NEW SYNONYMY AND NEW SPECIES OF AMERICAN BARK BEETLES (COLEOPTERA: SCOLYTIDAE), PART III

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ABSTRACT.—New synonymy is proposed as follows: Metacothylus Blandford (=Paracothylus Wood), Cryptocarcanus brevicollis Eggers (=Cryptocarcanus coronatus Wood), Cryptocarcanus brevicollis Eggers (=Cryptocarcanus coronaatus Wood), Dendrocranulas guatemalensis (Hopkins), n. comb. (=Dendrocranulus parallelius Schell), Dendrocranulas mexicanus Blandford (=Conophthorinus umbatus Schell), Hypothoraces ephyrinus (Hopkins) (=Hypothoraces guadeloupeanus Schell), Hypothoraces angustatus (Eggers) (=Stephanoderes pistor Schell), Stephanoderes pistor Schell, Stephanoderes procerus Schell), Xyleborus pseudonematus Schell (=Xyleborus tenius Schell), and Xyleborus villosus Blandford (=Xyleborus coccytopoides Eggers, villosus Schell). Scolytodes punctifera n. n. is proposed for Scolytodes punctifera Wood, 1971 ( nec Wood 1989). The following species are named as new to science: Amphiploterus argatus, A. fulgidus, A. micans, Pityophthorus trapae, P. debilis, P. strictus, P. galeritus, P. sibiricus, P. laetus, P. lentis, P. spectabilis, P. medialis (Costa Rica), P. perexiguus (Costa Rica and Panama), P. selitus (Panama), P. costatus, P. costabilius, P. detentus, P. nasulus, P. melanus, P. indigens, P. burserae, P. molestus, P. dilutus, P. corruptus (Mexico), P. sericus, P. nugatus, P. minutus (Guatemala), P. nemorallis, P. moratus, P. hermosus (Honduras), Aparatus gracilis (Mexico).

On the following pages several newly discovered cases of synonymy and species new to science are presented for American Scolytidae. The species new to science represent the genera Amphiploterus (3), Pityophthorus (27), and Arapatus (1), and they represent the following countries: Mexico (11), Guatemala (3), Honduras (3), Costa Rica (12), Panama (1), Costa Rica and Panama (1).

NEW SYNONYMY

Metacothylus Blandford


Paracothylus Wood, 1905, Great Basin Nat. 28:7 (Type-species: Paracothylus velutinus Wood, original designation). New synonymy

When Paracothylus was named, I was familiar only with species subsequently placed in Metacothylus by authors other than Blandford. It is now established that these species are in no way allied to Blandford's genus. Paracothylus velutinus Wood, the type species of Paracothylus, is rather unlike Metacothylus nigripennis Blandford, the type species of Metacothylus. However, consicus (Wood) and mutus (Wood) fill the character gap between these genera to such an extent that Paracothylus should be placed in synonymy.

Cryptocarcanus brevicollis Eggers

Cryptocarcanus brevicollis Eggers, 1937, Rev. de Ent. 7:81 (Holotype, female; Cochabamba, Bolivia; deposited in but not now in the Eggers Collection, apparently on loan to Schell)


The female holotypes of brevicollis Eggers and coronatus Wood were compared directly to one another and to several other specimens from Venezuela. The frons of brevicollis is less strongly impressed, and the epistomal process and dorsolateral rugae are much larger and more closely placed than in coronatus. The pronotal and elytral punctures are

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smaller than in coronatus, and the declivital vestiture is apparently less abundant. In spite of these minor differences they are considered to represent the same species.

**Dendrocranus guatemalensis**

(Hopkins)


**Dendrocranus parallelus** Scledl, 1938, Archiv Naturgesch. 7-172 (Holotype, female; Trece Rivières, Guadeloupe; U.S. Nat. Mus.). New synonym

The holotypes of *guatemalensis* Hopkins and *parallelus* Scledl were both compared to my series from La Lima, Honduras. Although the head of the *guatemalensis* type is lost, sufficient other reliable characters are available for use so as to remove all doubt as to the identity of these specimens. Only one species is represented by these names.

**Dendrocranus mexicanus** Blandford


**Conopothocramus umbraeus** Scledl, 1937, Arch. Inst. Biol. Veget. 3:108 (Holotype, female; Mexico; Scledl Coll.). New synonym

The female holotypes of *Dendrocranus mexicanus* Blandford and *Conopothocramus umbraeus* Scledl were both compared directly to my series of 119 specimens from various localities in Mexico. Although both antennae have been removed from the type of *umbraeus* and it is slightly smaller than average, there is no doubt as to the synonymy of the two names. Scledl has also cited *umbraeus* in his genus *Chiloxyon*.

