similar to female except frons convex with a slight impression above epistoma, obscurely reticulate, indistinctly punctured; striae and interstitial punctures much less clearly defined on disc and declivity.

Type Locality.—Volcan Irazu, Cartago Prov., Costa Rica.

Host.—*Oreopanax xalapense* (type), and at least two other tree species.

Type Material.—The female holotype, male allotype, and 29 paratypes were taken at the type

locality on June 28, 1963, at an elevation of 2,800 m., by S.L. Wood, from the phloem of *Oreopanax xalapense* branches. Other paratypes taken at the same locality by the same collector include: 32 taken July 13, 1963, from an unidentified branch; 38 taken October 26, 1963, from the boles of *Oreopanax nubigenus* and also from another tree, at an elevation of 2,300 m.

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

Scolytodes (s. str.) cecropicolens, n. sp.

In size and proportions this species is more nearly similar to *maurus* (Blandford) than to other species known to me, but tibial and other characters are very different.

Female.—Length 2.0 mm. (paratypes 1.9-2.2 mm.), 1.9 times as long as wide; color medium brown, with marginal areas darker, paratypes range to dark brown.

Frons rather narrowly flattened below upper level of eyes, median third on lower two-thirds of flattened area rather abruptly impressed, the impression wider below and less definite; lateral margins indefinitely elevated below level of antennal insertion; surface reticulate above, subreticulate in impressed area, the punctures coarse, sparse, sharply defined but not very deep; vestiture minute, inconspicuous, a few longer hairlike setae on epistoma.

Pronotum 0.96 times as long as wide; widest at base, sides very slightly arcuate, converging slightly to the sub-abrupt anterolateral angles, rather narrowly rounded in front; anterior third feebly asperate; surface reticulate, the punctures rather coarse and separated by more than their own diameters, much finer anteriorly, continuing to anterior margin; vestiture minute, appearing glabrous.

Elytra 1.7 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae feebly if at all impressed, the punctures rather coarse, moderately deep; interstriae slightly more than twice as wide as striae, weakly convex, the punctures almost as large as those of striae, those on 2 and 4 confused on basal half, almost uniseriate elsewhere. Declivity convex, rather steep; the punctures of striae and interstriae smaller, shallower, and less sharply defined than on disc. Vestiture consisting of rows of short interstitial hair; very minute strial setae visible toward base of elytra.

Male.—Similar to female except frons convex, with a slight transverse impression just above epistoma.

Type Locality.—Peralta, Cartago Prov., Costa Rica.

Host.—*Cecropia* sp.

Type Material.—The female holotype, male allotype, and 26 paratypes were collected at the type locality on March 10, 1964, at an elevation of about 500 m., by S. L. Wood, from the bark of terminal ends of branches of a cut *Cecropia* tree.

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

Scolytodes (s. str.) phoebeae, n. sp.

Allied to *cecropicolens* but larger, the anterior third of pronotum entirely devoid of

asperities, and the female frons ornamented by long hair. It is much more closely related to the following species.

Female.—Length 2.4 mm. (paratypes 2.0-2.6 mm.), 2.0 times as long as wide; color dark brown.

Frons flattened from vertex to epistoma; lateral margins below level of antennal bases weakly elevated; central area on lower half impunctate, very slightly raised, marginal areas from near epistoma to vertex closely, finely punctured and ornamented by a dense brush of long yellow hair, the hair longer and more abundant above, the longest setae on vertex attaining level of antennal bases; premandibular epistomal lobe well developed.

Pronotum 0.95 times as long as wide; widest at base, the sides almost straight on basal half and converging slightly, then rounded toward the narrowly rounded anterior margin; entire surface reticulate, finely punctured, the punctures separated from one another by 2 or more times their own diameters; glabrous.

Elytra 1.3 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel on basal half, rather narrowly rounded behind; striae not impressed, the punctures moderately coarse, not deep; interstriae about three times as wide as striae, the punctures almost as large as those of striae, confused. Declivity rather steep, convex; strial punctures slightly smaller and deeper than on disc; interstitial punctures much smaller than those of striae, almost uniseriate on 2; 10 acutely convex from base to level of base of sternum 5. Glabrous, except a few minute hairs on costal margin.

Male.—Similar to female except frons convex above, becoming irregularly flattened below, a weak transverse impression just above epistoma, glabrous.

Type Locality.—Tapanti, Cartago Prov., Costa Rica.

Host.—*Phoebe mexicana*.

Type Material.—The female holotype, male allotype, and 151 paratypes were collected at the type locality on October 24, 1963, at an elevation of 1,300 m., by S. L. Wood, from the bark and pith of a branch 5 cm. in diameter.

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

Habits.—As in all other *Scolytodes* species known to me, this species is monogamous. The adult male constructs an entrance tunnel and begins a nuptial chamber. Both male and female enlarge the oval cavity to about 3-5 mm. wide and about 5-8 mm. or more long. It is entirely within the thin bark, not engraving the wood at all; only the paper-thin, smooth outermost layer of bark remains to conceal the tunnel. Eggs are scattered indiscriminantly in the chamber; the young larvae feed along the margins of the chamber through the first and second instars, enlarging it somewhat. While the young larvae feed the parent beetles bore from the phloem through the woody tissues to the large pith area. In the pith they construct a new chamber that is usually slightly larger than the first. Third instar larvae (as judged by their size) migrate to the pith

chamber where they feed until pupation occurs. Young adults may occur in pith, xylem, or phloem tissues, but most of them remain in the pith until it is entirely consumed. The branch studied was cut on September 17; most of the brood had matured by October 24.

Scolytodes (s. str.) plumeriae, n. sp.

This species is closely related to *phoebeae*, described above, but it has the pronotal surface smooth and shining, the pronotal punctures coarse, deep, and the female frontal vestiture extends higher on the vertex and is more abundant and longer.

Female.—Length 2.3 mm. (paratypes 1.9-2.7 mm.), 2.0 times as long as wide; color very dark brown, almost black.

Frons flattened from vertex to epistoma, the lateral margins feebly raised below level of antennal insertion; surface densely, rather closely punctured, the central area impunctate and very weakly elevated, the punctures decreasing in size toward this impunctate area; vestiture very fine, moderately abundant except glabrous in impunctate area, the pubescent area scarcely extending above upper level of eyes.

Pronotum 1.0 times as long as wide; sides almost straight and parallel on basal half, rather narrowly rounded in front; surface smooth and shining, with minute points and with coarse, deep, close punctures, many punctures separated by distances less than the diameter of a puncture; lateral and anterior surface somewhat wrinkled; glabrous.

Elytra 1.2 times as long as wide, 1.2 times as long as pronotum; sides almost straight and parallel on basal half, rather broadly rounded behind; striae feebly impressed, the punctures small, impressed; interstriae about three times as wide as striae, the surface smooth, with minute points, the punctures almost as large as those of striae but not as deep, confused. Declivity steep, convex; striae 1 impressed, all punctures reduced in size, punctures on interstriae 1 and 2 uniseriate, the punctures lateral to striae 2 confused. Glabrous.

Male.—Similar to female except frons convex, with a transverse impression along epistoma and continuing dorsad in lateral areas to level of antennal bases; frontal punctures fine, sparse, the vestiture scanty, inconspicuous.

Type Locality.—Playa del Coco, Guanacaste Prov., Costa Rica.

Host.—*Plumeria rubra*.

Type Material.—The female holotype, male allotype, and 77 paratypes were collected at the type locality on July 11, 1966, at sea level, by S. L. Wood, from green bark of the above host. The attack and entire life cycle were completed 20 days from the date the branch was cut. Young adults destroyed the large pith region suggesting habits similar to those of *phoebeae*. A series, not included in the type series, was also collected at Rodeo, Esquintla, Guatemala, June 4, 1964, at an elevation of 150 m., by S. L. Wood, from *Plumeria* sp.

Scolytodes (s. str.) cecropiavorus, n. sp.

Closely related to *cecropii* Schedl, but it is distinguished by the distinctly impressed striae and interstriae punctures, by the shining male frons with fine punctures, and by the more widely separated female frontal carinae.

Female.—Length 1.7 mm. (paratypes 1.4-1.8 mm.), 2.2 times as long as wide; color very dark brown.

Frons flattened from vertex to epistoma, divided on lower half into almost equal thirds by a pair of prominent, subparallel, longitudinal carinae; surface finely, rather closely punctured, and punctures somewhat sparse between carinae; lateral and upper areas ornamented by a rather sparse tuft of fine, long, yellow hair.

Pronotum 1.0 times as long as wide; widest near base, the sides weakly arcuate, converging very slightly to anterior fourth, then rather narrowly rounded in front; surface reticulate, with fine, rather sparse punctures; glabrous.

Elytra 1.3 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae 1 feebly, others not at all impressed, the punctures small, shallow; interstriae almost three times as wide as striae, obscurely marked by minute points and lines, the punctures fine, obscure, uniseriate. Declivity moderately steep, convex; striae and interstriae punctures obscurely indicated. Glabrous, except for a few small setae along costal margin.

Male.—Similar to female except frons evenly, rather weakly convex, with a weak transverse impression just above epistomal process, the surface subreticulate above, subshining below, glabrous, except a few setae near epistoma.

Type Locality.—San Ignacio de Acosta, San José Prov., Costa Rica.

Host.—*Cecropia peltata*.

Type Material.—The female holotype, male allotype, and 12 paratypes were collected at the type locality on July 5, 1963, at an elevation of 1,500 m., by S. L. Wood, from leaf petioles of the above host. The tunnels were just below the epidermal layer along the main shaft of the petiole. Additional paratypes were taken in Costa Rica as follows: 17 at Rio Damitas in the Dota Mts., San José Prov., July 22, 1963, 250 m., and 4 at Rincon de Osa, Puntarenas Prov., August 11, 1966, 30 m.; all were taken from the same host by the same collector.

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

Scolytodes cecropiavorus acuminatus, n. subsp.

This subspecies is identical to *cecropiavorus* Wood, described above, except that the elytral apex is strongly acuminate and the male frons is more strongly convex. The hosts and habits are the same. Intergradation between the two forms could not be demonstrated with the limited material at hand.

Type Locality.—Tapanti, Cartago Prov., Costa Rica.

Type Material.—The female holotype, male allotype, and 7 paratypes were collected at the type locality on October 24, 1963, at an elevation of 1,300 m., by S. L. Wood.

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

Scolytodes cecropiavorus punctifer, n. subsp.

Male.—A series of males that must represent a geographic race of *cecropiavorus* was taken from a different, undetermined species of *Cecropia*. This subspecies is of the same size and proportions as *cecropiavorus* but the elytral apex is more broadly rounded, the declivital punctures are strongly impressed, and the male frons is sparsely, minutely punctured below and shining. The habits are the same. Intergradation between the two forms could not be demonstrated from the limited material at hand.

Type Locality.—Gatun Dam, Canal Zone, Panama.

Type Material.—The male holotype and 29 paratypes were collected at the type locality on December 31, 1963, at an elevation of about 15 m., by S. L. Wood.

The holotype and paratypes are in my collection.

Scolytodes (s. str.) venustus, n. sp.

Closely related to *pseudopiceus*, described below, but the female frons more finely punctured with the pubescence more abundant and evenly distributed, and the striae not impressed, the punctures fine and shallow.

Female.—Length 1.6 mm. (paratypes 1.4-1.8 mm.), 2.8 times as long as wide; color very dark brown, almost black.

Frons flattened from upper level of eyes to epistoma (rather narrowly above); surface subreticulate and finely punctured above eyes, subshining and rather coarsely punctured on flattened area, a small, shining, impunctate, central area on lower half; epistomal lobe not evident; vestiture consisting of fine, sparse, moderately long hair.

Pronotum 1.0 times as long as wide; widest at base, sides of basal half almost straight and parallel, rather broadly rounded in front; entire surface reticulate, the punctures coarse, deep, rather close, becoming somewhat smaller in anterior area; not at all asperate anteriorly; glabrous except at sides.

Elytra 1.3 times as long as wide, 1.3 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; striae 1 rather strongly, others rather weakly impressed, the punctures moderately large, deep, very close; interstriae about one and one-half times as wide as striae, almost smooth, with a few fine points, the punctures more than half as large as those of striae, deep, rather close, uniseriate. Declivity steep, convex; about as on disc, except all punctures smaller. Glabrous, except for sparse, short hair on sides and marginal areas behind.

Male.—Similar to female except frons convex, reticulate, finely, sparsely punctured, subglabrous; anterior fourth of pronotum finely asperate, the punctures in this area obscured.

Type Locality.—Rodeo, Esquintla, Guatemala.

Host.—*Plumeria* sp. (type), *P. rubra* and *Ficus* sp. (paratypes).

Type Material.—The female holotype, male allotype, and 37 paratypes were collected at the type locality on June 4, 1964, at an elevation of about 200 m., by S. L. Wood, from branches of *Plumeria*; 11 paratypes bear identical data but were taken from *Ficus* branches; 30 also have identical data but were taken from an unidentified tree branch. Four paratypes were taken at Playa del Coco, Guanacaste Prov., Costa Rica, on July 11, 1966, at sea level, from *Plumeria rubra*. The beetles live in green phloem next to dying tissues or in recently cut branches. The complete life cycle can be completed in less than 20 days.

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

Scolytodes (s. str.) pseudopiceus, n. sp.

Allied to *cecropiavorus* Wood, described above, but female frons devoid of frontal carinae, the anterior area of male pronotum feebly asperate, almost smooth in female, the striae not impressed.

Female.—Length 1.7 mm. (paratypes 1.4-1.9 mm.), 2.1 times as long as wide; color very dark brown, almost black.

Frons flattened from just above upper level of eyes to epistoma, evidently feebly convex near center; rather coarsely, closely punctured; ornamented by a rather scanty brush of fine, long, hair, the distribution about uniform, except reduced or absent toward center.

Pronotum 1.04 times as long as wide; widest near base, the sides weakly arcuate, converging slightly to anterior third then rather narrowly rounded in front; summit indefinite, near middle; anterior third appearing weakly crenulate from above, but only feebly wrinkled from other aspects; surface subreticulate, rather coarsely, deeply, closely punctured from base to anterior margin; glabrous.

Elytra 1.3 times as long as wide, 1.3 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed, the punctures rather fine, deep; interstriae more than twice as wide as striae, almost smooth, the punctures subequal to those of striae, in almost regular, uniseriate rows. Declivity steep, convex; striae 1 slightly impressed; all punctures smaller than on disc. Glabrous.

Male.—Similar to female except frons convex, with a slight transverse impression just above epistomal margin, the surface reticulate and sparsely, rather deeply punctured.

Type Locality.—San Isidro del General, San José Prov., Costa Rica.

Host.—*Ficus* sp.

Type Material.—The female holotype, male allotype, and 17 paratypes were collected at the type locality on December 5, 1963, at an elevation

of 1,000 m., by S. L. Wood, from phloem tissues in a small twig less than 1 cm. in diameter. The beetles apparently attack and kill small green twigs on healthy trees.

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

Scolytodes (Hexacolus) ochromae, n. sp.

The species is allied to *swieteniae* (Blackman), although it is not closely related. It may be distinguished by interstriae 10 not extending behind level of metacoxae, by the interstriae being almost devoid of punctures and by the absence of a frontal carina.

Female.—Length 1.4 mm. (paratypes 1.3-1.5 mm.), 2.1 times as long as wide; color rather dark brown.

Frons almost flattened above to upper level of eyes, shallowly concave below, epistoma somewhat elevated; central area on upper half smooth, impunctate, remaining areas coarsely, densely, deeply punctured; lateral areas above antennal insertions and dorsad ornamented by a scanty tuft of long, yellow hair, a few scattered setae on lower third.

Pronotum 0.95 times as long as wide; widest at base, sides feebly arcuate and slightly converging anteriorly on basal two-thirds, then rather abruptly converging toward the very narrowly rounded anterior margin; summit indefinite, near middle; anterior three-fourths armed by broad, rather coarse crenulations; basal fourth subreticulate, shining; glabrous.

Elytra 1.3 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal half, obtusely angulate behind; striae 1 weakly, others not at all impressed, the punctures rather, coarse, shallow, the rows not entirely straight; interstriae almost twice as wide as striae, almost smooth, punctures not evident. Declivity steep, convex; striae 1 and possibly 2 weakly impressed, the punctures of striae and interstriae small and deeper than on disc. Vestiture consisting of a few flattened bristles on alternate odd interspaces, mostly on declivity.

Male.—Similar to female except frons convex above level of antennal insertions, transversely impressed between that level and epistomal process, sparsely punctured.

Type Locality.—Playon, San José Prov., Costa Rica.

Host.—*Ochroma velutina*.

Type Material.—The female holotype, male allotype, and 37 paratypes were collected at the type locality on August 9, 1963, at an elevation of about 50 m., by S. L. Wood, from the bark of branches of a cut balsa tree. Little could be discerned of the habits except that eggs apparently were scattered indiscriminantly in the oval nuptial chamber.

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

Scolytodes (Hexacolus) cedrelae, n. sp.

Very closely related to *swieteniae* (Blackman), but the frontal carina does not attain the epistomal margin in either sex, the female carina (sometimes double) begins well above the epistoma; in addition, the female of this species has the lower frons more distinctly punctured and ornamented by sparse hair; the tuft of hair on the vertex also extends ventrad to a point in line with the anterior margin of the eye, this tuft in *swieteniae* ends well above that point.

Female.—Length 1.5 mm. (paratypes 1.3-1.5 mm.), 2.2 times as long as wide; color yellowish brown, with anterior and posterior ends and elytral suture dark.

Frons flattened from vertex to epistoma; middle half between upper level of eyes bearing a low median carina of uniform height; epistomal margin and sides near antennal bases rather coarsely deeply punctured; vestiture consisting of a dense brush of long yellow hair on vertex extending downward laterally to anteromesal angle of eye; sparse hair scattered on lower area.

Pronotum 1.1 times as long as wide; sides subparallel on basal half, converging slightly to anterior fourth, then broadly rounded in front; summit indefinite, near middle; anterior half armed by numerous, close, shining, narrow crenulations; posterior half reticulate, dull, with very fine, obscure punctures, and in discal area with small, transverse, shining granules extending to base.

Elytra 1.2 times as long as wide, 1.1 times as long as pronotum; sides almost straight and parallel on slightly more than basal half, rather narrowly rounded behind; striae not impressed, the punctures moderately large, shallow; interstriae almost twice as wide as striae, almost smooth, subshining, the punctures obscure, uniseriate. Declivity steep, convex; striae 1 and possibly 2 weakly impressed, the punctures of striae and interstriae small and deeper than on disc. Vestiture consisting of a few flattened bristles on alternate odd interspaces, mostly on declivity.

Male.—Similar to female except frons convex, with a weak transverse impression just above epistoma, the surface reticulate and sparsely punctured.

Type Locality.—Rincon de Osa, Puntarenas Prov., Costa Rica.

Host.—*Cedrela mexicana*.

Type Material.—The female holotype, male allotype, and 61 paratypes were collected at the type locality on August 11, 1966, at an elevation of about 100 m., by S. L. Wood, from transverse tunnels in the phloem of large cut logs of the above host. Fragments of this species were also found in logs of two other unidentified host species.

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

Scolytodes (Hexacolus) immanis, n. sp.

Allied to *alni*, described below, but larger, stouter, all striae punctures in rows, and the pronotal punctures smaller.

Female.—Length 3.5 mm. (paratype 3.5 mm.), 2.4 times as long as wide; color very dark brown on head, anterior half of pronotum, elytral suture and under parts, light yellowish brown on posterior half of pronotum, elytra and legs.