**Hypothemenus cylindriscus** Hopkins


**Hypothemenus guadeloupeanus** Scledl, 1951, Dusenia 2:98 (Syntypes, female; Guadeloupe, Val Canard; Scledl Coll.). New synonym

The female holotype of *Stephanococrates cylindriscus* Hopkins and a female syntype from the Scledl Collection and bearing a red label marked "Type" were examined and compared to my series. All represent the same species.

**Hypothemenus erectus** LeConte


The female holotype of *Stephanococrates discordes* Scledl was compared to my series of *Hypothemenus erectus* LeConte that previously had been compared by me to the lectotype. Although the Scledl specimen is badly rubbed, it clearly is of *erectus*. The type locality of *discordes* is given as St. Thomas. It is not known if this refers to the city or island of this name in the Virgin Islands, to the town or bay in Jamaica (all of which are within the known distributional range of *erectus*), or to some other locality.

**Hypothemenus javanus** (Eggers)


**Stephanococrates pistor** Scledl, 1951, Dusenia 2:102 (two syntypes, females; Havana, Cuba; Scledl Coll.). New synonym

**Stephanococrates prosper** Scledl, 1951, Dusenia 2:103 (Holotype, female; Guadeloupe; Scledl Coll.). New synonym

The female holotypes of *Stephanococrates javanus* Eggers and *prosper* Scledl and a female syntype of *pistor* Scledl were all compared by me to my series of this species. All clearly represent the same species; consequently, *prosper* and *pistor* must be placed in synonymy.

**Scolytodes punctiferus**, new name


When *Scolytodes punctifer* Wood, 1971, cited above, was named, the fact was overlooked that the name was pre-occupied by *S. eccentricus punctifer* Wood (1969, Brigham Young Univ. Sci. Bull., Biol. Ser. 10(2):18). The new name *Scolytodes punctiferus* is proposed.
as a replacement for the 1971 junior homonym.

**Xyleborus pseudotenuis** Schedl

*Xyleborus pseudotenuis* Schedl, 1936, Arch. Inst. Biol. Veget. 3:109 (Holotype, female; Brazil; Schedl Coll.)

*Xyleborus tenuis* Schedl, 1949, Rev. Brasil Biol. 9:269 (Holotype, female; Cordova, presumably Mexico; Schedl Coll.). *New synonymy*

This species occurs from central Mexico to Brazil. Series from Mexico to Venezuela are variable in the size of the interstitial declival denticles. Some series from the northern areas include predominantly specimens in which about two to four denticles are distinctly larger than the remaining denticles. Up to half of some series from Costa Rica and southward have these tubercles of approximately subequal small size. The holotype of *pseudotenuis* Schedl, from Brazil, is of the latter form, the holotype of *tenuis* Schedl is of the former structure. Since the two forms intergrade within series from all areas for which adequate material is available for study, the name *tenuis* must be placed in synonymy.

**Xyleborus exilis** Schedl. (1934, Ent. Blätt. 30:209), from Costa Rica, may also be of this species. It has the elytral declivity slightly steeper than normal for this species, but it is identical in other respects. Additional material should be examined before synonymy for this name is accepted.

**Xyleborus villosulus** Blandford


*Xyleborus coccotrpyoides* Eggers, 1943, Mitt. Münch. Ent. Ges. 33:388 (Holotype, female; Cuchambamba, Bolivia; Paris Mus.). *New synonymy*

*Xyleborus villosulus* Schedl, 1949, Rev. Brasil Biol. 9:270 (Syntypes, female; Nova Teutonia, Brazil; Schedl and Plaumann colls.). *New synonymy*

The holotypes of *villosulus* Blandford and *coccotrpyoides* Eggers were both compared directly, to my specimens from Guatemala and Venezuela. All represent the same species. Schedl (personal communication) indicated that *villosulus* Schedl is also synonymous with *coccotrpyoides*.

**Species New to Science**

**Amphicranus argutus**, n. sp.

This species is remotely allied to *melanura* (Blandford) but is distinguished by the much smaller size and by the very different female frons and elytral declivity as described below.

**Female.**—Length 2.2 mm, 3.0 times as long as wide; color dark reddish brown.

Frons convex above, a weak transverse impression between upper level of eyes and epistoma; epistoma weakly developed on median fourth; surface reticulate, punctures very small, shallow, not close; vestiture limited to epistomal margin. Antennal club 1.3 times as long as scape, 1.5 times as long as wide; tuft of hair on posterior face absent.

Pronotum 1.5 times as long as wide; sides straight on posterior two-thirds; indefinite summit on anterior fourth; anterior slope arising vertically from anterior margin to transverse costa, then gradual to summit, asperities broad, low, their anterior limit marked by a serrate costa near submarginal costa; posterior areas reticulate, fine, shallow punctures clearly marked. Glabrous.

Elytra 1.6 times as long as wide, 1.1 times as long as pronotum; sides straight and parallel on basal four-fifths, broadly rounded behind, feebly emarginate at suture; surface smooth, brightly shining, punctures very small and in strial rows on posterior third of disc, about twice as large and moderately confused on basal half; disc descending slightly on posterior third before declival descent. Declivity subvertical, irregularly subconcave; posterolateral margin acutely, moderately elevated from suture to lateral margin slightly below middle of declivity, much more strongly elevated from this point to basal margin at suture; interstriae 1 at basal margin with a minute tubercle, a second tubercle at middle of declivity slightly closer to lateral margin than to suture; surface brightly shining, punctures moderately coarse, rather close, deep; excavated area wider than long. Glabrous.

Protibiae as in *melanura*.

**Type Locality.**—Finca La Lola, Limon, Costa Rica.

**Type Material.**—The female holotype was taken at the type locality on VIII-

The holotype is in my collection.

*Ampicranus fulgidus*, n. sp.

This species is distinguished from *melanura* (Blandford) by the smaller size and by characters on the frons and elytral declivity.

**Female.**—Length 2.8 mm (paratypes 2.8-3.0 mm), 2.7 times as long as wide; color dark brown, basal two-thirds of pronotum and elytra usually lighter.

Frons as in *melanura* except without any indication of a feeble carina or epistomal tubercle, but with a distinct, transverse impression above epistomal process and epistomal process broader. Antennal club 1.5 times as long as scape, 1.1 times as long as wide, apical margin straight; cirrus longer than club.

Pronotum 1.5 times as long as wide; as in *melanura*.

Elytra 1.5 times as long as wide, 1.15 times as long as pronotum; outline and disc as in *melanura* except posterior margin more broadly, more feebly emarginate. Declivity as in *melanura* except steeper, less strongly impressed, without a tubercle on lateral margin near middle of declivity.

**Male.**—Similar to female except antennal club oval, 1.3 times as long as wide, and declivity as in male *melanura*.

**Type Locality.**—Finca Los Diamantes near Dominical, Costa Rica.

**Type Material.**—The female holotype, male allotype, and 19 paratypes were taken at the type locality on 7-II-63, from *Theobroma cacao*, by J. L. Saunders.

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

*Ampicranus micans*, n. sp.

This species is distinguished from *argutus* Wood by the smaller size, by the smaller, broader antennal club, by the shorter pronotum, and by the different elytral declivity.

**Female.**—Length 1.8 mm (paratypes 1.5-2.1 mm), 3.0 times as long as wide; color dark reddish brown, basal two-thirds of pronotum lighter.

Frons convex, epistomal process occupying median half, low, weakly developed, surface rugos-reticulate, punctures obscure; glabrous except at epistomal margin. Antennal club as long as scape, 1.1 times as long as wide, widest on apical third; tuft of hair on posterior face sparse, short.

Pronotum 1.4 times as long as wide; as in *melanura* (Blandford) except surface strongly reticulate, asperities more numerous, higher.

Elytra 1.8 times as long as wide, 1.3 times as long as pronotum; sides almost straight and parallel on basal three-fourths, very broadly rounded behind, feebly emarginate at suture; discal surface smooth, shining, except base of interstriae 1 reticulate in some specimens; strial punctures very small, in rows on posterior half, slightly confused on basal half. Declivity rather abrupt, very steep, somewhat biconcave; much as in *argutus* Wood except acute posterolateral margin not as strongly elevated, ending before middle of declivity, tubercle on interstriae 1 slightly larger, close to suture, tubercle 2 slightly below middle of declivity and much closer to suture (three-fourths of distance from lateral margin to suture), a feeble to moderate elevation (variable) extending from lateral margin to tubercle; punctures almost obsolete, surface smooth, brightly shining except for oval rugose area below tubercle 2 extending from its base to lateral margin. Glabrous except for sparse setae on sides near declivity.

**Male.**—Similar to female except declivity rather deeply, broadly concave, lateral margins higher, tubercles distinctly larger, tubercle 2 on small submammiiform elevation on mesal side of lateral margin, punctures on excavated area larger, deeper, rugose area absent.

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

**Type Material.**—The female holotype, male allotype, and six paratypes were taken at the type locality on 22-VIII-1963, No. 124, from the stump of a small tree, by me. Other paratypes include the following: 18 from Guapiles, Limon, Costa Rica, 22-VIII-66, leguminous tree (except one is from *Terminalia*); 6 are from Puerto Viejo, Heredia, Costa Rica, 12-III-1964, from an unidentified log; one
is from Peralta, Cartago, 10-III-1964, from an unidentified tree limb; one is from Ft. Clayton, Canal Zone, Panama, 22-XII-1963, from a leguminous tree; and one is from Limon Bay, Canal Zone, Panama, 30-XII-1963, from an unidentified log. All were taken by me.