Frons flattened from well above upper level of eyes to epistoma with median third of lower half very feebly impressed; impressed area smooth, shining, remaining lateral and dorsal areas rather coarsely, closely, shallowly punctured; vestiture consisting of coarse, long, subplumose, yellow hair on punctured area, a majority of the setae arising above upper level of eyes, some of those on vertex almost reaching level of antennal insertion.

Pronotum 1.04 times as long as wide; sides almost straight and parallel on basal two-fifths, then arcuately converging to the rather narrowly rounded anterior margin; dorsal profile arched from base to anterior margin, the indefinite summit on basal half; minutely, closely asperate in front of summit, reticulate and minutely, rather obscurely punctured behind, glabrous except for a few small setae at anterolateral angles.

Elytra 1.5 times as long as wide, 1.9 times as long as pronotum; sides almost straight, widest near base of declivity, narrowly rounded behind; striae not impressed, the punctures fine, shallow, in definite rows; interstriae three times as wide as striae, almost smooth, the punctures smaller than those of striae, shallow, rather numerous, confused. Declivity convex, rather steep; striae 1 and perhaps interspace 2 weakly impressed on middle third. Glabrous.

Male.—Not represented in the series at hand.

Type Locality.—Villa Mills near Cerro de la Muerte, Cartago Prov., Costa Rica.

Host.—*Miconia* sp.

Type Material.—The female holotype and one female allotype were collected at the type locality on August 1, 1966, at an elevation of 3,100 m., by S. L. Wood, from a pith cavity in a seedling terminal about 2 cm. in diameter.

The holotype and paratype are in my collection.

Scolytodes (Hexacolus) abni, n. sp.

Rather closely related to *piceus* (Blandford), but larger, and striae 3-5 with punctures somewhat confused.

Female.—Length 2.4 mm. (paratypes 2.4-2.9 mm.), 2.5 times as long as wide; color dark brown.

Frons flattened from vertex to epistoma, the surface coarsely, closely punctured; upper half ornamented by a dense brush of very long hair some of which attains epistomal margin; epistomal lobe very small.

Pronotum 1.1 times as long as wide; widest near base, the sides almost straight, converging very slightly to anterior fourth, then rather narrowly rounded in front; summit near middle; anterior half finely, densely asperate; reticulate and finely, rather sparsely punctured behind; glabrous.

Elytra 1.6 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 feebly impressed, at least toward base, the punctures fine, distinct; interstriae at least twice as wide as striae, marked by transverse lines, the punctures almost equal in size to those of striae, confused, rather close. De-

clivity steep, convex; striae punctures smaller and deeper than on disc, the interstitial punctures distinctly smaller than those of striae. Glabrous.

Male.—Similar to female except frons convex, weakly impressed just above epistoma, the surface shining, subreticulate, with sparse, fine punctures.

Type Locality.—Volcan Irazu, Cartago Prov., Costa Rica.

Host.—*Alnus acuminata*.

Type Material.—The female holotype, male allotype, and 26 paratypes were collected at the type locality on June 28, 1963, at an elevation of 2,300 m., by S. L. Wood, from irregular tunnels in the phloem tissues in stumps of the above host. Seventeen additional paratypes bear identical data, but were taken on October 26, 1963.

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

Scolytodes (Hexacolus) erineophilus, n. sp.

Allied to *marginatus*, described below, but the relationship is not close. It is distinguished by the stouter pronotum with the anterior margin unarmed, and by the flattened female frons with the central area glabrous.

Female.—Length 1.6 mm. (paratypes 1.4-1.6 mm.), 2.4 times as long as wide; color medium brown.

Frons feebly convex, almost flat, on a rather narrow area from just below upper level of eyes to epistomal margin; surface etched by minute, transverse lines in central half of flattened area, remainder of flattened area rather coarsely, not closely punctured; convex area above reticulate, with sparse, fine punctures; vestiture consisting of sparse, fine, long hair on punctured part of flattened area, not conspicuous.

Pronotum 1.0 times as long as wide; widest at base, the sides very feebly arcuate, almost straight, and converging anteriorly, then rather strongly, not abruptly rounded to the broadly rounded anterior margin; finely, closely asperate on anterior half, the asperities decreasing in size and density behind, continued as very fine transverse granules to basal fourth; posterior surface and spaces between asperities strongly reticulate, finely, rather sparsely punctured behind, the anterior rims of punctures granulate except on basal fourth. Vestiture sparse, inconspicuous, confined to anterior and lateral areas.

Elytra 1.5 times as long as wide, 1.7 times as long as pronotum; sides almost straight and parallel on basal two-thirds, narrowly rounded behind; striae not impressed, the punctures small, distinct, rather deep; interstriae about one and one-half times as wide as striae, subshining, the punctures about two-thirds as large as those of striae, uniseriate. Declivity moderately steep, convex; striae and interstitial punctures greatly reduced in depth and clarity, obscure. Vestiture rather abundant, consisting of short, fine, semirecumbent striae and interstitial hair, interstitial setae on and near declivity longer, erect, stout, somewhat flattened.

Male.—Similar to female except frons weakly convex, reticulate, finely, sparsely punctured, the frontal vestiture shorter, less abundant; a few scattered, erect, interstitial bristles on interspaces 1, 3, and 5 almost to elytral base.

Type Locality.—Tapanti, Cartago Prov., Costa Rica.

Host.—*Ficus* sp.

Type Material.—The female holotype, male allotype, and 20 paratypes were collected at the type locality on August 17, 1963, at an elevation of 1,300 m., by S. L. Wood, from the phloem of twigs less than 1 cm. in diameter of a native fig tree.

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

Scolytodes (Hexacolus) marginatus, n. sp.

Although the relationship may be superficial, this species appears rather closely allied to *impressus* (described below) but it is easily distinguished by the posteriorly extended tenth elytral interspace, by the finer vestiture, and by the general sculpture.

Female.—Length 1.6 mm. (paratypes 1.5-1.7 mm.), 2.9 times as long as wide; body color rather light brown.

Frons broadly plano-convex from upper level of eyes to epistoma, a shining median carina beginning as a fine line near center, becoming broader and somewhat higher then ending abruptly just above epistomal margin surface reticulate, finely, sparsely punctured, the punctures larger and deeper near margins of flattened area; vestiture confined to marginal areas, consisting of fine, rather abundant, moderately long hair.

Pronotum 1.2 times as long as wide; sides straight and parallel on basal two-thirds, evenly, rather broadly rounded in front; anterior margin armed by ten teeth; strongly declivous and asperate on anterior third, the asperities rather large and broad, many of them arranged in broken subconcentric rows; posterior area reticulate, rather coarsely, closely punctured; vestiture confined to asperate and lateral areas, disc glabrous.

Elytra 1.6 times as long as wide, 1.4 times as long as pronotum; sides straight and parallel on basal two-thirds, rather narrowly rounded behind; striae narrowly impressed, the punctures small, shallow; interstriae about one and one-half times as wide as striae, moderately convex, smooth, the punctures small, rather sparse, some minutely subvulcanate, uniseriate. Declivity steep, convex; striae 1 rather strongly impressed, others less strongly impressed than on disc; striae and interstriae punctures somewhat finer; interspace 1 slightly elevated. Vestiture consisting of fine, erect, rather long, interstriae hair.

Anterior coxae subcontiguous.

Male.—Similar to female except frons broadly convex, coarsely, closely, deeply punctured, with a smooth, shining, slightly elevated callus on lateral fourth of epistomal margin; elytral vestiture consisting of apically flattened bristles.

Type Locality.—Dominical, Puntarenas Prov., Costa Rica.

Type Material.—The female holotype, male allotype, and 8 paratypes were collected at the type locality on December 9, 1963, at sea level, from the phloem of small twigs in a large tree.

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

Scolytodes (Hexacolus) plicatus, n. sp.

The armed anterior pronotal margin indicates a relationship to *impressus* and *marginatus*, both described in this article. It is unique among Costa Rican species in the remarkably broad pronotal asperities, some of which may equal one-fifth of the total width of the pronotum.

Female.—Length 1.6 mm. (paratypes 1.5-1.8 mm.), 2.5 times as long as wide; color rather light brown.

Frons mostly convex, subconvexly impressed on central third, a broad, shining callus surrounding lower third of impression; surface rather finely punctured at sides and above to level well above upper level of eyes; vestiture fine, hairlike, moderately long and abundant on punctured area.

Pronotum 1.1 times as long as wide; widest at base, sides almost straight on posterior two-thirds, converging slightly anteriorly, broadly rounded in front; anterior third rather strongly declivous, the asperities rather low, sharply raised, very broad, some as much as a fourth the total width of pronotum; anterior margin armed by a continuous costa; posterior half reticulate, with fine, shallow punctures; glabrous except for a few bristles on anterior margin.

Elytra 1.5 times as long as wide, 1.4 times as long as pronotum; striae 1 weakly, others not impressed, the punctures small, shallow, not sharply defined; interstriae subreticulate, almost twice as wide as striae, the punctures fine, shallow. Declivity convex, moderately steep; striae 1 narrowly impressed; all punctures smaller and somewhat deeper than on disc. Vestiture consisting of a few sparse, erect, declivital hairs on odd numbered interspaces.

Male.—Similar to female except frons convex, reticulate, with a few obscure punctures, subglabrous.

Type Locality.—Twenty-five km. southeast of Guapiles, Limón Prov., Costa Rica.

Host.—*Ficus* sp.

Type Material.—The female holotype, male allotype, and 8 paratypes were collected at the type locality on August 22, 1966, at an elevation of about 100 m., by S. L. Wood, from the phloem of the bole of a large, cut, native, fig tree.

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

Scolytodes (Hexacolus) pubescens, n. sp.

This species is readily distinguished from other Central American species by the armed anterior pronotal margin and other characters, however, it does not appear to be closely allied to any of them. The punctuation and vestiture of the elytral declivity and the sculpture of the female frons serve to distinguish it.

Female.—Length 1.8 mm. (paratypes 1.5-1.8 mm.), 2.4 times as long as wide; color rather dark brown, elytra and basal half of pronotum lighter.

Frons subconvexly impressed on slightly more than median half, with a pair of shining, rather strongly elevated, longitudinal carinae at lateral margins of concavity; surface of entire frontal area except carinae

finely, closely punctate-granulate; vestiture consisting of rather coarse, moderately long setae, rather sparse in concave area, rather dense lateral to carinae and continuing above to a level slightly above upper level of eyes, not longer above.

Pronotum 1.1 times as long as wide; widest at base, the sides very weakly arcuate on basal two-thirds, rather narrowly rounded in front; rather coarsely asperate on anterior half, the asperities confused; anterior margin armed by about a dozen low teeth; posterior half shining, coarsely, closely, deeply punctured. Vestiture hairlike, moderately abundant except glabrous at center of disc.

Elytra 1.3 times as long as wide, 1.2 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; striae feebly if at all impressed, the punctures close, moderately large, deep; interstriae slightly wider than striae, shining, the punctures close, almost as large and as deep as those of striae. Declivity convex, steep; all punctures smaller than on disc, confused lateral to striae 2. Vestiture rather abundant, consisting of erect, short, striae hair and slightly longer interstitial hair; not conspicuously longer on declivity.

Male.—Similar to female except frons convex, reticulate, obscurely punctured, with sparse, inconspicuous, fine hair; elytral vestiture coarser and evidently more abundant.

Type Locality.—San Ignacio de Acosta, San José Prov., Costa Rica.

Type Material.—The female holotype, male allotype, and 33 paratypes were collected at the type locality on July 5, 1963, at an elevation of 1,100 m., by S. L. Wood, from phloem tissues of a new fence post taken from an undetermined tree species.

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

Habits.—Except for the nuptial chamber that reached the cambium region, the tunnels of this species were confined to the region where the inner and outer bark meet. The system of parent tunnels was roughly star-shaped, with the egg tunnels tending to be transverse. About two or three females were associated with each male. They were associated with *Scolytus dimidiatus*.

Scolytodes (Hexacolus) impressus, n. sp.

This species is rather closely allied to *marginalis* Wood, described above, but is easily distinguished by the shortened elytral interspace 10, by the more finely punctured male frons, by the suppression of reticulation on the posterior half of the pronotum, by the coarser striae punctures, and by the more abundant elytral bristles.

Male.—Length 1.5 mm. (paratypes 1.3-1.7 mm.), 2.6 times as long as wide; color rather dark, reddish brown.

Frons convex except transversely impressed along epistoma; surface obscurely reticulate, subshining, with rather fine, sparse, sharp punctures except close and deep along epistoma; vestiture largely confined to epistoma.

Pronotum 1.2 times as long as wide; sides straight and parallel on basal two-thirds, rather broadly rounded in front; anterior third finely, closely asperate; posterior half subshining, obscurely reticulate toward indefinite summit, a few minute points present, the punctures coarse, close, deep, separated by less than the diameter of a puncture; vestiture obscure, on asperate and lateral areas.

Elytra 1.5 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; striae 1 moderately, others weakly impressed, the punctures coarse, deep; interstriae as wide as striae, shining, the punctures fine, some indistinct, uniseriate. Declivity convex, steep; striae, particularly 1, more strongly impressed than on disc; interspace 1 slightly elevated; the punctures not reduced in size; vestiture consisting of apically flattened, interstitial bristles on disc and declivity, the distance between rows and between bristles in a row about equal to length of a bristle.

Female.—Not represented in the material at hand.

Type Locality.—Turrialba, Cartago Prov., Costa Rica.

Type Material.—The male holotype and 28 male paratypes were collected at the type locality on March 3, 1964, at an elevation of about 600 m., by S. L. Wood, from phloem tissues of an unidentified broken limb.

The holotype and paratypes are in my collection.

Scolytodes (Hexacolus) exiguus, n. sp.

By definition this species should be placed in the subgenus *Hexacolus* due to the pronotal asperities and absence of punctures toward the anterior margin of the pronotum; however, it almost certainly is more closely related to species here placed in the subgenus *Scolytodes (s. str.)*. Its uniformly arched pronotum, pronotal sculpture, elevated declivital interspace 9, and other characters serve to distinguish it.

Male.—Length 1.2 mm. (paratype 1.3 mm.), 2.0 times as long as wide; color very dark brown.

Frons convex, becoming somewhat flattened toward epistoma; surface shining, with small, sparse punctures above, more closely punctured below except on shining lateral margins below level of antennal insertion; vestiture very sparse except along epistomal margin.

Pronotum 1.0 times as long as wide; widest at base, sides feebly arcuate and converging on basal two-thirds, rather broadly rounded in front; dorsal profile arched from base, but more strongly declivous on anterior third; finely asperate on anterior third, punctures intermixed with asperities to anterior tenth but evidently not attaining anterior margin; posterior area shining, with very indistinct suggestion of reticulation and a few minute points, the punctures rather coarse, close, deep, separated by distances about equal to their diameters; vestiture consisting of a few bristles in asperate area.

Elytra 1.2 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on basal half then increasingly arcuate to the rather narrowly rounded posterior margin; basal margins marked by a

fine raised line; striae not impressed, the punctures rather large, moderately deep; interstriae about as wide as striae, shining, almost smooth, the punctures fine, shallow, uniseriate. Declivity convex, moderately steep; striae moderately to weakly impressed, the punctures somewhat smaller than on disc, deep; interstriae 1 weakly elevated, 2 and 3 weakly convex, the punctures about as on disc. Vestiture consisting of erect, apically flattened, interstitial bristles of moderate length, abraded on disc of type but on both disc and declivity of paratype.

Female.—Not represented in the material at hand.

Type Locality.—San Isidro del General, San José Prov., Costa Rica.

Host.—*Ficus* sp.

Type Material.—The male holotype and one male paratype were taken at the type locality on December 5, 1963, at an elevation of 1,000 m., by S. L. Wood, from phloem tissues of a small twig of *Ficus*.

The holotype and paratype are in my collection.

Scolytodes (Hexacolus) pumilus, n. sp.

Not related to any species of this genus known to me. Interstriae 10 ends before level of metacoxae, the pronotum is equal in width and length, the slender body is 2.5 times as long as wide, and there are a few minute asperities on anterior third of the pronotum.

Female.—Length 1.5 mm. (paratypes 1.4-1.6 mm.), 2.5 times as long as wide; color rather dark brown.

Frons rather narrowly flattened from just below upper level of eyes to epistoma; surface finely reticulate-granulate, the moderately large punctures rather close, only slightly less dense at center; vestiture very fine, moderately dense, rather long.

Pronotum 1.0 times as long as wide; widest at base, converging slightly on basal two-thirds, rather broadly rounded in front; dorsal profile arched from base, more strongly declivous on anterior third; asperities small, confused; posterior area reticulate, with very fine, sparse punctures; glabrous.

Elytra 1.5 times as long as wide, 1.7 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed, the punctures rather coarse, deep; interstriae almost smooth, about as wide as striae, the punctures indefinite or absent on basal half, small, uniseriate, becoming distinct toward declivity. Declivity rather steep, narrowly convex, striae 1 weakly impressed; striae punctures smaller than on disc, deep; interstriae shining, the punctures rather small, deep. Glabrous.

Male.—Similar to female except frons rather weakly convex, surface almost smooth and shining, reticulation obscurely indicated, the punctures minute, obscure; striae somewhat confused on basal fourth, interstitial punctures more evident on 1 and 2.

Type Locality.—Volcan Poas, Heredia Prov., Costa Rica.

Hosts.—*Conostegia oerstediana*, *Drimys granadensis* and *Sapium thelocarpum* (paratypes).

Type Material.—The female holotype, male allotype, and 12 paratypes were collected just

below the summit (about 100 m. below) of Volcan Poas, on August 19, 1966, by S. L. Wood, from phloem tissues of an unidentified broken tree branch. The following additional paratypes were also taken in Costa Rica during 1963, by S. L. Wood: 22 from 10 km. southeast of Cartago, Cartago Prov., July 3, at 1,800 m., from the above species of *Conostegia* and *Drimys*; and 24 from the type locality on July 14, from the above species of *Sapium*.

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

Pseudothysanoes acacicolens, n. sp.

This species is closely allied to *spinatus* Wood, but is readily distinguished in the male by the much smaller declivital spines, by the unaltered sculpture and vestiture of the elytral declivity, both are essentially continuous with that of the disc. In the female the pronotum is more coarsely reticulate and the elytral declivity more coarsely punctured than in *spinatus*, evidently with very fine granules on interspace 3.

Male.—Length 1.1 mm. (male paratypes 1.0-1.2; female paratypes 1.1-1.3 mm.), 2.4 times as long as wide; color light brown.

Frons convex above, transversely impressed above epistoma; surface coarsely reticulate; vestiture consisting of scattered, rather short, sublumose hair.

Pronotum 1.0 times as long as wide; subcircular, with a slight constriction on anterior half; anterior margin armed by six irregular teeth; summit at middle, high; coarsely asperate in front; posterior area rather coarsely reticulate, the punctures fine, inconspicuous; vestiture rather abundant, consisting of suberect slender scales and shorter hair intermixed.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly, evenly rounded behind; striae not impressed, the punctures moderately large, rather deep; interstriae as wide as striae, 1 and to a lesser extent 5 bearing a uniseriate row of moderately large, low tubercles, the punctures on other interspaces weakly if at all granulate. Declivity convex, very slightly flattened on upper half; striae as on disc but evidently somewhat narrower; interspace 2 bearing a slender spine at upper margin of declivity, and a similar spine one-fourth of declivital length from upper margin; the spines similar in position and shape to those of *spinatus* but only half as long; interspace 5 bearing two similar but smaller spines, one just above and one just below level of lower spine on interspace 2; granules on 2 and 5 not continued below lower spine on each interspace. Vestiture consisting of fine striae hair and interstitial scales; each scale about four times as long as wide on disc and sides, somewhat shorter on striae 1-3 on lower two-thirds of declivity.