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

**Pityophthorus nemoralis**, n. sp.

This species is distinguished from *regularis* Blackman by the larger size, by the slightly impressed declivital interstriae 2, and by the larger interstrial granules on the declivity. These two species are unique in having a row of normal setae on declivital interstriae 2.

**Female.**—Length 1.4 mm (paratypes 1.4-1.8 mm), 2.6 times as long as wide; color dark brown.

Frons uniformly convex; rugose-reticulate above eyes and laterally, lower areas smooth, shining, punctures deep, rather coarse, moderately close; vestiture sparse, short, inconspicuous.

Pronotum 1.04 times as long as wide; widest one-third pronotum length from base, sides weakly arcuate on basal half, a slight constriction on anterior half, rather narrowly rounded in front; anterior margin armed by about 10 low, basally contiguous serrations; summit indefinite, at middle; asperities in three concentric rows supplemented by those at summit; rows a bit irregular on median third; posterior areas reticulate, punctures deep, rather fine, moderately close. Sparse setae confined to margins.

Elytra 1.6 times as long as wide, 1.5 times as long as pronotum; sides almost straight and parallel on basal two-thirds, then slightly, arcuately converging, very broadly rounded behind; striae not impressed except one slightly near declivity, punctures small, deep, spaced by about two diameters of a puncture; interstriae smooth, shining, with a few faint irregular lines, three times as wide as striae, impunctate except at margin of declivity. Declivity steep, rather shallowly sulcate; striae 1 moderately impressed, punctures on 1 and 2 distinct, smaller than on disc; interstriae 1 moderately elevated, 2 moderately impressed, more strongly on median side, 3 very slightly higher than 1, rounded, all with numerous impressed points, rows of tubercles on 1 very fine, 2 fine, sometimes irregular, 3 slightly larger than on 1 and 2. Vestiture confined to declivity; strial setae very minute but usually present; interstitial setae erect, in regular rows including 2, each very slightly longer than distance between rows.

**Male.**—Similar to female except serrations on anterior margin of pronotum and tubercles on declivity slightly larger.

**Type Locality.**—Zamorano, Morazan, Honduras.

**Type Material.**—The female holotype, male allotype, and 26 paratypes were taken at the type locality on 18-IV-1964, 700 m, No. 549, from *Aristochia anguicida* stems. Thirteen paratypes are from 8 km SE Cartago, Cartago, Costa Rica, 29-VII-1963, 1,800 m, No. 91, from a liana; three paratypes bear the same data except they were taken on 2-VIII-1963, No. 100. All were taken by me.

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

**Pityophthorus costatus**, n. sp.

This species is distinguished from *costabilis* Wood by the smaller average size, by the straight suture 1 of the antennal club, and by declivital interstriae 2 being impressed only on the medial side in the female.

**Female.**—Length 1.1 mm (paratypes 0.9-1.2 mm), 2.6 times as long as wide; color very dark brown.

Frons flattened on a rather narrow area to well above upper level of eyes, slightly elevated toward epistomal margin, margins obtusely subangulate, laterally separated from margin of eye by distance equal to diameters of four facets; surface smooth, shining, punctures moderately coarse, deep, close, spaced by distances equal to less than half diameter of a puncture except more widely spaced on median third near epistoma; vestiture very fine, moderately abundant, uniformly distributed, slightly longer at margins, longest setae equal to about one-fourth distance between eyes. Antennal club small, oval; suture 1 straight, mostly septate, 2 moderately procurred, usually not septate.
Pronotum 1.1 times as long as wide; widest near base, sides on basal half almost straight, converging very slightly, rather narrowly rounded in front; anterior margin broadly armed by a sub serrate continuous costa; summit at middle, distinct; anterior slope armed by three continuous, sub serrate costae, a fourth at summit; posterior areas smooth, shining, with numerous impressed points, punctures moderately coarse, rather widely spaced. A row of setae behind each costa; posterior area 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 broadly rounded behind, striae not impressed, punctures rather fine, close, deep; interstriae smooth, shining, with a few irregular, indefinite surface lines, twice as wide as striae, impunctate. Declivity steep, convex; striae 1 impressed, 2 not impressed, both with punctures smaller than on disc, impressed; interstriae 1 distinctly, abruptly elevated, armed by a row of fine granules, 2 weakly impressed, as wide as 1, with one or two punctures near apex and at base, 3 not elevated, rounded, armed by about six fine granules. Vestiture largely confined to declivity, consisting of sparse rows of short, stout setae on odd-numbered interstriae.