Female.—Similar to male except larger, more slender; frons a little less strongly convex; anterior margin of pronotum unarmed; declivity more strongly convex, unarmed; elytral scales more slender, somewhat shorter and narrower on declivity.

Type Locality.—Playa del Coco, Guanacaste Prov., Costa Rica.

Host.—*Acacia* sp.

Type Material.—The male holotype, female allotype, and 66 paratypes were collected at the type locality on March 21, 1967, at 10 m. elevation, by S. L. Wood, from the bark of the above host (spines slender).

Pseudothysanoes vallatus, n. sp.

This remarkable species is entirely unique in the genus. Presumably it is allied to *lecontei* Blackman, but the male declivital interstriae 3 are exceedingly strongly elevated and very coarsely serrate, the height of the elevation exceeds the combined widths of interstriae 1 and 2, 1 is neither elevated nor serrate, the elevation is only moderately developed, in the female.

Male.—Length 1.1 mm. (female paratypes 1.0-1.3 mm.), 2.7 times as long as wide; color very dark brown.

Frons convex, a slight transverse impression just above epistoma; surface rather coarsely reticulate except almost smooth on epistomal area; vestiture rather sparse, moderately long, consisting of subplumose setae. Scape short, only slightly longer but distinctly wider than pedicel, club small, oval, two weakly arcuate sutures indicated by setae.

Pronotum subcircular in outline, anterior margin armed by two subcontiguous teeth; anterior slope asperate, summit at middle; posterior area transversely subtrigose-reticulate with a few very small granules, more regularly reticulate laterally; vestiture consisting of rather sparse, slender scales and hair of equal length intermixed.

Elytra 1.7 times as long as wide, 1.8 times as long as pronotum; sides almost straight and parallel on basal two-thirds, then rounded to meet broadly truncate apex; striae not impressed, the punctures small, distinct; interstriae slightly narrower than striae, each bearing a uniseriate row of small, rounded squamiferous granules. Declivity rather steep; flattened to weakly excavated between the very strongly, very narrowly elevated interstriae 3, 1 feebly elevated toward apex, the punctures of striae 1 and 2 more strongly impressed than on disc; interstriae 3 elevated to sutural apex, armed by 10 very coarse, contiguous, blunt teeth that increase in size to just below middle of declivity; interstriae 1-9 each bearing one to three rounded nodules at base of declivity, those on 7 largest. Vestiture consisting of rows of interstitial scales and smaller strial hair; the scales longer on declivity, particularly those on summit of elevated crest of interstriae 3.

Female.—Similar to male except frons weakly impressed to upper level of eyes and more finely sculptured; scape slightly larger and bearing a small tuft of hair; anterior margin of pronotum unarmed; declivital interstriae 3 only moderately elevated and unarmed, the nodules at base of declivity also absent.

Type Locality.—Volcan Colima, Jalisco, Mexico.

Host.—*Struthanthus venetus*.

Type Material.—The male holotype, female allotype, and 12 female paratypes were taken at the type locality on June 23, 1965, 2,500 m., No. 105, from the above host, by S. L. Wood. The specimens were intermixed with *Micracisella*

and another *Pseudothysanoes*. It is presumed they mined in the cambium region.

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

Pseudothysanthoes vesculus, n. sp.

This species is closely related to *heliura* Wood, but it is easily distinguished by the smaller size, by the more slender form, by the non-elevated apical margin of the male declivity, and by the excavated female frons that bears a tuft of minute setae toward the vertex.

Male.—Length 1.1 mm. (female paratypes 0.9-1.1 mm.), 2.4 times as long as wide, color brown.

Frons not visible. Antennal scape long; sutures on club largely obsolete.

Pronotum 0.97 times as long as wide; widest near base, sides weakly arcuate, converging slightly before the broadly rounded, unarmed anterior margin; summit distinct, asperate on anterior slope, subshining, minutely, obscurely punctured and with obscure lines behind; vestiture with scales and short stout hair intermixed.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides straight, increasing very slightly posteriorly to obliquely truncate declivity; striae not impressed the punctures distinctly impressed; interstriae wider than striae, the punctures uniseriate, fine, obscure. Declivity obliquely truncate, the face evenly, weakly convex, an acutely elevated ridge extending from suture above around margin of declivity about three-fourths the distance to sutural apex, obsolete on this final fourth; strial and interstitial punctures equal in size, very close, moderately deep over entire face. Vestiture consisting of rows of interstitial scales and short strial hair; scales on disc about three times as long as wide, increasing slightly in length toward declivity; declivital margin bearing a ring of closely set, much larger, stout scales; scales on declivital face uniform in size, much smaller and more slender than on disc.

Female.—Similar to male except frons shallowly, broadly concave from epistoma to vertex, the median third of upper half densely pilose; strial punctures finer; declivity convex, without elevated margin, the sculpture essentially as on disc but slightly deeper; vestiture as on disc and somewhat finer.

Type Locality.—Three km. west of Armeria, Colima, Mexico.

Type Material.—The male holotype, female allotype, and four female paratypes were collected on June 28, 1965, 70 m., No. 131, by S. L. Wood, from a branch of an unidentified thorn tree.

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

Pseudothysanoes mancus, n. sp.

This species is very closely related to *spinura* Wood, but it is distinguished in the male by the steeper elytral declivity, with the circumdeclivital elevated costa higher and more acute particularly on the upper half, and, in the female, by the very deeply excavated frons.

Male.—Length 1.0 mm. (paratypes 1.0-1.2 mm.), 2.4 times as long as wide; color dark brown.

Frons as in *spinura* except impression slightly deeper.

Pronotum 0.97 times as long as wide, otherwise as in *spinura*.

Elytra evidently 1.5 times as long as wide, as in *spinura* except declivity slightly steeper, the circumdeclivital costa more strongly, subacutely elevated from sutural margin above to sutural margin below; spine-like setae on declivital interstriae 1 six in number and at least as large; vestiture similar.

Female.—As in the female of *spinura* except frons very deeply excavated on median three-fourths from epistoma to vertex, the deepest point at upper level of eyes; general surface of elytral declivity more irregular.

Type Locality.—Three km. east of Armeria, Colima, Mexico.

Type Material.—The male holotype, female allotype, and 34 paratypes were collected at the type locality on June 28, 1965, 70 m., No. 131, by S. L. Wood from the cut limb of an unidentified thorn tree. The tunnels were in the cambium region.

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

Pseudothymanoes viscivorus, n. sp.

This species is closely allied to *phorodendri* Blackman, but it may be distinguished by the larger size, by the deeper, coarser male stria punctures, by the more broadly rounded male declivity, and by the larger interstitial granules on the disc.

Male.—Length 1.7 mm. (paratypes 1.4-1.7 mm.), 2.3 times as long as wide; color dark brown to black, summit of pronotum reddish.

Frons convex, transversely impressed on lower half, subconcave toward center; surface finely reticulate-granulate, with small, obscure punctures; vestiture of sparse, subplumose setae of moderate length.

Pronotum 0.91 times as long as wide; widest on basal third, sides strongly arcuate on basal half, strongly constricted one-third length from the narrowly rounded anterior margin; anterior margin armed by six small teeth; summit behind middle, well developed; anterior slope coarsely asperate to summit; posterior area coarsely reticulate, the fine punctures obscure; vestiture of intermixed fine hair and slightly longer, erect scales, each scale about four to six times as long as wide.

Elytra 1.3 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 very weakly impressed toward declivity, the punctures rather coarse, deep; interstriae almost as wide as striae, the punctures uniseriate, rather coarse, subgranulate on anterior margins especially toward declivity. Declivity beginning slightly in front of middle, moderately steep, broadly convex; striae weakly impressed, the punctures slightly larger than on disc; interstitial punctures usually not at all granulate. Vestiture consisting of minute striae hair and rows of interstitial scales; each scale on disc slightly shorter than distance between rows, each about three to four times as long as wide; scales on declivity equal in width to those on disc, but three times as long; scales on declivital interstriae 8 and 9 in partial double rows and equal in length to one another.

Female.—Similar to male except anterior margin of pronotum unarmed; elytra 1.5 times as long as wide, the declivity restricted to posterior third, more narrowly rounded and steeper; stria punctures smaller, similar on disc and declivity; interstitial granules larger and more regular; declivital vestiture only slightly longer than on disc, each declivital scale about four to six times as long as wide.

Type Locality.—Volcan Ceboruco, Nayarit, Mexico.

Host.—*Phoradendron* probably *robinsonii*.

Type Material.—The male holotype, female allotype, and 17 paratypes were collected at the type locality on July 5, 1965, about 1,100 m., No. 191, by S. L. Wood, from phloem galleries in branches of the above mistletoe.

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

Pseudothymanoes amassius, n. sp.

This species is distinguished, with some difficulty, from *viscivorus* Wood, described above, and it eventually may become a subspecies. It is distinguished by a slightly more strongly impressed frons, by the shorter, uniseriate scales on the male declivital interspace 9 and a reduced number of scales on 8, and by the much broader interstitial scales of the female.

Male.—Length 1.5 mm. (paratypes 1.3-1.6 mm.), 2.1 times as long as wide; color dark brown to black, summit of pronotum reddish.

As in *viscivorus* except frons more broadly, more deeply impressed; stria punctures near declivity somewhat finer, interstitial granules finer; scales on declivital interstriae 9 uniseriate and distinctly shorter than those on 8.

Female.—As in the female of *viscivorus* except frons broadly, more strongly impressed; interstitial granules much smaller; interstitial scales much broader, each about two to two and one-half times as long as wide.

Type Locality.—Twenty km. south of Matías Romero, Oaxaca, Mexico.

Host.—*Phoradendron* sp.

Type Material.—The male holotype, female allotype, and 10 paratypes were collected at the type locality on June 24, 1967, near 700 m., No. 93, by S. L. Wood, from tunnels in the phloem of a common mistletoe that awaits identification.

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

Pseudothymanoes viscolens, n. sp.

This species clearly is allied to *viscivorus* Wood, but it is easily distinguished by the broader elytral scales which decrease in length on the lower half of the declivity, by the broadly concave female frons that bears a fringe of moderately long, yellow hair on the upper margin, and by the reduced female stria punctures.

Male.—Length 1.3 mm. (paratypes 1.3-1.7 mm.). 2.2 times as long as wide; color dark brown to black, pronotal summit reddish.

Frons (partly concealed in type) convex with a feeble impression above epistoma; an obscure subfoveate impression indicated near center; reticulate below, becoming minutely subgranulate above; vestiture sparse, inconspicuous.

Pronotum 0.92 times as long as wide; sides weakly arcuate, converging very slightly on basal two-thirds then broadly rounded in front; anterior margin armed by six small teeth; summit well developed; posterior area minutely rugulose, with sparse, small, subgranulate punctures; vestiture consisting of rather sparse, small, scale- and hair-like setae.

Elytra 1.3 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 not impressed, the punctures rather small, deep; interstriae wider than striae, the punctures small, uniseriate. Declivity beginning well before middle of elytra, moderately steep, broadly convex; sutural striae only feebly impressed, the punctures distinctly larger and deeper than on disc; interstriae narrower, otherwise as on disc. Vestiture consisting of minute strial hair, and rows of erect interstitial scales; each scale on disc about twice as long as wide, about two-thirds as long as distance between rows; each scale on declivity as wide or slightly wider than those on disc and on upper half at least three times longer than those on disc, decreasing in length on interstriae 1 and 2 on lower half to size of scales on disc.

Female.—Similar to male except frons rather deeply concave from epistoma to vertex, the concavity clothed with moderately abundant, short, stout setae, the upper margin bearing a tuft of long yellow hair equal in length to half diameter of concavity; anterior margin of pronotum unarmed; declivity confined to posterior third of elytra; strial punctures somewhat reduced; interstitial granules small, regularly placed on disc and declivity; declivity more narrowly convex, the sculpture and vestiture as on disc, each scale three to four times as long as wide.

Type Locality.—Zamorano, Morazan, Honduras.

Host.—*Phoradendron robustissimum*.

Type Material.—The male holotype, female allotype, and 14 paratypes were collected at the type locality on April 18, 1964, 700 m., No. 569, by S. L. Wood, from tunnels in the phloem of the above named mistletoe.

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

Pseudothysanoes furvus, n. sp.

Among previously described species this one is more similar to *phoradendri* Blackman than to any other. It may be distinguished by the smaller size, by the more strongly convex, less strongly tuberculate elytral declivity and, in the male, by the much shorter, wider bristles on the elytral declivity.

Male.—Length 1.25 mm. (paratypes: males 1.1-1.3, females 1.2-1.4 mm.). 2.2 times as long as wide; color black with white scales.

Frons convex above, transversely impressed from just above level of antennal bases to epistomal margin; surface finely granulate; vestiture consisting of moderately abundant, coarse, short, subplumose hair.

Pronotum 0.93 times as long as wide; widest about one-third from base, sides rather strongly arcuate on basal half, laterally constricted on anterior half, narrowly rounded in front; anterior margin armed by eight serrations that decrease in size laterally; summit just behind middle, rather high; coarsely asperate from summit forward; posterior area minutely punctulate-subgranulate and with obscure, fine punctures, more nearly reticulate laterally; vestiture of minute hair and longer, broad scales, those on asperate area longer.

Elytra 1.3 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel on basal two-thirds, rather narrowly rounded behind; striae not impressed, the punctures small, deep; interstriae almost twice as wide as striae, minutely irregular, the subvulcanate, squamiferous punctures low, almost as large as those of striae. Declivity convex, steep; sculpture about as on disc but punctures and granules somewhat smaller. Vestiture consisting of interstitial rows of erect scales; each scale as long as distance between rows and between adjacent scales in the same row, about three times as long as wide.

Female.—Similar to male except slightly larger, more slender, 2.8 times as long as wide; frons less coarsely sculptured, the vestiture more abundant, finer; antennal scape bearing a small tuft of subplumose hair; sculpture of pronotum finer, the anterior margin unarmed; elytral punctures and granules greatly reduced except only slightly receded on declivity; elytral scales smaller.

Type Locality.—Finca La Pacífica, Cañas, Guanacaste Prov., Costa Rica.

Host.—*Phoradendron* sp.

Type Material.—The male holotype, female allotype, and 28 paratypes were collected at the type locality on April 13, 1966, at an elevation of about 50 m., by S. L. Wood, from stems of a mistletoe that grew in an unidentifiable cut tree. Forty-two additional paratypes were taken 20 km. southeast of Liberia on the Pan-American Highway, Guanacaste Prov., Costa Rica, on July 10, 1966, by S. L. Wood, from apparently the same species of mistletoe that grew in oak trees. A series not included in the type series was also collected at Zamorano, Morazan, Honduras, on April 18, 1964, at 700 m., by S. L. Wood, from *Phoradendron robustissimum*.

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

Pseudothysanoes furvatus, n. sp.

This species is very closely related to *furvus* Wood, described above, but it may be distinguished by the much coarser and deeper male strial punctures, this difference only slight in the female, by the larger, closer, interstitial granules on the male disc, and by the slightly longer, more slender male declivital scales, the female declivital scales are more slender but slightly shorter.

Male.—Length 1.2 mm. (paratypes 1.0-1.4 mm.), 2.3 times as long as wide; color dark brown to black, with summit of pronotum reddish.

Frons and pronotum as in *furvus*.

Elytra 1.3 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 not impressed, the punctures moderately large, deep; interstriae slightly narrower than striae, smooth, each with a uniseriate row of rather small, rounded, squamiferous granules, each granule as wide as interstriae. Declivity beginning at or just behind middle, rather steep, convex; sculpture as on disc except granules smaller, many obscure. Vestiture consisting of rows of erect interstitial scales, each scale on disc two to three times as long as wide, each equal in length at base to two-thirds distance between rows, equal to distance between rows at base of declivity; each scale on declivity about four to six times as long as wide and slightly longer than distance between rows.

Female.—As in female of *furvus* except as noted in the diagnosis above.

Type Locality.—Thirty-five km. north of Juchitlan, Jalisco, Mexico.

Host.—*Phoradendron* sp.

Type Material.—The male holotype, female allotype, and 31 paratypes were collected at the type locality on July 3, 1965, about 1,300 m., No. 183, by S. L. Wood, from tunnels in the phloem of mistletoe.

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

Pseudothysanoes verdicus, n. sp.

This species is not closely related to any described species. The concave female frons that is ornamented by a tuft of long hair as in *viscicolens* Wood, described above, might suggest a relationship. This species differs from *viscicolens* by the more slender body form, by the elytral vestiture of the male resembling that of the female, and by the female frons being more broadly, evenly concave and ornamented by much longer setae.

Male.—Length 1.5 mm. (paratypes 1.3-1.8 mm.), 2.3 times as long as wide, color dark brown, pronotal summit reddish.

Frons convex above, moderately, transversely impressed just above epistoma with a slight impression toward center; surface finely, rugulose; vestiture sparse, rather short, widely distributed.

Pronotum 0.92 times as long as wide; widest at base, sides weakly arcuate and converging on basal three-fifths to a conspicuous constriction, rather narrowly rounded in front; anterior margin armed by four small teeth; summit rather high, behind middle; posterior area coarsely reticulate, with small, sparse, rounded, squamiferous granules; vestiture of intermixed fine, short hair and longer, slender scales.

Elytra 1.4 times as long as wide, 1.7 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae not impressed, the punctures minute, distinct; interstriae about twice as wide as striae, irregularly marked by lines

and obscure points, the punctures finely granulate, squamiferous. Declivity confined to posterior third, convex, rather steep; sculpture as on disc except granules smaller, obscure. Vestiture consisting of minute striae and rows of erect interstitial scales; each scale on declivity four to five times as long as wide, about equal in length to distance between rows, very slightly shorter on idsc.

Female.—Similar to male except frons shallowly concave almost from eye to eye from epistoma to vertex, the upper margin ornamented by a dense tuft of long yellow hair reaching slightly beyond middle of concavity; scape with a small tuft of hair; anterior margin of pronotum unarmed; elytral scales slightly smaller.

Type Locality.—Seven km. north of Tlaxco, Tlascal, Mexico.

Type Material.—The male holotype, female allotype, and 54 paratypes were collected at the type locality on June 6, 1967, 2700 m., No. 24, by S. L. Wood, from tunnels in the phloem of a large mistletoe, awaiting identification, that grew in *Juniperus deppeana*. Thirteen additional paratypes were taken 42 km. southeast of Nochistlan, Oaxaca, Mexico, June 17, 1967, No. 55, by S. L. Wood, from *Phoradendron* sp.

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

Pseudothysanoes funebris, n. sp.

This species is allied to *verdicus* Wood, described above, but it is distinguished by the much smaller concavity of the female frons and absence of the frontal tuft of hair, by the larger elytral granules, particularly in the male, and by the longer, more slender elytral bristles.

Male.—Length 1.4 mm. (paratypes 1.4-1.8 mm.) 2.4 times as long as wide; color black, summit of pronotum reddish.

Frons transversely impressed below upper level of eyes, the central area shallowly concave; finely granulate-punctate above eyes, finely punctured below; vestiture consisting of moderately abundant, subplumose setae of moderate length.

Pronotum 0.95 times as long as wide; outline and sculpture as in *verdicus* except granules in posterior area reduced and setae fine.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; outline as in *verdicus*; striae not impressed, the punctures moderately large, shallow, distinct; interstriae wider than striae, surface somewhat irregularly marked by lines, the punctures fine, uniseriate, becoming granulate near declivity. Declivity confined to posterior third, rather steep, convex; striae punctures greatly reduced above, obsolete below; interstriae 1 devoid of granules on lower three-fourths and 2 on lower half, upper half of 2, all of 3 and 4 and lateral areas armed by moderately large, somewhat pointed, isolated, squamiferous granules. Vestiture consisting of erect scales; each scale on disc about four times as long as wide, almost equal in length to distance between rows, more slender, one and one-half times as long and more widely spaced than on disc; spacing of scales within row on declivity slightly greater than spacing between rows.

Female.—Similar to male except frontal concavity slightly deeper and wider; anterior margin of pronotum

unarmed; elytra 1.7 times as long as wide, the surface somewhat more irregular; elytral declivity sculptured to apex as on disc; interstitial scales about six times as long as wide, not longer or more widely spaced on declivity.

Type Locality.—Twenty-seven km. west of Durango, Durango, Mexico.

Host.—*Phoradendron villosum*.

Type Material.—The male holotype, female allotype, and 41 paratypes were collected on June 4, 1965, about 2,000 m., No. 12, by S. L. Wood, from tunnels in the phloem of the above named mistletoe.

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

Pseudothysanoes peniculus, n. sp.

This species is rather closely allied to *funebri* Wood, described above, but it is readily distinguished, in the male, by the continuation of all rows of interstitial scales to their normal termination on the declivity, and in the female, by the more extensively concave frons that is ornamented above by a very long tuft of yellow hair.

Male.—Length 1.4 mm. (paratypes 1.4-1.7 mm.), 2.3 times as long as wide; color dark brown, part of elytra and summit of pronotum lighter in some specimens.

Frons rather strongly, broadly, transversely impressed on lower half, convex above, the epistoma gradually raised to margin; surface finely granulate-punctate, finer in impression; vestiture consisting of moderately abundant, short, subplumose setae.

Pronotum 0.96 times as long as wide; outline as in *verdicus*; surface behind summit rather coarsely reticulate, the minute, sparse punctures obscure; vestiture of scales and stout hair intermixed.

Elytra 1.4 times as long as wide, 1.5 times as long as pronotum; outline as in *verdicus*; striae not impressed, the punctures small, shallow, obscure; interstriae about as wide as striae, irregularly marked, the punctures fine, obscure, very feebly granulate, squamiferous. Declivity on slightly more than posterior third, convex, moderately steep; sculpture essentially as on disc. Vestiture of rows of erect scales, each about four times as long as wide at base, at least eight times as long as wide on declivity, each slightly longer than distance between rows at base, increasing in length toward declivity until about twice as long as distance between rows on declivity, the spacing within each row equal to or slightly less than length of scale.

Female.—Similar to male except frons concave from eye to eye, from epistoma to vertex, area above eyes ornamented by a dense brush of long, yellow hair some of which extends to epistomal margin; scape with a rather large fringe of long hair; anterior margin of pronotum unarmed; elytra 1.6 times as long as wide, declivity confined to posterior third; elytral surface, particularly on declivity, more nearly minutely rugulose; elytral scales shorter (about two-thirds as large) and closer.

Type Material.—Thirteen km. west of Texmelucan, Puebla, Mexico.

Host.—*Phoradendron* sp.

Type Material.—The male holotype, female

allotype, and nine paratypes were collected at the type locality on June 13, 1967, 2,600 m., No. 26, by S. L. Wood, from tunnels in the phloem of the above mistletoe.

The holotype allotype, and paratypes are in my collection.

Pseudothysanoes bullatus, n. sp.

This species is rather closely allied to *peniculus* Wood, described above, but it is easily distinguished, in the male, by the presence of a rather large bulla on the lower half of declivital interstriae 3 and by the broader elytral scales, and, in the female, by the shallowly concave frons with very short hair above.

Male.—Length 1.5 mm. (paratypes 1.5-2.0 mm.), 2.3 times as long as wide; color very dark brown, posterior half of elytra usually lighter.

Frons moderately, transversely impressed on lower half, convex above; surface rather coarsely punctate-granulate above, finely rugulose on lower third; vestiture consisting of stout, rather sparse, short, subplumose setae. Scape with about a dozen long setae.

Pronotum 0.94 times as long as wide; widest at base, the sides arcuately converging from base to narrowly rounded anterior margin, with a slight constriction one-third from anterior margin; anterior margin armed by six small teeth; summit behind middle, well developed, broad; posterior area very finely rugulose-reticulate, the minute punctures obscure; vestiture of scales and hair intermixed.

Elytra 1.4 times as long as wide, 1.6 times as long as pronotum; outline as in *verdicus*; striae not impressed, the punctures rather small distinctly impressed; interstriae wider than striae, minutely, irregularly marked by obscure lines and points, the squamiferous punctures rather fine, usually distinct, not granulate. Declivity occupying slightly more than posterior third, convex, rather steep; striae and interstitial punctures reduced, becoming obsolete by middle of declivity; points largely replace obscure lines on interstriae, the surface shining; interstriae 3 with a large, low bulla on upper part of lower half of declivity, extending slightly to interstriae 2 and 4. Vestiture consisting of erect, interstitial scales, each about two to three times as long as wide, slightly longer toward declivity, those on upper declivity spaced within and between rows by a distance equal to length of a scale; lower two-thirds of declivity glabrous.

Female.—Similar to male except frons shallowly concave on median three-fourths from epistoma to above upper level of eyes, the upper area bearing rather numerous, moderately short, yellow setae; anterior margin of pronotum unarmed and more broadly rounded; declivital interstriae each bearing a uniseriate row of fine granules to apex, the bulla obscure; declivity shorter, steeper; vestiture more abundant, extending to apex, each scale more slender, about five times as long as wide.

Type Locality.—Forty-two km. southeast of Nochixtlan, Oaxaca, Mexico.

Host.—*Phoradendron* sp.

Type Material.—The male holotype, female allotype, and nine paratypes were collected at the type locality on June 17, 1967, about 2,300 m., No. 55, by S. L. Wood, from tunnels in the

phloem of the above mistletoe.

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

Pseudothysanoes plumalis, n. sp.

This species evidently belongs to the *verdicus* Wood, described above, group of species, although it is not closely related to any of those treated here. The female frons is feebly concave and not ornamented by long hair; the scape bears a large tuft of hair. The male elytral sculpture is simple and quite unlike related species.

Male.—Length 1.4 mm. (paratypes 1.4-1.7 mm.). 2.4 times as long as wide; color dark brown.

Frons shallowly concave almost to upper level of eyes, convex above; surface rugose-reticulate with a few fine granules in convex area; vestiture sparse, inconspicuous. Scape with fewer than a dozen setae.

Pronotum 0.91 times as long as wide; outline as in *verdicus*; posterior area reticulate, the very fine punctures obscure; vestiture of fine and stout hairlike setae.

Elytra 1.4 times as long as wide, 1.65 times as long as pronotum; sides straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed, the punctures rather coarse, deep; interstriae narrower than striae, almost smooth, the punctures very fine, uniseriate. Declivity largely confined to posterior third, convex, steep; striae punctures greatly reduced, the interstitial punctures very finely granulate. Vestiture consisting of rows of small, erect, interstitial scales of about equal size on disc and declivity; each scale about three times as long as wide, about one-half as long as distance between rows of scales, spaced within rows by distances equal to about three times length of a scale.

Female.—Similar to male except frons more broadly, somewhat more deeply concave; scape bearing a large, dense tuft of long, yellow hair; pronotum armed by two teeth on anterior margin; declivity slightly shorter and steeper; declivital interstitial granules obsolete.

Type Locality.—Eighteen km. north of Huaquajuan, Oaxaca, Mexico.

Type Material.—The male holotype, female allotype, and 10 paratypes were collected at the type locality on June 15, 1967, 2,000 m., No. 43, by S. L. Wood, from tunnels in the phloem of an unusual mistletoe that awaits identification.

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

Pseudothysanoes coracinus, n. sp.

This species is very similar to *hopkinsi* Blackman, but it is distinguished, in the male, by the more nearly flattened frons, by the more weakly impressed striae punctures, and by the much broader interstitial scales. The female remains unknown.

Male.—Length 1.2 mm. (male paratypes 1.2-1.3 mm.), 2.2 times as long as wide; color almost black, pronotal summit reddish.

Frons convex above, weakly, transversely impressed just above epistoma, with a narrow impression extending dorsad to center of frons; surface rugulose-reticulate;

vestiture sparse, consisting of coarse, subplumose setae of moderate length.

Pronotum 0.84 times as long as wide; widest a third from base; sides rather strongly arcuate on basal two-thirds then weakly constricted before the rather broadly rounded anterior margin; anterior margin armed by four broad, low teeth; summit high, behind middle; posterior area reticulate, the punctures sparse, minute, obscure; vestiture of stout and slender, short, hairlike setae.

Elytra 1.3 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on slightly more than basal half, rather narrowly rounded behind; striae not impressed, the punctures rather small, distinct but not deep; interstriae about as wide as striae, the punctures uniseriate, finely granulate. Declivity on slightly less than posterior half, convex, rather steep; as on disc except striae punctures slightly smaller, the interstitial granules very slightly higher. Vestiture consisting of minute, fine, striae hair and rows of erect interstitial scales; each scale about twice as long as wide; not longer on declivity.

Type Locality.—Thirty-four km. north of Juchitlan, Jalisco, Mexico.

Type Material.—The male holotype and three male paratypes were collected at the type locality on July 3, 1965, about 1,300 m., No. 182a, by S. L. Wood, from tunnels in the cambium region in twigs of an unidentified tree.

The holotype and paratypes are in my collection.

Pseudothysanoes crassinis, n. sp.

This species is allied to *hopkinsi* Blackman, but it is not closely related. It is distinguished, in the male, by the much stouter body, by the longer, more slender interstitial scales, and by the large interstitial granules, and, in the female, by the slightly impressed frons, and by the much finer elytral sculpture and smaller scales.

Male.—Length 0.9 mm. (paratypes: males 0.8-1.0 mm.; females 1.0-1.2 mm.), 2.0 times as long as wide; color black.

Frons and pronotum as in *coracinus* (above) except teeth on anterior margin of pronotum more slender, the summit higher and wider, and the posterior areas obscurely reticulate.

Elytra 1.1 times as long as wide, 1.25 times as long as pronotum; sides almost straight and parallel on basal two-thirds, broadly rounded behind; striae not impressed, the punctures obsolete; interstriae each with a uniseriate row of large tubercles, increasing in size toward declivity. Declivity beginning at middle, rather steep, convex; a few minute striae punctures obscurely indicated; interstitial granules greatly reduced on upper half, obsolete on lower half, replaced by very minute, obscure punctures. Vestiture consisting of fine, moderately long, suberect, striae hair and interstitial rows of longer, erect scales; each scale about four times as long as wide on disc, six times as long as wide on declivity; each scale as long as distance between rows on disc, slightly longer on declivity, spaced within rows by a slightly greater distance.

Female.—Similar to male except larger; 2.4 times as long as wide; frontal impression very slightly larger; anterior margin of pronotum unarmed; striae punctures obscurely visible; interstitial granules obsolete; declivity

confined to posterior third of elytra, more narrowly convex; interstitial scales slender, at least eight times as long as wide.

Type Locality.—Twenty-four km. west of Tehuantepec, Oaxaca, Mexico.

Type Material.—The male holotype, female allotype, and 63 paratypes were collected from the type locality on June 22, 1967, 70 m., No. 35, by S. L. Wood, from tunnels in the cambium region in the bole of a small, thornless, leguminose tree having bipinnately compound leaves.

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

Cryptulocleptus quercinus, n. sp.

This is the first species in this genus known to me in which the frons of male and female are equally convex; the scape is also very short and bears a large tuft of hair in the female.

Male.—Length 1.0 mm. (paratypes: male 0.8-1.1, female 1.2-1.5 mm.), 2.4 times as long as wide; color very dark brown.

Frons convex, narrowly, transversely impressed just above epistoma; rugulose-reticulate, the punctures fine; vestiture moderately abundant, conspicuous, subplumose, moderately short. Scape only slightly longer than pedicel; bearing several long setae.

Pronotum 0.81 times as long as wide; widest near middle, subcircular in outline; anterior margin armed by three small teeth (four in paratypes); summit at middle, rather high, anterior slope rather coarsely asperate; posterior area smooth, shining, the punctures sparse, very minute; vestiture consisting of stout erect hair posteriorly, of bifid scales in asperate area.

Elytra 1.6 times as long as wide, 1.9 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae not impressed, the punctures of moderate size and depth; interstriae almost smooth, as wide as striae, the punctures fine, uniseriate. Declivity rather steep, convex; essentially as on disc but surface more irregular. Vestiture consisting of fine, short, strial hair and rows of erect interstitial scales; each scale one and one-half times as long as strial hair, about two-thirds as long as distance between rows, similarly spaced within each row, each scale about twice as long as wide.

Female.—Similar to male except 2.8 times as long as wide; frons as in male; scape very slightly larger, bearing a large, long tuft of hair; anterior margin of pronotum unarmed; strial punctures not as deep, more widely spaced; declivity less clearly punctured; elytral scales more closely spaced within rows, very slightly longer, each scale about four times as long as wide.

Type Locality.—Thirty-seven km. west of Durango, Durango, Mexico.

Type Material.—The male holotype, female allotype, and 32 paratypes were collected at the type locality on June 4, 1965, about 2,000 m., No. 10, by S. L. Wood, from phloem tunnels in a small, shaded-out *Quercus* branch 2 cm. in diameter.

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

Cryptulocleptus arbuti, n. sp.

This species is rather closely allied to *quercinus* Wood, described above, but it is distinguished by the larger, median, frontal impression, by the greatly reduced tuft of hair on the scape, by the rugulose-reticulate posterior areas on the pronotum, by the larger strial punctures, and by the longer, more slender interstitial scales.

Male.—Length 1.2 mm. (paratypes 1.0-1.3 mm., males average slightly smaller than females), 2.7 times as long as wide; color very dark brown.

Frons convex above, narrowly, rather strongly, transversely impressed just above epistoma, the impression extended slightly dorsad at center; vestiture confined to epistomal margin. Scape twice as long as pedicel, bearing about six setae; club oval very slightly longer than wide.

Pronotum 0.94 times as long as wide; essentially as in *quercinus* except posterior area minutely rugulose-reticulate, most of the punctures minutely granulate.

Elytra 1.7 times as long as wide, 1.8 times as long as pronotum; outline about as in *quercinus*; striae not impressed, the punctures rather coarse, close, not sharply impressed; interstriae as wide as striae, minutely irregular, the punctures very fine, uniseriate. Declivity steep, convex; strial punctures slightly reduced in size, interstitial punctures minutely granulate. Vestiture consisting of very fine, moderately long strial hair and slightly longer, erect interstitial scales; each scale slender, equal in length to distance between rows, slightly closer within each row, each at least eight times as long as wide.

Female.—Similar to male except 3.0 times as long as wide; upper frons bearing rather abundant short, stout setae; scape bearing about a dozen setae; anterior margin of pronotum unarmed; elytral scales a little more slender.

Type Locality.—Thirteen km. west of Texmelucan, Puebla, Mexico.

Type Material.—The male holotype, female allotype, and 34 paratypes were collected at the type locality on June 13, 1967, 2,600 m., No. 27, by S. L. Wood, from twigs of *Arbutus* sp. The tunnels were immediately below the surface.

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

Cryptulocleptus caritus, n. sp.

This species is allied to *arbuti* Wood, described above, but it is not closely related. It differs from *arbuti* by the less strongly convex frons which lacks a transverse impression, by the smaller, less abundant, pronotal asperities, and by the very different pronotal and elytral vestiture.

Male.—Length 1.2 mm. (paratypes 1.2-1.3 mm.), 2.7 times as long as wide; color dark brown.

Frons convex to epistomal margin, a moderately large fovea just below center; surface reticulate in marginal areas, smooth and shining on middle half, with a few scattered, small, punctures; vestiture inconspicuous. Scape elongate; club small, oval.

Pronotum 1.0 times as long as wide; widest near base, the sides very weakly arcuate, converging slightly to shallow constriction one-third pronotum length from the rather narrowly rounded anterior margin; anterior margin armed by four moderately large teeth; summit at middle, moderately high; anterior slope with fine asperities; posterior area minutely rugulose, the minute punctures obscure; vestiture slender, hairlike in both asperate and posterior areas.

Elytra 1.7 times as long as wide, 1.8 times as long as pronotum; outline as in *quercinus*; striae not impressed, the punctures fine; interstriae as wide as striae, with abundant, very minute points, the punctures very fine, obscure. Declivity steep, convex, as on disc except interstitial punctures finely granulate. Vestiture consisting of very fine long, strial hair and erect interstitial setae; each interstitial seta on disc stout, hairlike, one and one-half times as long as strial hair, slightly longer than distance between rows, more closely spaced within each row; interstitial setae becoming scalelike on declivity and very slightly longer, each scale at least six times as long as wide.

Female.—Similar to male except 2.9 times as long as wide; frons very weakly, transversely impressed just above epistomal margin; anterior margin of pronotum unarmed; interstitial granules on declivity very minute; interstitial setae on declivity stout but essentially hairlike.

Type Locality.—Cerro Punta, Chiriqui, Panama.

Type Material.—The male holotype, female allotype, and 10 paratypes were collected January 11, 1964, 1,800 m., No. 411, by S. L. Wood, from broken branches of an unidentified tree.

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

Cryptulocleptus pumilus, n. sp.

This species is rather closely allied to *subpilosus* Wood, but it may be distinguished in the male by the more slender body form, and by the much smaller strial punctures, and, in the female, by the more deeply concave frons and by the limitation of vestiture in the frontal concavity to a narrow band on upper margin.

Male.—Length 0.8 mm. (paratypes: male 0.8-0.9, female 1.0-1.1 mm.), 2.3 times as long as wide; color yellowish brown.

Frons convex, narrowly, transversely impressed just above epistomal margin, more strongly in median area; surface shining, rather coarsely reticulate; vestiture confined to epistomal margin. Antennal club rather narrowly ovate; devoid of sutures.

Pronotum 0.90 times as long as wide; widest a third from base, sides evenly arcuate to the rather broadly rounded anterior margin; anterior margin armed by four small teeth; summit just behind middle, rather well developed; asperities on anterior slope coarse; posterior area shining, minutely rugulose-reticulate, the fine punctures obscure; vestiture largely scalelike.

Elytra 1.4 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed, the punctures very small but distinct; interstriae somewhat irregular, shining, twice as wide as striae, the squamiferous punctures equal in size to those of striae

but more widely spaced. Declivity rather steep, convex; sculpture as on disc but all punctures very slightly smaller. Vestiture consisting of minute, fine, strial hair and rows of erect, interstitial scales; each scale twice as long as strial hair, almost as long as distance between rows, about twice as long as wide, strongly tapered toward their bases.

Female.—Similar to male except 2.5 times as long as wide; frons rather deeply concave on median two-thirds to well above eyes, with a row of stout, subplumose setae on upper margin; scape bearing a small tuft of long hair; anterior margin of pronotum unarmed; strial punctures equal in size but less distinct; elytral scales three times as long as wide.

Type Locality.—Fifty-three km. south of Colima, Colima, Mexico.

Type Material.—The male holotype, female allotype, and 56 paratypes were collected at the type locality on June 27, 1965, about 700 m., No. 122, by S. L. Wood, from an unidentified desert shrub.