Male.—Similar to female except frons rather strongly convex, more coarsely punctured, transverse impression above epistoma deeper, vestiture much shorter, less abundant; declival interstriae 1 without granules, punctures on declival striae 1 and 2 smaller.

Type Locality.—Eighteen miles or 29 km W Niltepec, Oaxaca, Mexico.

Type Material.—The female holotype, male allotype, and 22 paratypes were taken at the type locality on 23-VI-1967; 30 m, No. 87, from *Thevetia* twig terminals, by me. Eight paratypes are from 10 miles or 16 km W Tizapan, Jalisco, Mexico, 18-VII-1953, from *Thevetia*, by me.

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

**Pityophthorus costabilis**, n. sp.

This species is distinguished from *costatus* Wood by the larger size, by the much more strongly procurred sutures of the antennal club, by the more coarsely punctured declival striae in the female, and by the more conspicuous epistomial bush of the male.

**Female.**—Length 1.6 mm (paratypes 1.6-1.8 mm), 2.6 times as long as wide; color very dark brown, almost black.

Frons largely concealed in specimens at hand, evidently similar to *costatus* except more coarsely punctured, vestiture apparently less abundant, shorter. Antennal club with sutures 1 and 2 rather strongly procurred, 2 weakly, more distinctly septate near margins.

Pronotum about as in *costatus* except crest of costa more strongly serrate.

Elytra as in *costatus* except striae punctures slightly larger, deeper; declival striae 1 and 2 more coarsely punctured, interstriae 1 unarmored, 2 more strongly impressed, 3 rounded, slightly elevated, without granules; vestiture similar but more closely spaced, an occasional seta on interstriae 4, 6, and 8.

Male. Similar to female except frons as in *costatus* with all features more strongly developed; striae procurred on disc about half as large as in female, those on declivity minute, interstriae 3 with minute granules.

**Type Locality.**—Ten miles or 16 km W Tizapan, Jalisco, Mexico.

**Type Material.**—The female holotype, male allotype, and six paratypes were taken on 18-VII-1953, from *Thevetia* branches, by me.

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

**Pityophthorus detentus**, n. sp.

This species is distinguished by the broadly convex elytral declivity, with striae procurred 1 and 2 minute and interstriae 1 not elevated, and by the male and female frons as described below.

**Female.**—Length 1.7 mm (paratypes 1.4-1.8 mm), 2.6 times as long as wide; color brown.

Frons flat to well above eyes, ascending slightly toward epistomal margin on lower fourth; lateral margins subangulate, separated from eye by distance equal to diameter of three facets; surface smooth,
shining, punctures in central area very small, rather widely spaced, larger and more numerous at margins; vestiture sparse and rather short in central area, moderately abundant and very long at margin. Antennal club 1.5 times as long as wide, septum of suture 2 almost obsolete.

Pronotum 1.04 times as long as wide; outline about as in costatulus Wood except rows of asperities divided to their base, not costiform, impressed points largely obsolete, punctures rather small; anterior margin armed by about 18 serrations.

Elytra 1.7 times as long as wide, 1.6 times as long as pronotum; outline and disc as in costatulus; declivity steep, broadly convex, striae feebly impressed, 1 and 2 minutely punctured, interstriae 1 weakly elevated unarmed, sparse punctures minute, 2 not impressed, almost twice as wide as 1, 3 not elevated, punctures small, widely spaced. Vestiture of minute strial setae and with interstrial setae as in costabilis Wood.

Male.—Similar to female except frons distinctly impressed, its margin forming a distinctly elevated crest, outlining a semicircle from lateral margin of epistoma to slightly above eyes, punctures coarse, not close, vestiture short, sparse.

Type Locality.—Carapan, Michoacan, Mexico.

Type Material.—The female holotype, male allotype, and 26 paratypes were taken on 18-VI-1965, at 2,300 m elevation, from a woody vine (Toxicodendron) by me. Three paratypes are from six miles or 10 km E. Volcan Paracutin, Michoacan, Mexico, 19-VI-1965, 2,500 m, from a Toxicodendron vine, by me.

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

Pityophthorus inops, n. sp.

In this species and in debilis Wood, sutures 1 and 2 on the antennal club are virtually obsolete. This species is distinguished from debilis by the smaller size, by the strongly reticulate pronotum, by the reticulate frons, and by other characters indicated below.

Female.—Length 1.1 mm (paratypes 1.1-1.2 mm), 2.7 times as long as wide; color yellowish brown.