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

Cryptulocleptus mendicus, n. sp.

This species is closely allied to *pumilus* Wood, described above, but it may be distinguished by the smoother elytral surface, by the much more slender elytral scales, and, in the female, by the less strongly concave frons that is devoid of special setal ornamentation.

Male.—Length 0.9 mm. (paratypes: male 0.9-1.0, females 1.1-1.3 mm.), 2.4 times as long as wide; color yellowish brown, some specimens darker.

Frons as in *pumilus*; pronotum also as in *pumilus* except six teeth on anterior margin larger, the posterior area more finely reticulate.

Elytra 1.4 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 fine punctures spaced by two diameters of a puncture; interstriae shining, marked by irregular lines, twice as wide as striae, the punctures distinctly smaller than those of striae. Declivity rather steep, convex; essentially as on disc except punctures much smaller. Vestiture consisting of very minute strial hair and rows of erect interstitial scales; each scale three times as long as strial hair, slightly shorter than distance between rows of scales, each about three times as long as wide.

Female.—Similar to male except 2.9 times as long as wide; frons concave on median two-thirds to upper level of eyes, not specially ornamented by setae; scape bearing a small tuft of long hair; anterior margin of pronotum unarmed; elytral punctures much more obscure; elytral scales more slender, each about six times as long as wide.

Type Locality.—Eleven km. south of Colima, Colima, Mexico.

Type Material.—The male holotype, female allotype, and 72 paratypes were collected at the type locality on June 28, 1965, about 1,000 m., No. 120, by S. L. Wood, from an unidentified thornless, leguminous, desert, shrubby tree. Additional paratypes were taken in Mexico as follows: 19 at 3 km. W. Armeria, Colima, June

28, 1965, 70 m., No. 137, S. L. Wood; and 17 at 24 km. W. Tehuatepec, Oaxaca, June 22, 1967, 70 m., No. 85, S. L. Wood; presumably all taken from the same host species.

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

Cryptulocleptus acares, n. sp.

This species is rather closely related to *mendicus* Wood, described above, but it is distinguished by the larger size, by the more irregular, more deeply punctured elytra, and by the larger, more closely spaced interstitial scales.

Male.—Length 1.2 mm. (paratypes: males, 1.1-1.2, females 1.3-1.4 mm.), 2.2 times as long as wide; color yellowish brown, the elytra darker.

Frons and pronotum as in *mendicus*, except posterior area of pronotum almost smooth and shining.

Elytra 1.3 times as long as wide, 1.5 times as long as pronotum; outline about as in *mendicus*; striae not impressed, the punctures rather coarse; interstriae as wide as striae, the punctures rather large, uniseriate. Declivity steep, convex; sculpture about as on disc except interstitial punctures closer. Vestiture consisting of minute striae hair and rows of erect interstitial scales; each scale two-thirds as long as distance between rows, similarly spaced within rows; each scale twice as long as wide.

Female.—Similar to female of *mendicus* except 2.7 times as long as wide; frons somewhat more deeply impressed, with a few minute granules in upper third of impression; striae and interstitial punctures closer and more distinct, the general surface more irregular; declivity much more coarsely, deeply punctured; interstitial scales much closer, each four to six times as long as wide, very slightly longer.

Type Locality.—Thirty km. southeast of El Cameron, Oaxaca, Mexico.

Type Material.—The male holotype, female allotype, and 25 paratypes were collected at the type locality on June 21, 1967, near 1,000 m., No. 80, by S. L. Wood, from the branch of an unidentified tree (probably leguminose).

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

Cryptulocleptus aquilus, n. sp.

This species is allied to *mendicus* Wood, described above, but it may be distinguished by the slightly larger size, by the darker color, by the much more broadly rounded anterior margin of the pronotum, by the much coarser male striae punctures, by the much more coarsely punctured female elytral declivity, and by the more extensive female frontal impression.

Male.—Length 1.1 mm. (female paratypes 1.2-1.4 mm.), 2.3 times as long as wide; color dark brown.

Frons and pronotum as in *mendicus* except anterior margin of pronotum much more broadly rounded, bearing eight teeth, and posterior area more clearly punctured.

Elytra 1.4 times as long as wide, 2.1 times as long as pronotum; outline as in *mendicus*; striae not impressed, the punctures rather coarse, round, deep, interstriae as

wide as striae, almost smooth, the punctures minute, uniseriate. Declivity rather steep, convex; striae punctures decreasing rapidly in size, almost obsolete at apex; interstitial punctures minute. Vestiture consisting of fine, minute, striae hair and rows of erect interstitial scales; each scale almost as long as distance between rows, each about four times as long as wide.

Female.—Similar to male except 2.7 times as long as wide; frons shallowly concave from epistoma to vertex, smooth and shining on median half below, not specially ornamented by setae; anterior margin of pronotum unarmed; elytral surface more irregular, the striae punctures smaller, but distinct; interstitial punctures minute, mostly obscure; declivity more irregular, more coarsely punctured much as in *acares*; interstitial scales more closely placed.

Type Locality.—Twenty-six km. east of Morelia, Michoacan, Mexico.

Type Material.—The male holotype, female allotype, and 21 female paratypes were collected at the type locality on June 14, 1965, 2,500 m., No. 56, by S. L. Wood, from phloem tunnels in an *Acacia* branch.

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

Cryptulocleptus mirus, n. sp.

This species is rather closely related to *acares* Wood, described above, but it may be distinguished by the more deeply impressed female frons above, by the more coarsely sculptured posterior areas of the pronotum, and by the much finer declivital punctures.

Male.—Length 1.0 mm. (paratypes: male 1.0-1.1, female 1.2-1.4 mm.), 2.2 times as long as wide; color yellowish brown.

Frons similar to *acares* but more strongly convex. Pronotum as in *acares* except reticulation in posterior areas tending to be very slightly more rugulose.

Elytra 1.3 times as long as wide, 1.4 times as long as pronotum; outline as in *acares*; striae not impressed, the punctures rather coarse, more sharply impressed than in *acares*; interstriae irregular but much smoother than in *acares*, as wide as striae, the punctures rather small and more widely spaced than in *acares*. Declivity steep, convex; surface smoother, the punctures very slightly smaller than on disc. Vestiture as in *acares* except interstitial scales very slightly more widely spaced.

Female.—Similar to female of *acares* except 2.8 times as long as wide; frons more abruptly impressed at upper limits of concavity; posterior areas of pronotum more strongly reticulate; elytral surface less rugulose; declivital punctures reduced to very fine striae and interstitial punctures; elytral scales similar, but less abundant.

Type Locality.—Thirty-eight km. south of Matias Romero, Oaxaca, Mexico.

Type Material.—The male holotype, female allotype, and 40 paratypes were collected at the type locality on June 24, 1967, 250 m., No. 92, by S. L. Wood, from branches 1 to 5 cm. in diameter of a leguminose shrub having a yellow, mimosa-like flower.

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

Cryptulocleptus obesus, n. sp.

Apparently this species is more closely allied to *columbianus* Blackman than to other known species, but it is distinguished by the stouter body, shorter antennal scape; and by the less closely placed interstitial scales.

Male.—Length 1.0 mm. (paratypes: male 1.0-1.2, female 1.2-1.4 mm.), 2.0 times as long as wide; color reddish brown, the elytra black (lighter in less mature specimens).

Frons planoconvex almost to upper level of eyes; minutely punctate above, becoming smoother below; vestiture consisting of a few short subplumose setae over flattened area. Scape short, little longer than pedicel, bearing a small tuft of hair; club moderately large, oval.

Pronotum 0.86 times as long as wide; widest one-third from base, sides rather strongly arcuate converging toward the narrowly rounded anterior margin; anterior margin armed by four teeth, the median pair larger; summit behind middle, well developed; anterior area coarsely asperate; posterior area very minutely rugulose, the punctures obscure; vestiture largely scalelike.

Elytra 1.15 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on slightly more than basal half, rather broadly rounded behind; striae not impressed, the punctures small, obscure, interstriae wider than striae, the punctures fine, uniseriate. Declivity steep, broadly convex; surface minutely rugulose, as on disc except interstitial punctures closer. Vestiture consisting of interstitial rows of erect scales, each scale less than twice as long as wide.

Female.—Similar to male except 2.3 times as long as wide; frons shallowly concave to upper level of eyes; scape larger, broadly triangular, bearing a large tuft of long hair; anterior margin of pronotum unarmed; elytra minutely rugulose, all punctures obscure.

Type Locality.—Thirty km. southeast of El Cameron, Oaxaca, Mexico.

Type Material.—The male holotype, female allotype, and 26 paratypes were collected at the type locality on June 21, 1967, near 1,000 m., No. 79, by S. L. Wood, from twigs of a tree awaiting identification.

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

Cryptulocleptus excavatus, n. sp.

This remarkable species is unique in the genus. It is distinguished by the remarkably extensive frontal excavation of both sexes; its larger size and the short, tufted scape also aid in distinguishing it.

Male.—Length 1.4 mm. (paratypes: male 1.6, female 1.4-1.6 mm.), 2.1 times as long as wide; color dark brown to black.

Frons very broadly, deeply, concavely excavated from eye to eye, from epistoma to vertex, the upper margin acute with median fourth projecting cephalad slightly; surface reticulate, glabrous. Mandibles near middle armed by a transverse, strongly developed ridge. Antennal scape slightly longer and twice as wide as pedicel; club twice as long as wide.

Pronotum 0.89 times as long as wide; widest two-fifths from base, the sides and anterior margin equally rounded on an almost circular arc; anterior margin armed by two small teeth; summit at middle, broad; anterior slope very coarsely asperate; posterior areas almost smooth, obscurely reticulate, shining; small scales almost obsolete except at margins.

Elytra 1.2 times as long as wide, 1.4 times as long as pronotum; widest at base, the sides straight on basal two-thirds, very feebly converging posteriorly, broadly rounded behind; striae not impressed, the punctures small, shallow, somewhat obscure; interstriae wider than striae, minutely subrugulose, shining, the punctures fine, obscure. Declivity steep, convex; striae punctures greatly reduced, becoming obsolete; interstitial punctures finely granulate. Vestiture consisting of minute, fine, striae hair and rows of erect interstitial scales; each scale on disc slender, elongate, slightly longer than distance between rows, becoming shorter but not narrower toward declivity, on declivity each scale equal in length to little more than half distance between rows, about twice as long as wide. Posterior margin of sternum 5 narrowly rounded, projecting slightly.

Female.—Similar to male except 2.3 times as long as wide; frontal excavation slightly deeper with median area near epistoma slightly elevated; mandibular ridge absent; scape wider, bearing a small tuft of hair; margin of pronotum unarmed; discal scales on elytra slightly shorter; sternum 5 less strongly produced.

Type Locality.—Thirty km. southeast of El Cameron, Oaxaca, Mexico.

Type Material.—The male holotype, female allotype, and three paratypes were collected at the type locality on June 21, 1967, near 1,000 m., No. 78, by S. L. Wood, from the twigs of the same tree that harbored the preceding species, *obesus*.

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

Cryptulocleptus spicatus, n. sp.

This species and the next one form a new species group within the genus. They differ from all representatives of the genus in having the last visible male abdominal tergum very narrow, produced medially into a projecting mucro; in the female a similar projecting mucro is formed by the last visible sternum; the female frons is also concave.

Male.—Length 1.7 mm. (paratypes 1.5-1.8 mm.), 2.4 times as long as wide; color dark brown, summit of pronotum reddish brown.

Frons convex above, becoming more nearly flattened on lower third; surface rugulose-reticulate and obscurely punctured; an indefinite, median, subfoveate impression just below upper level of eyes; vestiture fine, short, inconspicuous except long and conspicuous along epistomal margin. Scape elongate.

Pronotum 0.90 times as long as wide; widest a third from base, sides arcuate, a weak constriction on anterior third, rather broadly rounded in front; anterior margin armed by about eight small teeth; summit just behind middle, moderately high; asperities on anterior slope rather large; posterior area rugulose-reticulate, a few fine granules behind summit; vestiture hairlike.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed, the punctures very small, obscure; interstriae almost twice as wide as striae, very finely rugulose, the punctures very fine, their anterior margins very finely granulate. Declivity convex, steep; sculpture essentially as on disc. Vestiture consisting of fine, moderately long strial hair and rows of slightly longer interstitial bristles; each bristle about two-thirds as long as distance separating rows, separated within rows by distances equal to length of bristle, bristles becoming scalelike on declivity, each scale there at least three times as long as wide. Last visible tergum narrowly produced into a mucro-like process that projects beyond elytral apex.

Female.—Similar to male except 2.6 times as long as wide; frons shallowly concave to vertex, lower, median half smooth, shining and ascending toward epistomal margin; anterior margin of pronotum unarmed; interstitial setae on disc fine, hairlike, bristlelike on declivity; mucro formed by last visible sternum; last tergum rounded on posterior margin.

Type Locality.—Cerro Punta, Chiriqui, Panama.

Type Material.—The male holotype, female allotype, and 48 paratypes were collected at the type locality on January 11, 1964, 1,800 m., No. 382, from cambium tunnels in an unidentified log about 1 m. in diameter.

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

Cryptulocleplus subulatus, n. sp.

This species is rather closely related to *spicatus* Wood, described above, but it may be distinguished by the much larger and deeper strial punctures, by the longer, broader, elytral scales, and by the much more strongly impressed female frons.

Male.—Length 1.4 mm. (paratypes 1.3-1.7 mm.), 2.3 times as long as wide; color very dark brown to black, pronotal summit reddish brown.

Frons and pronotum as in *spicatus* except part of pronotal vestiture stout.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; outline as in *spicatus*; striae not impressed, the punctures rather large, deep, sharply impressed; interstriae almost smooth, shining, one and one-half times as wide as striae, the uniseriate punctures finely granulate. Declivity steep, convex; striae very feebly impressed, the punctures more obscure. Vestiture consisting of short, fine strial hair (some flattened on declivity), and rows of longer, interstitial scales; each scale slightly more than half as long as distance between rows, separated within rows by distances equal to length of scale, each about twice as long as wide. Tergal mucro about as in *spicatus*.

Female.—Similar to male except 2.6 times as long as wide; frons rather deeply concave on median three-fourths from epistoma to vertex, a small, smooth, median area on lower half, most females ornamented by a small, sparse tuft of hair at upper margin of concavity; anterior margin of pronotum unarmed; strial punctures not as deep, perhaps smaller; interstitial scales very slightly longer and more slender, each scale about four times as long as wide; tergal mucro replaced by sternal mucro as in *spicatus*.

Type Locality.—Volcan Pacaya, Esquintla, Guatemala.

Type Material.—The male holotype, female allotype, and 57 paratypes were collected at the type locality on June 1, 1964, 1,300 m., No. 700, by S. L. Wood, in tunnels in the phloem of branches less than 8 cm. in diameter of a tree named Caldo de Frijol by a local woodcutter. The local host name obviously was derived from the odor of freshly cut wood.

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

Cryptulocleplus mucronatus, n. sp.

While most of the generic characters of *Cryptulocleplus* clearly fit this species, it is unique in having the elytral apices acuminate extended to form a short mucro as seen in *Micracis* or possibly *Micracisella*. The mucro appears to be a secondary acquisition that should not have a bearing on the generic placement of this species.

Male.—Length 1.3 mm. (paratypes 1.2-1.4 mm.), 2.5 times as long as wide; color dark reddish brown.

Frons convex, with a feeble impression just above epistoma; surface rather coarsely rugulose above, more finely below, with a small, median, smooth area on lower third; vestiture short, sparse. Scape elongate, with fewer than a dozen setae; club broadly oval, unmarked by any indication of sutures.

Pronotum 1.0 times as long as wide; widest two-fifths from base, the sides weakly arcuate, moderately constricted a fourth of pronotum length behind the broadly rounded anterior margin; anterior margin armed by four minute teeth; summit at middle, moderately high; anterior slope armed by many small asperities; posterior areas rather coarsely reticulate, with moderately abundant, fine, isolated granules behind summit; vestiture of stout, hairlike setae.

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 broadly rounded behind except for the very short, sutural mucro; striae not impressed, the punctures fine, distinct; interstriae minutely subrugulose, wider than striae, the punctures small, obscure, becoming granulate toward declivity. Declivity convex, very steep; strial punctures larger than on disc but very obscure; interstitial punctures replaced by rather large rounded granules. Vestiture consisting of very fine, moderately long strial hair and rows of erect interstitial scales; the scales slightly shorter and more slender on disc; each scale on declivity spaced within and between rows by distance equal to length of scale, each about four times as long as wide. Apex with a very short mucro.

Female.—Similar to male except 2.6 times as long as wide; frons less strongly convex, less coarsely rugulose, with median fovea near center; anterior margin of pronotum unarmed; elytral scales more slender, at least six times as long as wide on declivity.

Type Locality.—La Lima, Cortez, Honduras.

Type Material.—The male holotype, female allotype, and 14 paratypes were collected on May 5, 1964, 70 m., No. 572, by S. L. Wood, from tunnels in the xylem of stems 1 cm. in diameter from an unidentified shrubby, woody vine.

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

Thysanoes neotropicalis, n. sp.

This species is more closely related to *mexicanus* Wood than to others in the genus, but it is larger, more slender, more finely striate, and it has the female frons more strongly impressed. This is the first species of *Thysanoes* reported south of Mexico.

Female.—Length 2.1 mm. (paratypes: females 2.0-2.2, males 1.5-1.9 mm.), 3.2 times as long as wide; color medium brown, pronotum lighter on type (only).

Frons broadly, somewhat transversely impressed from epistoma to upper level of eyes, the central area more narrowly impressed, subfoveate; epistomal area smooth and shining to subfoveate impression, sides and above finely, obscurely punctured and finely, closely, subaciculate granulate; vestiture inconspicuous. Tuft of setae on scape much smaller than in *mexicanus*.

Pronotum 1.2 times as long as wide; slightly wider near middle, the sides straight and diverging on basal half, converging slightly anteriorly toward the broadly rounded subserrate anterior margin; summit almost one-third from anterior margin; posterior area reticulate and very finely punctured; vestiture confined to marginal areas consisting of flattened bristles.

Elytra 2.1 times as long as wide 1.8 times as long as pronotum; sides straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed, the punctures small, shallow; interstriae about twice as wide as striae, subshining, irregular but not clearly marked by lines or punctures. Declivity convex, steep; surface dull, striae punctures smaller than on disc, perhaps deeper; interstriae with occasional fine granules. Vestiture confined to declivity, consisting of erect interstitial scales with an additional, partial row at suture; each scale three to four times as long as wide.

Male.—Similar to female except smaller, 1.8 mm., stouter, 26 times as long as wide; frons less extensively impressed; anterior margin of pronotum armed by ten serrations; elytra with striae punctures much larger and deeper, the interstitial punctures uniseriately granulate toward declivity, both striae punctures and moderately large interstitial granules continuing to apex of declivity; declivital vestiture longer and extending well onto disc.

Type Locality.—San Ignacio de Acosta, San José Prov., Costa Rica.

Host.—*Calliandra confusa*.

Type Material.—The female holotype, male allotype, and 22 paratypes were collected at the type locality on July 5, 1963, at an elevation of 1,500 m., by S. L. Wood, from dying branches of the above host. The tunnels were in the wood as in other species of the genus.

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

Thysanoes subsulcatus, n. sp.

This species is allied to *fimbraticornis* LeConte, but it is distinguished by the larger size, by the more deeply impressed female frons, by the rather large interstitial declivital granules,

and by the much longer, more slender declivital scales.

Female.—Length 2.2 mm. (paratypes 1.9-2.3 mm.), 3.0 times as long as wide; color dark reddish brown.

Frons shallowly, broadly concave from epistoma to vertex, with a small, median impression near upper level of eyes; surface strongly reticulate, almost subrugulose, except transversely etched on a rather large area above epistomal margin; vestiture short, stout, sparse, uniformly distributed. Scape with a small fringe of hair.

Pronotum 1.2 times as long as wide; sides straight and parallel on slightly less than basal two-thirds, very broadly rounded in front, anterior margin unarmed; summit well in front of middle, broad; surface strongly reticulate, the punctures minute, very leebly granulate behind summit; vestiture fine, hairlike in posterior areas, stout bristles in asperate areas.

Elytra 2.0 times as long as wide, 1.9 times as long as pronotum; sides straight and parallel on slightly more than basal two-thirds, broadly rounded behind; striae not impressed, the punctures very fine, shallow, distinct; interstriae more than twice as wide as striae, minutely irregular, the punctures fine, obscure. Declivity steep, convex; striae punctures almost obsolete; interstriae 2 slightly elevated, each interstriae uniseriately, rather finely granulate, except punctures and granules obsolete on lower three-fourths of 1. Vestiture consisting of very minute, fine, striae hair, and uniseriate rows of longer, erect, interstitial scales; each scale on disc about half as long as distance between rows and three times as long as wide, on declivity slightly longer than distance between rows and up to six times as long as wide, obsolete on middle half of declivital interstriae 1.

Male.—Similar to female except frontal concavity deeper, extending only to upper level of eyes; anterior margin of pronotum armed by eight small teeth; discal striae punctures slightly larger, interstitial punctures granulate on posterior third; declivital granules much larger; declivital scales slightly wider and longer.

Type Locality.—Eight km. west of Tulancingo, Hidalgo, Mexico.

Type Material.—The female holotype, male allotype, and eight paratypes were collected at the type locality on June 11, 1967, 2,400 m., by S. L. Wood, from *Quercus* branches.

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

Thysanoes epicharis, n. sp.

This species is allied to *fimbraticornis* LeConte, but it is distinguished by the less deeply impressed, more strongly reticulate female frons, by the more coarsely sculptured elytral disc, by the almost obsolete declivital striae, and by the much broader scales on the elytral declivity.

Female.—Length 1.2 mm. (paratypes 1.8-2.2 mm.), 3.0 times as long as wide; color yellowish brown.

Frons rather strongly, transversely impressed from epistomal margin to well above eyes, a small median impression just below center; entire surface rather strongly rugulose-reticulate; vestiture fine, short, sparse. Scape bearing a rather dense fringe of long hair.

Pronotum 1.08 times as long as wide; sides almost straight and parallel on basal half, distinctly constricted on anterior half, broadly rounded in front; anterior

margin unarmed; summit in front of middle; posterior area reticulate, the punctures moderately abundant, rather small, shallow; vestiture of fine hair and stout bristles, rather short.

Elytra 1.8 times as long as wide, 1.7 times as long as pronotum; sides almost straight and parallel on basal three-fourths, broadly rounded behind; striae not impressed, the punctures small, distinct; interstriae twice as wide as striae, irregularly subruglose, the punctures small, obscure. Declivity convex, steep, confined to posterior fourth; striae very weakly impressed, the punctures minute, distinct; interstriae almost smooth, with very fine, uniseriate, squamiferous granules, those on 3 very slightly larger. Vestiture of minute strial hair and uniseriate rows of erect interstitial scales; each scale on disc half as long as distance between rows, three times as long as wide; declivital scales three-fourths as long as distance between rows, two to three times as long as wide; a partial supplemental row along suture.

Male.—Similar to female except frontal impression reduced, not reaching upper level of eyes, the central impression more pronounced, sculpture of upper half granulate; anterior margin of pronotum armed by six teeth; declivital granules very slightly larger.

Type Locality.—Twenty-four km. south of Mazamitla, Jalisco, Mexico.

Type Material.—The female holotype, male allotype, and eight paratypes were collected at the type locality on June 22, 1965, 2,500 m., by S. L. Wood, from branches of a leguminose tree.

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

Thysanoes adonis, n. sp.

This species is allied to *mexicanus* Wood, but it is distinguished by the larger size, by the subfoveate frons, by the absence of interstitial granules on basal half of disc, and by longer and much more slender interstitial declivital scales.

Female.—Length 2.0 mm. (paratypes 1.4-1.9 mm.), 2.6 times as long as wide; color dark brown, summit of pronotum reddish brown.

Frons convex above, transversely impressed on lower half of area below upper level of eyes, a small median, subloevate impression at center, ascending toward epistomal margin; surface densely, minutely, evidently subrugulose punctured in convex area, becoming almost smooth toward epistoma; vestiture of sparse, moderately long, very stout bristles uniformly distributed on convex area. Scape bearing about a dozen long hairs.

Pronotum 1.04 times as long as wide; sides almost straight and parallel on basal half, moderately constricted on anterior half, rather broadly rounded in front; anterior margin subserrate; summit at middle, rather broad; asperities on anterior slope rather coarse; posterior areas reticulate, the punctures minute, sparse, a few behind summit minutely granulate; vestiture of stout bristles.

Elytra 1.6 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal three-fourths, rather broadly rounded behind; striae not impressed, the punctures small, distinct; interstriae about three times as wide as striae, the surface irregular, subrugulose, the punctures small, uniseriate, finely granulate on posterior half. Declivity convex, steep, restricted to posterior fourth; strial punctures obsolete, except some of them very finely granulate; interstriae uniseriately, finely granulate; general surface somewhat dull. Vestiture of

very minute strial hair, and uniseriate rows of much longer, interstitial scales; each scale on disc about two-thirds as long as distance between rows, about four times as longer as wide; scales on declivity slightly longer than distance between rows, about six times as long as wide, with a smaller supplemental row at suture.

Male.—Similar to female except anterior margin of pronotum more distinctly serrate; elytral granules smaller, the declivital strial punctures minute but visible; declivital scales broader, about four to five times as long as wide.

Type Locality.—Twenty-nine km. west of Quiroga, Michoacan, Mexico.

Type Material.—The female holotype, male allotype, and seven damaged paratypes were collected at the type locality on June 17, 1965, 2,200 m., by S. L. Wood, from *Quercus* branches.

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

Micracisella monadis, n. sp.

This species is perhaps more closely allied to *hondurensis* Wood than to other known species, but it is easily distinguished by the very different frontal sculpture, by the rows of rounded interstitial granules on the declivity, and by the distinctly elevated declivital interstriae 9.

Female.—Length 1.7 mm. (paratypes 1.5-1.7 mm.), 2.9 times as long as wide; color dark brown.

Frons planoconvex from epistoma to well above eyes, the epistomal margin slightly elevated toward center; surface very minutely, longitudinally etched, approaching reticulation laterally; glabrous. Scape more than three times as long as pedicel, broad, bearing a large tuft of hair.

Pronotum 1.1 times as long as wide; widest at middle, sides weakly arcuate on posterior two-thirds, weakly constricted on anterior third before the rather narrowly rounded anterior margin; anterior margin armed by two basally contiguous, small teeth; summit at middle broad; posterior areas coarsely reticulate with a few minute granules near and behind summit; a few scales on marginal areas.

Elytra 1.7 times as long as wide, 1.5 times as long as pronotum; sides almost straight and parallel on more than basal two-thirds, narrowly rounded behind; striae not impressed, the punctures very small, distinct; interstriae marked by lines, shining, three times as wide as striae, the punctures fine, obscure. Declivity convex, rather steep; strial punctures larger, deeper, very obscure; interstitial punctures replaced by small rounded granules. Apex of elytra subacuminate. Vestiture consisting of very short, fine, strial hair and rows of longer, erect, interstitial scales; each scale slightly shorter than distance between rows, similarly spaced within rows, each scale about four times as long as wide, gradually, strongly narrowed toward their bases.

Male.—Similar to female except frons convex, a narrow, transverse impression just above epistoma, the surface finely rugose-reticulate, a few short, stout setae in lateral areas; tuft of hair on scape smaller; scape more slender; teeth on anterior margin of pronotum larger; declivital scales very slightly wider.

Type Locality.—Volcan Colima, Jalisco, Mexico.

Host.—*Strulhanthus venetus*.

Type Material.—The holotype, allotype, and seven paratypes were collected at the type locality on June 23, 1965, 2,500 m., No. 105, by S. L. Wood, from axial pith tunnels in twigs of the above named mistletoe.

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

Micracisella scitula, n. sp.

This species is allied to *monadis* Wood, described above, but it is readily distinguished by the strongly convex frons, by the smaller, less numerous declivital interstitial granules, by the wider declivital scales, and by the presence of four teeth on the anterior margin of the pronotum.

Male.—Length 1.6 mm., 3.0 times as long as wide; color reddish brown.

Frons rather strongly convex, with a narrow, transverse impression just above epistomal margin; surface rather coarsely reticulate except almost smooth on small median area on lower half, a few very small granules scattered on upper half; vestiture sparse, very short in convex area, longer below.

Pronotum 1.2 times as long as wide; widest near middle, the sides very feebly arcuate, almost parallel on more than basal half, rather narrowly rounded in front; anterior margin armed by four small teeth, median pair slightly larger; summit broad, near middle; posterior area coarsely reticulate, a few shining points evidently represent obsolete punctures; vestiture reduced to a few very stout bristles in marginal areas.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on slightly more than basal two-thirds, rather broadly rounded behind except subacuminate at suture; striae not impressed, the punctures small, distinct, anterior margins of some of them very feebly elevated; interstriae shining, subrugulose, the punctures two-thirds as large as those of striae, shallow, some obscure. Declivity convex, rather steep; striae punctures somewhat obscure; interstitial punctures on upper half replaced by rounded granules; subreticulate toward suture near apex. Vestiture largely abraded on disc of type, evidently shorter than on declivity; on declivity consisting of rows of erect, interstitial scales, each scale almost as long as distance between rows, more widely spaced within each row except on 1, each scale broad, averaging about twice as long as wide. Apex acuminate, the mucro short; not at all divaricate.

Type Locality.—Fourteen km. east of Huatusco, Veracruz, Mexico.

Type Material.—The male holotype was collected at the type locality on July 7, 1967, near 1,300 m., No. 173, by S. L. Wood, from *Quercus* twigs.

The holotype is in my collection.

Micracisella nitidula, n. sp.

This species is allied to *monadis* Wood, described above, but it may be distinguished by the reticulate-granulate frons, by the slender declivital interstitial scales, by the much smaller declivital interstitial granules, and by the

presence of four marginal teeth on the pronotum.

Female.—Length 1.9 mm., 3.1 times as long as wide; color black.

Frons convex, less strongly on lower half, epistomal margin weakly elevated; surface very finely reticulate-granulate, reduced to minute points on small median area near epistoma; vestiture consisting of rather sparse, conspicuous, subplumose setae of moderate length to vertex. Scape twice as long as pedicel, bearing a small tuft of hair.

Pronotum 1.1 times as long as wide; widest just behind middle, sides rather strongly arcuate, weakly constricted on anterior third, rather narrowly rounded in front; anterior margin armed by six small teeth of equal size; summit near middle, rather broad; posterior area minutely reticulate-granulate, with a few minute, almost flat, granules toward summit; vestiture rather stout, moderately abundant, rather long.

Elytra 2.0 times as long as wide, 2.0 times as long as pronotum; sides almost straight and parallel on basal three-fourths, narrowly acuminate behind; striae not impressed, the punctures small, shallow; interstriae twice as wide as striae, somewhat irregular, the punctures very fine, uniserate. Declivity convex, rather steep; striae punctures slightly deeper than on disc; interstitial punctures replaced by fine granules; apex subacuminate, mucro not developed, not at all divaricate. Vestiture consisting of very fine, moderately long striae hair and rows of erect interstitial scales, slightly longer on declivity; each scale on declivity slightly longer than distance between rows, similarly spaced within each row, each about six times as long as wide.

Type Locality.—Ten km. northeast of Tezuítlan, Puebla, Mexico.

Type Material.—The female holotype was collected at the type locality on July 2, 1967, 1,600 m., No. 142, by S. L. Wood, from an axial pith tunnel in *Rubus* sp. A second female specimen, almost certainly this species but not designated as a paratype, was taken 26 km. east of Morelia, Michoacan, Mexico, June 14, 1965, 2,500 m., S. L. Wood, from an *Arbutus* sp. twig.

The holotype is in my collection.

Micracisella nigrella, n. sp.

This species is allied to *nigra* Wood, but it is distinguished by the coarser sculpture of striae punctures and declivital granules, by the larger, coarser, more abundant interstitial scales, and by the different arrangement of marginal teeth on the pronotum.

Female.—Length 1.7 mm. (paratypes 1.5-1.8 mm.), 3.0 times as long as wide; color almost black, summit of pronotum reddish brown.

Frons convex on upper half, transversely impressed on lower half, an indistinct median impression toward center; vestiture sparse, of very short, fine, subplumose setae. Scape twice as long as pedicel, bearing a moderately large tuft of long hair.

Pronotum 1.14 times as long as wide; widest just behind middle, the sides weakly arcuate on more than basal half, rather narrowly rounded in front anterior margin armed by two rather large teeth; summit at middle, rather broad; posterior area minutely reticulate-

granulate, with moderately abundant, isolated, very fine granules; vestiture of rather short, broad scales.

Elytra 1.9 times as long as wide, 1.7 times as long as pronotum; outline as in *nitidula*; striae not impressed, the punctures fine, distinct, shallow, interstriae with fine lines, twice as wide as striae, the punctures very fine, half as large as those of striae. Declivity convex, rather steep; interstitial punctures about as large as those of striae; apex acuminate, the sutural apex distinctly, shallowly emarginate. Vestiture consisting of rows of erect interstitial scales; each scale very slightly shorter than distance between rows, similarly spaced within rows, each about two and one-half to three times as long as wide; a supplemental sutural row of smaller scales on declivity.

Male.—Similar to female except frons slightly more convex; scape without tuft of hair; elytral scales very slightly larger.

Type Locality.—Volcan de Agua, Esquintla, Guatemala.

Type Material.—The female holotype, male allotype, and 81 paratypes were collected at the type locality on May 19, 1964, 1,000 m., No. 603, by S. L. Wood, from branches of an unidentified shrub somewhat resembling *Rhus*.

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

Micracisella similis, n. sp.

This species is allied to *nigra* Wood, but it is distinguished by the more slender body form, by the less strongly convex frons, with a slight median impression above epistoma, and much greater development of the vestiture, and by the more strongly reticulate pronotal disc.

Female.—Length 1.5 mm. (paratypes 1.4–1.5 mm.), 3.0 times as long as wide; color black, summit of pronotum reddish brown.

Frons planoconvex, flattened toward center, gradually ascending to epistomal margin on lower fourth; surface minutely reticulate-granulate, smoother medially toward epistoma; vestiture moderately long and abundant toward lateral areas, subplumose. Scape twice as long as pedicel, bearing a small tuft of long hair.

Pronotum 1.16 times as long as wide; widest at middle, sides on basal half straight, almost parallel, rather narrowly rounded in front; anterior margin armed by two moderately large, basally contiguous teeth; summit at middle, broad; posterior areas minutely reticulate-granulate, with a few, fine scattered granules; vestiture short, scalelike.

Elytra 1.9 times as long as wide, 1.7 times as long as pronotum; outline as in *nitidula*; striae not impressed, the punctures small, shallow; interstriae marked by lines, shining, slightly less than twice as wide as striae, the uniseriate punctures very fine. Declivity convex, rather steep; striae punctures somewhat reduced; interstitial punctures replaced by fine granules on upper half, almost obsolete below; general surface granulose toward sutural apex; apex acuminate, the sutural apex shallowly emarginate. Vestiture consisting of minute, fine, striae hair and uniseriate rows of longer, erect, interstitial scales; each scale slightly shorter than distance between rows, similarly spaced within each row, each scale on declivity about three times as long as wide.

Male.—Similar to female except frons more nearly convex, the frontal vestiture somewhat shorter; reduction

of interstitial tubercles on lower half of declivity less pronounced.

Type Locality.—Volcan Ceboruco, Nayarit, Mexico.

Type Material.—The female holotype, male allotype, and seven paratypes were collected at the type locality on July 5, 1965, 1,200 m., No. 189, by S. L. Wood, from axial pith tunnels in *Serjania* sp.

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

Micracisella vescula, n. sp.

This species is allied to *similis* Wood, described above, but it may be distinguished by the coarser striae punctures, by the absence of interstitial granules on the declivity, and by the large, broader, interstitial scales.

Female.—Length 1.4 mm. (allotype 1.35 mm.), 3.0 times as long as wide; color dark brown, summit of pronotum reddish brown.

Frons as in *similis* but less strongly flattened. Scape twice as long as pedicel, bearing a tuft of long hair.

Pronotum 1.17 times as long as wide; outline as in *similis*; anterior margin armed by two moderately large, subcontiguous teeth; posterior area minutely reticulate-granulate, with obscure, subgranulate punctures; vestiture of rather abundant, short scales, each twice as long as wide.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; outline as in *nitidula*; striae not impressed, the punctures rather fine, not always clearly defined; interstriae irregular, almost subrugulose, as wide as striae, the uniseriate punctures fine. Declivity convex, rather steep; striae punctures deeper than on disc, the interstitial punctures equal in size to those of striae; apex acuminate, shallowly emarginate at sutural apex. Vestiture consisting of very fine, short, striae hair and interstitial rows of erect, uniseriate scales, each scale about as long as distance between rows, similarly spaced within each row, each about three times as long as wide; a supplemental row of smaller, sutural scales on declivity.

Male.—Similar to female except frons more strongly convex, the frontal vestiture shorter; tuft of hair on scape much smaller; teeth on anterior margin of pronotum slightly larger.

Type Locality.—Two km. north of Cerro Gordo, Veracruz, Mexico.

Type Material.—The female holotype and male allotype were collected at the type locality on July 6, 1967, 1,000 m., No. 166, by S. L. Wood, in axial pith tunnels in *Serjania* sp.

The holotype and allotype are in my collection.

Micracisella squamatula, n. sp.

This species is allied to *nigra* Wood and the three preceding species, but it is easily distinguished from these and all other representatives of the genus by the much more widely spaced teeth on the anterior margin of the pronotum, by the scalelike, small, striae setae in addition to

those of the interstriae, and by the more strongly divaricate elytra at the sutural apex.

Female.—Length 1.4 mm. (paratypes 1.3-1.5 mm.), 3.0 times as long as wide; color black, summit of pronotum reddish brown, vestiture white.

Frons convex above, becoming flattened below, then ascending slightly to epistomal margin; surface reticulate-granulate above, becoming almost smooth in central area below except for a few fine points; vestiture rather abundant and long in large dorsolateral areas. Scape about twice as long and slightly wider than pedicel, bearing a small tuft of long hair.

Pronotum 1.1 times as long as wide; widest at middle, the sides on posterior half almost straight and parallel on basal half, feebly constricted on anterior third, rather narrowly rounded in front; anterior margin armed by two moderately large, rather widely separated teeth; summit at middle, rather broad; posterior area finely reticulate-granulate, with a few minute granules; vestiture consisting of short, broad scales.