Frons planoconvex from epistoma to slightly above upper level of eyes, lateral margins subangulate, separated from margin of eye by distance equal to diameter of one facet; surface apparently reticulate, oral area pale and covered by short, rather abundant hair, upper area with fine, uniformly distributed punctures, upper margin above level of eyes bearing a fringe of very long, yellow hair, tips exceeding epistomal margin. Antennal club subcircular, sutures 1 and 2 moderately procurred, marked only by very obscure lines, not marked by setae.

Pronotum 1.1 times as long as wide; outline as in costatulus Wood; anterior margin subcostate, with about 14 serrations obscurely indicated; summit at middle; anterior slope with two concentric rows of asperities, those near summit largely confused; posterior areas reticulate, punctures fine, not close. Vestiture confined to lateral margins and asperate area.

Elytra 1.7 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; striae not impressed, punctures very fine, shallow, spaced within a row by two to four diameters of a puncture; interstriae smooth, shining, with numerous impressed points, about three times as wide as striae. Declivity steep, broadly convex; striae 1 and 2 punctured as on disc; interstriae 1 weakly elevated, a few minute granules obscurely indicated, 2 as wide as 1, very feebly impressed, 3 not elevated, armed by a row of very fine granules. Strial setae very short, very fine, confined to posterior half; odd-numbered interstriae with rather sparse, narrowly spatulate setae on and near declivity.

Male.—Similar to female except frons more strongly convex, a slight transverse impression above epistoma, fully reticulate, punctures slightly larger.

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

Type Material.—The female holotype, male allotype, and five paratypes were taken at the type locality on 11-VII-1966, 30 m, No. 85, from an unidentified tree limb, by me.
The holotype, allotype, and paratypes are in my collection.

*Pityophorus debilis*, n. sp.

This species is distinguished from *inops* Wood by the slightly larger size, by the shining lower frons and pronotum, by the longer setae on the female frons, and by the presence of setae on all interstriae.

**Female.**—Length 1.3 mm (paratypes 1.2-1.4 mm), 2.7 times as long as wide; color yellowish brown.

Frons about as in *inops* except marginal fringe of hair extending from dorsal margin to lower lateral margins, short setae in lower central area apparently absent; surface shining from epistoma to upper level of eyes.

Pronotum as in *inops* except serrations on anterior margin more deeply divided, disc usually shining, obscurely reticulate in some specimens.

Elytra as in *inops* except strial punctures slightly larger, declivital interstriae 2 weakly, more distinctly impressed; all interstriae on declivity with erect, blunt setae, except absent on 2 below basal margin.

**Male.**—Similar to female except frons convex, with punctures coarse and vestiture very short, sparse, inconspicuous.

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

**Type Material.**—The female holotype, male allotype, and 38 paratypes were taken at the type locality on 5-VII-1963, 1,500 m, No. 28 from an unidentified branch and No. 32 (type) from Mauria glauca, by me.

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

*Pityophorus strictus*, n. sp.

This species is distinguished from *tenax* Wood by the absence of long hair on the female frons, by the more abundant, longer interstrial setae on all declivital interstriae except 2, by the steeper, more shining declivity, and by other characters.

**Female.**—Length 1.6 mm (paratypes 1.6-1.7 mm), 2.8 times as long as wide; color yellowish brown.

Frons broadly convex, epistomal margin distinctly elevated; surface smooth and shining below upper level of eyes, reticulate above, punctures rather coarse; vestiture short, sparse, inconspicuous. (Upper areas on holotype concealed by pronotum, not fully visible.)

Pronotum 1.17 times as long as wide; pronotum as in *juglandis* except anterior margin armed by about 10 serrations and punctures on posterior areas slightly larger.

Elytra 1.7 times as long as wide, 1.5 times as long as pronotum; outline as in *juglandis* except sides on posterior third converging more conspicuously, declivital area narrower; striae as in *juglandis* except punctures slightly larger, interstriae as wide as striae. Declivity much as in *juglandis* except striae 1 more strongly impressed, interstriae 2 ascending laterally more strongly, 1 and 3 without granules; surface smooth, shining, not shagreened. Interstrial setae largely confined to declivity, on all interstriae except 2, slightly longer and much more closely spaced than in *juglandis*.

**Male.**—Similar to female except frons very slightly more strongly convex.

**Type Locality.**—Volcan Pacaya, Esquipulga, Guatemala.

**Type Material.**—The female holotype, male allotype, and one paratype of undetermined sex were taken at the type locality on 1-VI-1974, 1,300 m, No. 692, from a broken branch 2 cm in diameter from a large tree, by me.

The holotype, allotype, and paratype are in my collection.
Pronotum 1.08 times as long as wide; about as in tenax except anterior margin costate, its crest weakly serrate, and posterior areas rather finely punctured.