Elytra 1.8 times as long as wide, 1.7 times as long as pronotum; outline as in *nitidula*; striae not impressed, the punctures small, somewhat indistinct; interstriae irregularly marked by fine points and lines, one and one-half times as wide as striae, the punctures fine, uniseriate. Declivity convex, rather steep; striae punctures evidently slightly deeper; interstitial punctures replaced by small rounded granules; sutural apex emarginate. Vestiture consisting of rows of small striae scales, each slightly longer than diameter of a striae puncture, about four times as long as wide, and rows of longer interstitial scales; each interstitial scale one and one-half times as long as striae scales and about equal in length to distance between rows of interstitial scales, each about three times as long as wide.

Male.—Similar to female except frons more strongly convex on upper two-thirds, the smooth area much smaller and subreticulate; tuft of hair on scape reduced.

Type Locality.—Ten km. south of Huajuapán, Oaxaca, Mexico.

Type Material.—The female holotype, male allotype, and nine paratypes were collected at the type locality on June 16, 1967, about 2,000 m., No. 45, by S. L. Wood, from axial pith tunnels in *Serjania* sp. Five additional paratypes were taken 32 km. south of Huajuapán, Oaxaca, Mexico, on the same date, No. 49, from twigs of an unidentified shrub.

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

Micracisella divaricata, n. sp.

While several of the tropical species in this genus have the elytral apices very slightly divaricate, this character is pronounced in this species and serves to distinguish it.

Female.—Length 1.6 mm. (paratypes 1.5 mm.), 2.8 times as long as wide; color black, central area of pronotum reddish brown.

Frons planoconvex from epistoma to upper level of eyes; surface coarsely reticulate above and laterally becoming smooth toward center, the punctures fine, moderately abundant; vestiture consisting of moderately long, stout, subplumose setae moderately abundant in lateral areas and above. Scape twice as long as pedicel, bearing a small tuft of long hair.

Pronotum 1.1 times as long as wide; widest on basal half, the sides almost straight and parallel, then arcuately rounded to constriction on anterior third, narrowly rounded in front; anterior margin armed by two, rather large, basally contiguous teeth; summit rather indefinite, at middle; small asperities continue to just behind summit, isolated granules continue to base; surface of posterior area coarsely reticulate; vestiture of small, short scales.

Elytra 1.7 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on more than basal two-thirds, then narrowly rounded to blunt apex; striae not impressed, the punctures very small; interstriae shining, marked by lines, twice as wide as striae, the uniseriate punctures fine, somewhat obscure. Declivity convex, rather steep; striae punctures largely obsolete; interstitial punctures replaced by rounded granules; apex divaricate, the emargination as wide as width of antennal club and half as deep. Vestiture consisting of very minute, very fine striae hair and rows of longer, suberect, interstitial scales, each scale slightly shorter than distance between rows, similarly spaced within rows except closer on 1, each scale about four times as long as wide.

Male.—Similar to female except frons more strongly convex, the setae more evenly distributed; elytral scales slightly wider, about three times as long as wide.

Type Locality.—Two km. north of Cerro Gordo, Veracruz Mexico.

Type Material.—The female holotype, male allotype, and one female paratype were collected at the type locality on July 6, 1967, 1,000 m., No. 166, by S. L. Wood, from axial pith tunnels in *Serjania* sp.

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

Micracis costaricensis, n. sp.

The only species known to me that is at all similar to this one is *carinulatus* Wood. This species may readily be distinguished from *carinulatus* by the dull surfaces, by the more irregularly punctured elytra, by the more delicate, more strongly flattened interstitial scales, and by the slightly impressed second declivital interspace.

Female.—Length 2.7 mm. (paratypes 2.2-2.8 mm.), 3.2 times as long as wide; color rather dark reddish brown.

Frons strongly, transversely impressed and slightly concave from epistoma to well above eyes, upper half of impressed area with a fine, low median carina; surface coarsely reticulate except smooth just above epistoma; vestiture consisting of sparse, short setae in reticulate area, with a fringe of long subplumose hair along margin of impressed area above level of eyes. Scape flattened, triangular, ornamented by a fringe of long hair; sutures of club strongly procurved, 1 reaching middle, 2 extending three-fourths of club length from its base.

Pronotum 1.3 times as long as wide; widest on basal half, sides almost straight and parallel on slightly more than basal half, rather broadly rounded in front; anterior margin armed by 12 rather coarse, isolated teeth; summit in front of middle; rather coarsely reticulate behind summit with rather sparse, fine, subgranulate punctures. Vestiture consisting of rather short, stout, delicate, white setae.

Elytra 1.9 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal three-fourths, rather broadly rounded behind to the

short, projecting sutural apex; striae not impressed, the punctures small, shallow, distinct; interstriae about three times as wide as striae, irregular, punctures and other features obscured by irregular surface features. Declivity evenly convex, very steep; striae slightly impressed, the punctures deeper than on disc; interstriae weakly convex, with lower half of 2 somewhat impressed; all interspaces bearing median rows of fine, rounded granules, those in lateral areas a little larger; terminal mucro as in other species of this genus. Vestiture consisting of rows of fine strial hair and delicate, very slender interstitial scales of equal length; each scale almost equal in length to distance between rows of scales; easily abraded.

Male.—Similar to female except slightly smaller, 2.4 mm., stouter, 2.8 times as long as wide; frons convex with a slight transverse impression just above epistoma, surface finely granulate, the vestiture greatly reduced; scape not dilated, the tuft of hair almost obsolete; pronotum and elytra very slightly more coarsely sculptured.

Type Locality.—Volcan Poas, Heredia Prov., Costa Rica.

Host.—*Calliandra confusa* (paratypes).

Type Material.—The holotype, allotype, and 41 paratypes were collected at the type locality on June 19, 1966, at an elevation of about 2,000 m., by S. L. Wood, from branches of a leguminose shrub. Additional paratypes were taken in Costa Rica as follows: 18 from Tapanti, Cartago Prov., 1,400 m., Aug. 17, 1963; 25 from Santa Ana, San José Prov., 1,400 m., Oct. 4, 1963; and 3 from San Ignacio de Acosta, San José Prov., 1,500 m., July 5, 1963, all taken by S. L. Wood, from *Calliandra confusa*. Eleven specimens not included in the type series are from Zamorano, Morazan, Honduras, April 18, 1964, 700 m., from *Salix guatemalensis*.

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

Micracis carinulus, n. sp.

Similar to *costaricensis* Wood, described above, but smaller, the declivital striae not impressed, the impression of the female frons not reaching upper level of eyes with the median carina rather sharply elevated.

Female.—Length 2.1 mm. (paratypes 1.6-2.1 mm.), 3.1 times as long as wide; color yellowish brown.

Frons broadly concave from epistoma to upper level of eyes, upper half divided by a fine, low carina, surface smooth and shining just above epistoma, then finely punctured and becoming coarsely reticulate on upper half; vestiture consisting of short, stout, close setae in concave area, and long, curved, subplumose hairs along upper margin of concavity. Antenna as in *costaricensis*, except wider.

Pronotum as in *costaricensis* except anterior margin unarmed.

Elytra as in *costaricensis* except surface of disc a little more irregular and strial punctures less distinct. Declivity evenly convex except for terminal mucro; strial punctures very slightly impressed; interstriae with small, rather obscure granules. Vestiture consisting of moderately long, rather abundant coarse strial and interstitial setae; those on median row of each interspace slightly longer.

Male.—Similar to female except frons convex and finely granulate with a slight transverse impression above epistoma; scape less strongly dilated; anterior margin of pronotum armed by about eight small serrations; and median rows of elytral setae more nearly scalelike.

Type Locality.—Playón, Puntarenas Prov., Costa Rica.

Host.—*Rheedia edulis*.

Type Material.—The female holotype, male allotype, and 20 paratypes were collected at the type locality on February 22, 1964, at an elevation of about 50 m., by S. L. Wood, from branches of the above host. Two additional paratypes were taken at Fort Clayton, Canal Zone, Panama, on December 22, 1963 at about 30 m., by S. L. Wood, from a fallen limb of an unidentified tree.

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

Micracis tribulatus, n. sp.

This species is very closely related to *costaricensis* Wood, described above but it may be distinguished by the darker color, by the more slender form, by the armed anterior margin of the female pronotum, by the granulate, discal, interstitial punctures, and by the coarser declivital granules.

Female.—Length 2.8 mm. (paratypes 2.2-2.8 mm.), 3.6 times as long as wide; color very dark brown.

Frons and antenna as in *costaricensis*.

Pronotum 1.2 times as long as wide; sides straight and parallel on basal two-thirds, rather broadly rounded in front; anterior margin armed by six small teeth; summit distinct, in front of middle; posterior areas reticulate-granulate, with sparse, moderately large, isolated granules to base; vestiture of fine hair and slender scales.

Elytra 2.3 times as long as wide, 2.0 times as long as pronotum; sides straight and parallel on basal three-fourths, narrowly mucronate behind; strial punctures very small, distinct; interstriae at least three times as wide as striae, subshining, marked by lines, the punctures fine, subgranulate; declivity steep, convex, confined to posterior fourth; interstitial punctures replaced by moderately large, rounded granules; apex mucronate. Vestiture consisting of fine strial hair and rows of longer, erect, interstitial scales, slightly longer on declivity; each scale on disc about six to eight times as long as wide, much more slender on declivity.

Male.—Similar to female except 2.9 times as long as wide; frons convex above, transversely impressed below, with a small median impression; scape smaller, narrower; teeth on anterior margin of pronotum larger; declivital scales slightly longer.

Type Locality.—Twenty-six km. west of Texmelucan, Puebla, Mexico.

Type Material.—The female holotype, male allotype, and 9 paratypes were collected at the type locality on June 6, 1967, 2,900 m., No. 29, by S. L. Wood, from *Salix*.

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

Micracis lepidus, n. sp.

This species is not closely related to any species known to me, although there may be a remote relationship to *lignator* Blackman. The size, scalelike elytral setae, armed anterior margin of the female pronotum, and the unexcavated female frons distinguish it.

Female.—Length 3.0 mm. (paratypes 2.3-3.0 mm.), 3.2 times as long as wide; color dark brown to black with white scales.

Frons convex above, somewhat flattened on lower third; surface reticulate and finely punctured above, smooth, shining on lower part of flattened area; vestiture subplumose, erect, rather abundant to vertex except on shining epistomal area, short below, moderately long above. Scape broadly triangular, ornamented by a marginal fringe of long hair; club 1.6 times as long as wide, suture 1 reaching middle.

Pronotum 1.3 times as long as wide; sides almost straight and parallel on basal half, rather broadly rounded in front; anterior margin armed by 12 low teeth; summit in front of middle, distinct; posterior area reticulate-granulate, very minute granules indicated toward summit in median area; vestiture short, of minute hair and slender scales.

Elytra 2.0 times as long as wide, 1.6 times as long as pronotum; sides straight and parallel on basal three-fourths, rather narrowly mucronate behind; striae not impressed, the punctures minute; interstriae about four times as wide as striae, undulating slightly and with numerous indefinite points, the punctures fine. Declivity steep, convex, confined to posterior fourth; striae and interstitial punctures of equal size, close, confused, rows of minute granules on all interstriae except 1; apex obtusely mucronate. Vestiture consisting of minute striae hair and erect scales; scales on disc in interstitial rows, more abundant and confused on declivity, each scale three to four times as long as wide; base of declivity also with several pointed bristles longer than scales, sides with some slender, long hair.

Male.—Similar to female except averaging lightly smaller; 2.6 times as long as wide; frons more strongly convex, not flattened below, surface with many rounded granules; scape less strongly expanded, the tuft of hair smaller; teeth on anterior margin of pronotum larger; elytral scales shorter, broader, mostly twice as long as wide, the bristles and interstitial hair also scalelike and slightly larger than other scales.

Type Locality.—Cerro Punta, Chiriqui, Panama.

Type Material.—The female holotype, male allotype, and 50 paratypes were collected at the type locality on December 19, 1963 and January 11, 1964, 1,800 m., No. 315, 371, 387, 404, by S. L. Wood, from branches of *Inga* sp.

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

Micracis lignicolus, n. sp.

This species is closely related to *lignator* Blackman, but it is distinguished by the less strongly elevated interstriae 9 at base of male declivity, and by the less strongly tuberculate interstriae at margin of declivity, by the slightly

elevated, subserrate, male declivital interstriae 3 on basal third, by the different arrangement of setae on the female frons and scape, and by the narrower interstitial scales in both sexes.

Male.—Length 2.8 mm. (paratypes 2.5-3.3 mm.), 2.8 times as long as wide; color reddish brown.

Frons convex above, transversely impressed on lower half, epistomal margin slightly elevated; surface reticulate-granulate, with sparse, smooth granules on convex area; vestiture sparse, limited to lateral areas. Scape about twice as long as pedicel, distal width equal to length, bearing a small tuft of long hair; club 1.8 times as long as wide, suture 1 extending three-fifths of club length from base.

Pronotum 1.1 times as long as wide; sides almost straight and parallel on basal half, weakly constricted just in front of middle, anterior margin rather broadly rounded and armed by 12 teeth; summit at middle, broad; posterior areas reticulate-granulate, the punctures fine, inconspicuous, some minutely granulate; vestiture consisting of minute hair and slender scales.

Elytra 1.7 times as long as wide, 1.6 times as long as pronotum; sides straight and parallel on basal three-fourths, narrowly rounded behind; striae moderately impressed on posterior third of disc, the punctures rather coarse and deep; interstriae as wide as striae, shining, somewhat irregular, the punctures uniseriate, rather fine. Declivity rather abrupt, convex, steep; striae not impressed, the punctures smaller and squamiferous; interstriae 1-8 each with one or two rounded nodules at base of declivity as in *lignator*, 9 weakly elevated but ending just behind base of declivity, 3 bearing a row of about six pointed tubercles on upper two-thirds, 5 bearing two similar tubercles near base; apex extended slightly but terminated by ascending costal margins that form a pseudo-emargination; interstitial punctures coarse, two-thirds as large as those of striae, squamiferous. Vestiture consisting of minute striae hair and interstitial rows of slender, erect scales on disc; on declivity striae setae and some interstitial setae form moderately short scales each about four times as long as wide, other erect, interstitial scales in rows, much longer at declivital base, some more than twice as long as ground scales.

Female.—Similar to male except 3.2 times as long as wide; frons convex to epistoma, median half glabrous, devoid of granules; scape triangularly extended, bearing a much larger tuft of hair, but shorter than in *lignator*; striae not impressed toward declivity; declivity devoid of tubercles or nodules, 3 weakly convex; vestiture less dense on declivity, the scales more slender, not longer than on disc.

Type Locality.—Cerro Peña Blanca, Honduras.

Type Material.—The male holotype, female allotype, and 13 paratypes were taken at the type locality on April 23, 1964, 2,000 m., No. 529, in *Miconia schlechtendalii*, by S. L. Wood; 23 paratypes bear identical data except lot 533 taken from branches of *Quercus williamsi*; four paratypes were from Zamorano, Morazan Honduras, April 18, 1964, 700 m., No. 539, *Quercus sapotaeifolia*, S. L. Wood; 15 paratypes were from Volcan de Agua, 1,000 m., No. 598, from an unidentified broken branch, by S. L. Wood.

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

Micracis detentus, n. sp.

This species is very closely related to *carinulus* Wood, described above, but it may be distinguished by the larger size, by the larger granules behind the pronotal summit, by the more deeply impressed female frons with a more prominent median elevation below, and by the coarser interstitial bristles on the declivity.

Female.—Length 2.2 mm. (paratypes 1.8-2.3 mm.), 3.2 times as long as wide; color yellowish brown.

Frons transversely, subconceally impressed from epistoma to upper level of eyes, median third of epistoma moderately elevated, the smooth, impunctate, shining elevation extending about one-third of distance to upper level of eyes; remaining surface reticulate-granulate, the punctures minute, obscure; vestiture of minute subplumose hair, becoming longer toward upper margin of impression. Scape narrowly triangular, ornamented by a tuft of long hair; club 1.7 times as long as wide, suture 1 extending slightly beyond middle.

Pronotum 1.3 times as long as wide; sides straight and parallel on slightly more than basal half, rather broadly rounded in front; anterior margin unarmed; summit in front of middle; posterior area reticulate-granulate, with rather sparse, fine, isolated granules; vestiture hairlike, inconspicuous.

Elytra 2.0 times as long as wide, 1.6 times as long as pronotum; sides straight and parallel on basal three-fourths, acuminate behind; striae not impressed, the punctures small, distinct; interstriae at least twice as wide as striae, with lines and points, the punctures uniseriate, very fine. Declivity steep, convex, confined to posterior fourth; minutely granulose, striae punctures deeper but somewhat obscure; interstitial punctures replaced by fine granules; apex rather strongly acuminate. Vestiture consisting of very fine striae hair and rows of erect, interstitial bristles, slightly longer and coarser on declivity; each bristle on declivity slightly longer than distance between rows.

Male.—Similar to female except 2.7 times as long as wide; frons convex above, a moderate transverse impression on lower half, the median elevation obsolete; scape not as wide as long, bearing a small tuft of shorter hair; anterior margin of pronotum armed by eight teeth; declivital vestiture slightly coarser.

Type Locality.—Twenty-four km. south of Mazamitla, Jalisco, Mexico.

Type Material.—The male holotype, female allotype, and five paratypes were collected at the type locality on June 22, 1965, 2,500 m., No. 94, by S. L. Wood, from branches of a leguminose tree; 11 paratypes were taken 8 km. south of Atenqueque, Jalisco, Mexico, on June 25, 1965, 1,000 m., No. 118, by S. L. Wood, from an unidentified shrub; two paratypes were from Maguarichic, Chihuahua, Mexico, July 13, 1960, blacklight, S. L. Wood.

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

Micracis unicornis, n. sp.

This species evidently is closely related to *detentus* Wood, described above, but the male bears a large, pointed median tubercle on the

epistoma, the vestiture is finer, and the elytral declivital tubercles and pronotal asperities are larger.

Male.—Length 2.1 mm. (male paratype 2.1 mm.), 2.7 times as long as wide; color reddish brown.

Frons convex above, transversely impressed on lower half; epistomal margin slightly raised, with a rather indefinite median elevation that bears a conspicuous, moderately large, pointed tubercle; surface reticulate, the punctures obscure, a few fine granules in convex area; vestiture of coarse, subplumose setae of moderate length, rather sparse. Scape twice as long and twice as wide as pedicel, bearing a small tuft of hair; club 1.55 times as long as wide, suture 1 extending slightly beyond middle of club.

Pronotum 1.05 times as long as wide; sides feebly arcuate, subparallel on basal half, rather broadly rounded in front; anterior margin armed by 12 coarse teeth; summit at middle; posterior area reticulate-granulate, with a few minute granules behind summit, the minute punctures obscure; vestiture inconspicuous, composed of stout hairlike setae.

Elytra 2.0 times as long as wide, 2.0 times as long as pronotum; sides straight and parallel on basal three-fourths, narrowly mucronate behind; striae not impressed, the punctures small, distinct; interstriae about four times as wide as striae, marked by many lines and a few points, the punctures fine, shallow. Declivity steep, convex, confined to posterior fourth; striae punctures larger and impressed; interstriae minutely granulose, the punctures replaced by fine granules. Vestiture consisting of minute striae hair and rows of erect, pointed, interstitial bristles, longer and stouter on declivity; each bristle on declivity slightly longer than distance between rows.

Type Locality.—Six km. west of Quiroga, Michoacan, Mexico.

Type Material.—The male holotype and one male paratype were collected at the type locality on June 17, 1965, 2,200 m., No. 72, by S. L. Wood, from a shrubby herbaceous plant.

The holotype and paratype are in my collection.

Micracis inimicus, n. sp.

The scalelike interstitial setae on the elytra and the armed anterior margin of the pronotum suggest a relationship to *evanescens* Wood, but this species is smaller and the frontal sculpture of the female is entirely different.

Female.—Length 2.3 mm. (paratypes 2.0-2.5 mm.), 3.5 times as long as wide; color medium to dark brown.

Frons broadly concave to upper level of eyes, lower third with unusual sculpture; epistomal margin slightly elevated, smooth on a narrow band on median fourth, then a slight, narrow ridge, then above this a narrow slit-like impression, rather strongly abruptly, transversely elevated above impression on more than median half, its upper slope marked by two or three minute, transverse ridges in its gradual descent to concavity; vestiture short, sparse, inconspicuous; surface reticulate-granulate. Scape narrowly triangular, ornamented by a tuft of long hair; club 1.9 times as long as wide, widest on distal half, suture 1 extending two-thirds of club length from base.

Pronotum 1.3 times as long as wide; as in *detentus*, except some setae stout, almost scalelike.

Elytra 2.1 times as long as wide, 1.75 times as long as pronotum; outline and disc as in *detentus* except stria punctures rather obscure. Declivity steep, convex, confined to posterior fourth; striae weakly impressed, the punctures larger, deeper; interstitial punctures subgranulate, except reduced on 2; granules larger in some paratypes. Vestiture consisting of very fine stria hair and rows of erect interstitial scales, slightly longer on declivity; each scale on declivity as long as distance between scales, spaced more closely within each row, truncate at their apices, each about five times as long as wide.

Male.—Similar to female except 2.7 times as long as wide; frons convex, transversely impressed on lower half, epistoma elevated on median third, without elaborate sculpture of female; anterior margin of pronotum armed by six teeth; declivital tubercles more distinct except on interstriae 2 and 3.

Type Locality.—Volcan de Agua, Esquintla, Guatemala.

Type Material.—The female holotype, male allotype, and 21 paratypes were collected at the type locality on May 19, 1964, 1,000 m., No. 603, by S. L. Wood, from branches of an unidentified shrub.

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

Micracis festivus, n. sp.

Apparently the only known species allied to this one is *inimicus* Wood, described above, but it is easily distinguished by the slender elytral setae, and by the very different frontal sculpture of the female.

Female.—Length 2.2 mm. (paratypes 1.7-2.3 mm.), 3.4 times as long as wide; color dark brown.

Frons concavely impressed from epistoma to above upper level of eyes; epistomal margin elevated, median half with a narrow, slit-like impression just above margin and a low elevated, transverse, subcarinate ridge immediately above the slit; surface reticulate-granulate, the punctures fine, obscure; vestiture sparse, fine, short below, longer above. Scape narrowly triangular, ornamented by a tuft of long hair; club 1.6 times as long as wide, suture 1 extending beyond middle.

Pronotum 1.2 times as long as wide; as in *detentus* except granules in posterior areas larger and anterior margin armed by six small teeth.

Elytra 2.1 times as long as wide, 1.8 times as long as pronotum; outline and disc as in *detentus* except stria punctures very slightly deeper. Declivity steep, convex, confined to posterior fourth; striae feebly impressed, the punctures deeper and slightly larger than on disc; interstriae each armed by a row of rounded granules similar to but slightly larger than in *inimicus*; apex strongly acuminate or mucronate. Vestiture consisting of fine stria hair and rows of longer interstitial bristles, slightly longer on declivity; each bristle up to one and one-half times as long as distance between rows of bristles, more closely spaced within each row.

Male.—Similar to female except 2.7 times as long as wide; frons as in male of *inimicus*; interstitial punctures on disc as large as those of striae, very feebly granulate; stria punctures smaller on disc and declivity, somewhat obscure on declivity; vestiture with interstitial setae on disc rather narrowly scalelike, truncate, those on declivity longer, more slender and almost pointed at their apices.

Type Locality.—Zamorano, Morazan, Honduras.

Type Material.—The female holotype, male allotype, and 16 paratypes were collected at the type locality on April 18, 1964, 700 m., No. 506, by S. L. Wood, from branches of *Celtis iguanaea*; 14 paratypes bear identical data except they are lot No. 534, from *Calliandra houstoniana*.

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

Hylocurus alternus, n. sp.

The only species known to me that is closely related to this one is *inaequalis* Wood; however, it has the male declivital spines much less highly developed. The development of declivital spines is similar in magnitude to *medius* Wood, but the relationship to the latter species is remote. Females of this species lack the abundant frontal vestiture of *inaequalis*.

Male.—Length 2.5 mm. (paratypes 1.7-2.5 mm.), 2.5 times as long as wide; color very dark brown, almost black.

Frons concealed in type. In male paratype, convex and granulate above, transversely impressed and punctured below a transverse carina formed at upper level of eyes by four basally confluent tubercles; vestiture inconspicuous.

Pronotum 1.1 times as long as wide; widest near base, the sides feebly arcuate and converging very slightly on basal two-thirds then rather broadly rounded in front; anterior margin armed by about 12 coarse serrations; summit in front of middle; posterior area subshining, rather finely punctured, the posterior margin of each puncture subasperate, more coarsely sculptured toward summit. Vestiture consisting of short, inconspicuous hair.

Elytra 1.4 times as long as wide, 1.2 times as long as pronotum; sides almost straight and parallel to declivital base; profile of posterior margin interrupted by projection of spines on interspaces 9 and 3 and by sutural apex; striae not impressed, the punctures large, deeply impressed; interstriae narrower than striae, irregularly, sparsely punctured, each ending posteriorly at declivital margin in a tubercle or spine. Declivity abrupt, very steep; upper and lateral margins armed by a row of tubercles, those on interspaces 2, 4 and 6 distinctly shorter, all tubercles abruptly declivous behind, 9 longer and projecting; declivital face convex, coarsely punctured with two rather coarse tubercles on interspace 3 and about four smaller ones on middle third of 1; apex narrowly acuminate. Vestiture consisting of short, stout, bristles.

Female.—Similar to male except frontal carina absent, the frons more finely sculptured; anterior margin of pronotum finely serrate; elytra not abruptly declivous, without a marginal row of tubercles on declivity; each interspace bearing about three to five small tubercles on upper or lateral half of declivity.

Type Locality.—twenty-one km. south-east of Liberia, Guanacaste Prov., Costa Rica.

Type Material.—The male holotype, female allotype, and 39 paratypes were collected at the type locality on July 10, 1966, at an elevation of

about 50 m., from a branch of an unidentified tree, by S. L. Wood.

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

Hylocurus aberrans, n. sp.

This species is not allied to any other representative of the genus known to me. The sutures of the antennal club are more strongly procurved than in other *Hylocurus*, but less so than in *Micracis*. The posterior face of the anterior tibia is tuberculate as in *Hylocurus*; the posterior extremity of declivital interspace 9 almost reaches the costal margin thereby resembling somewhat certain species of *Micracis*.

Male.—Length 2.2 mm., 2.6 times as long as wide; color dark reddish brown.

Frons broadly convex with a slight transverse impression just above epistomal margin; surface finely, regularly granulate. Antennal club with two procurved sutures, 1 extending two-fifths from base, 2 extending four-fifths from base.

Pronotum 1.2 times as long as wide; widest on basal half, the sides feebly arcuate, rather broadly rounded in front; anterior margin armed by 16 or more serrations; summit in front of middle; posterior area reticulate, with small, subgranulate punctures of moderate abundance. Vestiture consisting of short, erect scales with a few bristles in asperate area.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel to base of declivity then slightly wider at middle of declivity; posterior outline interrupted by declivital spines on interspaces 7, 8, and 9 and by short, broad, sutural apex; striae slightly impressed, the punctures deep, coarse, much smaller toward base; interstriae about half as wide as striae, the punctures on 1 moderately large, others mostly minute. Declivity abrupt, very steep, almost entirely margined by a row of tubercles or spines; tubercles at base of declivity on interspaces 1 and 2 not pointed, abruptly declivous behind, those on 2 to 8 produced into increasingly large and pointed toothlike spines, 9 similar but lower and extending nearer elytral apex than normal for this genus; apex not strongly produced, its margin subserrate, the small dentitions about half as high as apex of elevation on interspace 9; central area coarsely punctured, interspace 3 slightly elevated near center and bearing three small teeth, 1 on lower third gradually elevated to apex and finely serrate. Vestiture consisting of a few stout bristles or scales at margin and on interspaces 1 and 3.

Female.—Similar to male except frons less strongly convex, finely punctured, ornamented by stout, short, rather sparse, setae; scape flattened and bearing a tuft of long, coarse setae; anterior margin of pronotum almost unarmed; elytra more finely sculptured, the declivity convex, without marginal ring of tubercles, the striae regularly punctured, odd numbered interspaces bearing several rounded granules; rows of broad scales on upper half of all declivital interspaces.

Type Locality.—Dominical, Puntarenas Prov., Costa Rica.

Type Material.—The male holotype and female allotype were taken from the same tunnel at the type locality on December 9, 1963, at sea

level, by S. L. Wood, from a small branch of a recently cut unidentified tree.

The holotype and allotype are in my collection.

Hylocurus incomptus, n. sp.

Fig. 3



Fig. 3. *Hylocurus incomptus* dorsolateral aspect of male elytral declivity.

This species is allied to *femineus* Wood, but it is readily distinguished by absence of sexual dimorphism on the frons, by the much more finely sculptured elytral disc and declivity, and by the steeper elytral declivity.

Male.—Length 2.3 mm. (paratypes 1.9-2.5 mm.), 2.6 times as long as wide; color black.

Frons moderately convex, the epistomal margin slightly elevated; a conspicuous, transverse carina occupying median half at upper level of eyes; surface coarsely reticulate, the sparse punctures minute; vestiture inconspicuous except on epistomal margin. Eye smaller than related species.

Pronotum 1.2 times as long as wide; widest at base, sides almost straight, converging anteriorly slightly on posterior two-thirds, broadly rounded in front; anterior margin subserrate; sculpture as in *femineus* with tubercles behind summit finer, becoming obsolete at base; vestiture inconspicuous, hairlike.

Elytra 1.5 times as long as wide, 1.4 times as long as pronotum; sides straight and parallel on basal two-thirds, rather abruptly rounded behind, median fourth extending into a rather well-developed mucro; striae not impressed, the punctures fine, shallow but distinct; interstriae about three times as wide as striae, marked by irregular lines, almost flat, the punctures minute, widely separated, becoming finely granulate on posterior fourth. Declivity convex, very steep; striae punctures obscure; interstriae 3 weakly, 9 moderately elevated, 1 feebly raised and terminating apically in mucro; all interstriae with a row of tubercles on upper third, minute on 2, rather coarse on 3 and last tubercle on 9, those on 3 extend to middle, on 1 two or three minute granules scattered on lower half. Vestiture hairlike, consisting of rows of short striae, and slightly longer interstitial setae on declivity.

Female.—Similar to male except evidently very slightly more finely sculptured; declivital vestiture longer and more abundant.

Type Locality.—Volcan de Agua, Esquintla, Guatemala.

Type Material.—The male holotype, female allotype, and 63 paratypes were collected at the

type locality on May 19, 1964, 1,000 m., No. 616, by S. L. Wood, from an old fallen limb about 20 cm. in diameter. It appeared that two or more generations had been completed in the same piece of wood.

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

Hylocurus microcornis, n. sp.

This species evidently is allied to *cancellatus* Blandford, but it differs in the female frons, in the absence of a tubercle on the male declivital interstriae 5, and evidently in the very small antennal club.

Male.—Length 2.7 mm. (paratypes: male 2.7-3.0, females 2.9-3.0 mm.), 2.7 times as long as wide; color black.

Frons weakly convex, ascending slightly toward epistoma; surface very closely, subgranulately punctured, with a transverse carina occupying median third at level immediately below upper level of eye. Antennal club very slightly longer than distance equal to width of eye, 1.7 times as long as wide.

Pronotum 1.06 times as long as wide; widest on basal third, the sides weakly arcuate and converging slightly to anterior third, then rather narrowly rounded in front; anterior margin armed by eight teeth; anterior slope asperate, posterior area closely tuberculate, the interstriae rather coarsely reticulate; vestiture inconspicuous, hairlike.

Elytra 1.9 times as long as wide, 2.0 times as long as pronotum; striae slightly impressed on posterior third, the punctures deep, small at base, increasing in size toward declivity; interstriae as wide as striae, weakly convex except near declivity, terminating abruptly at margin of declivity in a blunt, nonprojecting spine, the punctures rather fine, uniseriate. Declivity abrupt, somewhat convex within ring of subequal marginal tubercles (except those on 1 smaller); costal margin near apex subserrate; striae punctures impressed, in rows; interstriae shining, 1 bearing nine small pointed tubercles, 3 with three small granules, lateral interstriae unarmed, mucro well developed, reticulate. Vestiture confined to declivity, consisting of minute striae hair and rather long, slender bristles.

Female.—Similar to male except frons above more nearly flattened, below slightly more protuberant, ornamented on median two-thirds by a conspicuous tuft of rather long, yellow hair from near epistoma to vertex, median area immediately above epistoma smooth and shining, remaining area rather finely reticulate-granulate, punctures obscure, carina absent; anterior margin of pronotum unarmed; tubercles on declivital margin absent; declivital striae as on disc, interstriae except 2 armed by fine tubercles, those on 1, 3, 7 and 9 extending to middle of declivity, others ending on upper fourth; elytral vestiture finer, shorter, extending to disc.

Type Locality.—Twenty-six km. east of Texmelucan, Puebla, Mexico.

Host.—*Salix* sp.

Type Material.—The male holotype, female allotype, and 6 paratypes were collected at the type locality on June 13, 1967, 2,900 m., No. 29, by S. L. Wood, from branches of willow.

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

Phloeocleptus plagiatus, n. sp.

This species is closely allied to *obscurus* Wood, but may be distinguished by the much larger size, by the transverse impression of the lower frons and presence of a low median elevation above, by the absence of teeth on the anterior margin of the male pronotum, and by the somewhat more strongly elevated declivital interstriae 9.

Male.—Length 1.5 mm. (paratypes 1.4-1.8 mm.), 1.4 times as long as wide; color very dark brown, almost black in mature specimens.

Frons convex above, a moderate, transverse impression at level of antennal insertion; a short, longitudinal, median carina at upper level of eyes; surface smooth and shining at center below, becoming coarsely reticulate elsewhere, finely punctured toward smooth area, a few fine granules laterally and above; vestiture inconspicuous except near epistoma. Antennal scape short, about two and one-half times as long as wide, bearing a small tuft of hair; club small, two straight sutures indicated by setae only at lateral margins.

Pronotum 1.0 times as long as wide; sides almost straight on posterior half, converging to a feeble constriction just anterior to middle, rather broadly rounded on the unarmed anterior margin; anterior slope asperate to summit, summit at middle; posterior area rather coarsely reticulate, with small, isolated granules decreasing in abundance toward basal margin, granules replaced by minute punctures in lateral areas. Vestiture moderately abundant, consisting of stout hairlike setae, longer in median area behind summit.

Elytra 1.4 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on basal two-thirds, subacutely mucronate behind; striae feebly if at all impressed, the punctures of moderate size and depth; interstriae shining, as wide as striae, the punctures fine, uniseriate. Declivity convex, steep; striae punctures reduced, obscured by subgranulate reticulation of entire declivital surface; interstriae each armed on upper half by a series of small tubercles, 1 and 3 feebly elevated, 9 more strongly raised and subcarinate on basal half; apex gradually extended toward poorly developed mucro. Vestiture on disc and declivity consisting of fine, erect striae hair, and slightly longer, moderately stout interstitial bristles; more conspicuous on declivity.

Female.—Similar to male except antennal scape triangular and bearing a larger tuft of hair; elytral vestiture finer and somewhat shorter.

Type Locality.—Seven km. west of Tepic, Nayarit, Mexico.

Type Material.—The male holotype, female allotype, and 33 paratypes were collected at the type locality on July 13, 1965, about 1,000 m., No. 240, by S. L. Wood, from cut branches of a roadside shade tree. The tunnels were in the phloem and were similar to those of *caudatus* Wood.

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

Phloeocleptus nanulus, n. sp.

This species is allied to *plagiatus* Wood, described above, but it is easily distinguished

by the uniformly convex frons, by the armed anterior margin of the pronotum in both sexes, by the interstitial granules on the male disc, by the greater development of tubercles at the base of the elytral declivity and by the more strongly elevated interstriae 9.

Male.—Length 1.5 mm. (paratype 1.6 mm.) about 2.5 times as long as wide; color almost black.

Frons convex except epistomal margin weakly elevated; surface subreticulate, with small isolated granules except almost smooth in median epistomal area; vestiture inconspicuous. Antennal scape short, about twice as long as wide, bearing a small tuft of hair.

Pronotum 1.0 times as long as wide; outline as in *plagiatus* but anterior margin armed by four teeth, the median pair larger; sculpture as in *plagiatus*, vestiture coarser.

Elytra about 1.6 times as long as wide (elytra spread slightly), 1.6 times as long as pronotum; outline as in *plagiatus*; striae perhaps feebly impressed, the punctures rather small, deep, larger posteriorly; interstriae almost as wide as striae, the punctures finely granulate (subvulcanate), the granules slightly larger near declivity. Declivity steep, convex; as in *plagiatus* except all tubercles slightly larger particularly those at base of declivity in lateral areas; interstriae 9 much more strongly elevated. Interstitial bristles on declivity longer and coarser than in *plagiatus*.

Female.—Similar to male except antennal scape longer, wider, and bearing a larger tuft of hair; anterior margin of pronotum armed by two small teeth; discal interstriae not granulate; lateral declivital tubercles smaller, interstriae 9 not as strongly elevated; declivital vestiture not as coarse.

Type Locality.—Seven km. west of Tepic, Nayarit, Mexico.

Type Material.—The male holotype, female allotype, and one female paratype were collected at the type locality on June 13, 1965, about 1,000 m., No. 240, by S. L. Wood, in series with *plagiatus* which was described above.

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

Phloeocleptus parvus, n. sp.

This species is more closely allied to *plagiatus*, described above, than to others in the genus, but it is easily distinguished by the more slender antennal scape, by the presence of several rather large punctures on the base of the pronotum, and by the reduced number of tubercles on the elytral declivity.

Male.—Length 1.3 mm., 2.6 times as long as wide; color dark brown (probably not fully mature).

Frons not visible. Scape little if any wider than pedicel, about three times as long as wide.

Pronotum 1.16 times as long as wide; widest behind middle, sides feebly arcuate, almost straight and parallel on basal two-thirds, broadly rounded in front; anterior margin unarmed; summit in front of middle; posterior area reticulate, a few small, isolated granules near summit, several moderately large, deep punctures toward basal margin and in entire lateral area; vestiture fine, largely abraded.

Elytra 1.5 times as long as wide, 1.3 times as long as pronotum; outline and disc as in *plagiatus*. Declivity steep, convex, shining to apex; striae punctures slightly confused; interstriae 1 and 2 unarmed, 2 greatly narrowed near middle, 3 armed by a tubercle at middle and another at junction with 7, 7 also bearing a small tubercle at declivital base, 9 more strongly elevated than in *plagiatus*. Vestiture confined to declivity, consisting of very short striae and moderately long, stout, interstitial bristles.

Type Locality.—Los Corchos, Nayarit, Mexico.

Type Material.—The male holotype was collected 2 km. south of highway 15 on the Los Corchos road on July 10, 1965, No. 206, by S. L. Wood, from a broken branch of an unidentified tree.

The holotype is in my collection.

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