Elytra 1.7 times as long as wide, 1.7 times as long as pronotum; as in tenax except strial punctures smaller, interstriae one and one-half times as wide as striae, declivity more strongly convex, striae 1 less strongly impressed, interstriae 1 and 3 with very fine granules.

**Male.**—Similar to female except frons very slightly more strongly convex and without any long setae.

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

**Type Material.**—The female holotype, male allotype, and four paratypes were taken at the type locality on 30.VIII-1963, 1,300 m, No. 357, from Rhedida edulis branches by me.

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

**Pityophthorus galaritus, n. sp.**

This species is distinguished from nanus Wood by the more extensively distributed female frontal vestiture, by the less strongly impressed male frons, by the more shallowly sulcate male declivity, and by other characters.

**Female.**—Length 1.2 mm (paratypes 1.1-1.2 mm), 2.8 times as long as wide; color yellowish brown.

Frons planoconvex on a rather limited area from epistoma to well above eyes, lateral margins rounded, separated from margin of eye by distance equal to width of four facets; surface smooth, shining, rather coarsely, closely punctured; vestiture fine, moderately abundant, uniformly distributed, of uniform length, rather short.

Pronotum as in nanus except posterior areas with numerous strongly impressed points, punctures deeper, evidently very slightly larger.

Elytra as in nanus except strial punctures on disc closer, deeper, declivity slightly narrower, appearing deeper, interstriae 3 higher than 1, 1 and 3 armed by very fine tubercles, vestiture confined to declival area, on all interstriae except 2, setae much stouter, more closely spaced.

**Male.**—Similar to female except frons subconcaavely impressed on median half of area between epistoma and upper level of eyes, upper margin transversely subcarinate, surface smooth shining, coarsely punctured, vestiture fine, short, inconspicuous; declival setae slightly stouter.

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

**Type Material.**—The female holotype, male allotype, and three paratypes were taken at the type locality on 18.II-1964, 250 m, No. 354, from a Rhedida edulis log 25 cm in diameter.

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

**Pityophthorus perexiguus, n. sp.**

This species is distinguished from atomus Wood by the absence of a frontal carina in the male, by the steeper, more broadly impressed elytral declivity, and by other characters described below.

**Female.**—Length 1.1 mm (paratypes 1.0-1.4 mm), 2.8 times as long as wide; color yellowish brown.

Frons weakly, transversely impressed from epistoma to upper level of eyes, all margins rounded; surface smooth, shining, sparsely, finely punctured; margins at sides and above with sparse, moderately long hair.

Pronotum as in atomus except pronotal punctures smaller.

Elytra as in atomus except declivity steeper, more broadly impressed, striae 2 more coarsely punctured, interstriae 2 more broadly, more deeply impressed, 3 with granules slightly larger, declival setae much stouter.

**Male.**—Similar to female except frons more strongly convex, transverse impression restricted to lower third, surface more coarsely, more closely punctured, without any long hair.

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

**Type Material.**—The female holotype, male allotype, and 19 paratypes were taken at the type locality on 9.XII-1963, 3m, No. 297, from a tree branch by me. Other paratypes were taken as follows: 22 from Cañas, Guanacaste, Costa Rica,
13-VII-1966, tree branch, by me; 8 from Limon Bay, Canal Zone, Panama, 30-XII-1963, 3 m, No. 353, tree limb, by me.

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

**Pityophthorus nugalis**, n. sp.

This species is distinguished by the unique female frons, by the subacuminate apex of the elytra, and by other characters described below.

**Female.**—Length 1.3 mm (paratypes 1.2-1.3 mm), 3.1 times as long as wide; color brown.

Frons moderately convex, epistomal area produced on median half into a premandibular lobe; surface subreticulate, punctures fine below, moderately coarse near upper level of eyes; vestiture of fine, long, yellow hair confined to area below upper level of eyes, distributed into three areas, lateral areas from base of mandible to upper level of eye, median fourth from apex of premandibular process to upper level of eyes. Antennal club small, oval; sutures 1 and 2 straight, indicated at margins by septa and setae; most of anterior face glabrous.

Pronotum 1.2 times as long as wide; sides on basal half straight and parallel, broadly rounded in front; anterior margin armed by about 14 coarse serrations; summit at middle; anterior slope armed by two concentric rows of asperities, others near summit confused; posterior areas smooth, shining, small areas of reticulation in lateral areas sometimes present, with numerous fine, impressed points, punctures rather small, moderately abundant. Vestiture inconspicuous, confined to asperate area and lateral margins.

Elytra 2.0 times as long as wide, 1.8 times as long as pronotum; sides almost straight and parallel on basal three-fourths, broadly rounded behind except natural apex moderately acuminate; striae not impressed, punctures in rows rather small, shallow; interstriae twice as wide as striae, smooth, shining, with numerous impressed points, an occasional puncture near declivity. Declivity rather steep, moderately bispinate; striae 1 impressed, punctures not clearly evident, 9 with fine, distinct punctures; interstriae 1 moderately, abruptly elevated, armed by two to four very fine granules, 2 moderately impressed, more strongly on median side, as wide as 1, with numerous impressed points, 3 as high as 1, broadly rounded, armed by about two fine granules. Vestiture of minute strial hair on posterior half, and sparse, moderately long interstriae setae on odd-numbered interstriae, mostly on declivity.

**Male.**—Similar to female except frons convex, rather coarsely punctured, a fine, low, median carina, epistoma normal, vestiture sparse, inconspicuous; tubercles on elytral declivity distinctly larger.

**Type Locality.**—Volcan Pacaya, Esquintla, Guatemala.

**Type Material.**—The female holotype, male allotype, and four paratypes were taken at the type locality on 1-VI-64, 1,300 m, No. 656, from a woody vine 1 cm in diameter, by me.

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

**Pityophthorus hermosus**, n. sp.

This species is distinguished from *minutalis* Wood by the long, abundant vestiture on the female frons, by the reticulate pronotum, and by other characters described below.

**Female.**—Length 1.2 mm (paratypes 1.0-1.3 mm), 2.7 times as long as wide; color brown.

Frons flat from epistoma to vertex, lateral margins obtusely subangulate, separated from margin of eye by distance equal to width of two facets; surface obscured by dense brush of uniformly distributed long hair; marginal setae apparently slightly longer, longest setae equal to at least two-thirds distance between eyes.

Pronotum 1.13 times as long as wide; outline essentially as in *nugalis* Wood; first two rows of asperities usually concentric, sometimes partly confused in median area; posterior areas strongly reticulate, punctures fine, moderately abundant. Vestiture confined to margins and asperate area, inconspicuous.

Elytra 1.7 times as long as wide, 1.5 times as long as pronotum; outline basically as in *nugalis*; striae not impressed, punctures moderately coarse, rather deep; interstriae smooth, shining, a few minute,
impressed points present, as wide as striae, impunctate except at margin of declivity. Declivity steep, rather strongly bisulcate; as in _nugalis_ except sulcus slightly deeper, lateral margins on basal half slightly higher than suture, tubercles on interstriae 3 conspicuously larger. Vestiture confined to declivity, on all interstriae except restricted to basal margin on 2, of moderato length.

**Male.**—Similar to female except frons transversely impressed from epistoma to upper level of eyes, transversely carinate at upper margin of impressed area, surface rather closely, finely punctured, pubescence of fine, short, moderately abundant hair.

**Type Locality.**—Yucatan, Paraíso, Honduras.

**Type Material.**—The female holotype, male allotype, and 29 paratypes were taken at the same locality on 23-IV-64, 800 m, No. 517, _Perynnotum grande_, by me. Eight paratypes are from _Zamora_, Morazán, Honduras, 18-IV-64, 700 m, No. 565, _Eupatorius dalioideus_, by me.

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

_Pityophthusor sobrinus_, n. sp.

This species is distinguished from _minutalis_ Wood by characters on the frons and declivity as described below.

**Female.**—Length 1.5 mm (paratypes 1.5-1.7 mm), 3.2 times as long as wide; color dark brown.

Frons flattened on slightly more than upper half, ascending below toward epistomal margin, lateral margins obtusely angulate, separated from margin of eye by distance equal to width of two facets; surface smooth, shining, finely, closely punctured; vestiture uniformly distributed, of almost uniform length, longest setae equal in length to one-fourth distance between eyes.

Pronotum 1.2 times as long as wide; outline basically as in _nugalis_ Wood, anterior slope with three concentric rows of asperities; posterior areas shining, almost smooth, punctures small, moderately close. Vestiture confined to lateral margins and asperate area, inconspicuous.

Elytra 2.0 times as long as wide, 1.8 times as long as pronotum; outline as in _nugalis_; striae not impressed, punctures small, deep, spaced within a row by twice diameter of a puncture; interstriae smooth, shining, impressed points sparse, a few weak, short, transverse lines, about one and one-half times as wide as striae, impunctate. Declivity steep, moderately bisulcate; as in _nugalis_ except interstriae 2 without impressed points. Vestiture as in _nugalis_.

**Male.**—Similar to female except frons shallowly, transversely impressed to upper level of eyes, upper margin of impressed area forming a weak, transverse carina, surface of impressed area with indistinct, fine punctures, vestiture fine, sparse, short, inconspicuous.

**Type Locality.**—Palin, Esquintla, Guatemala.

**Type Material.**—The female holotype, male allotype, and 10 paratypes were taken at the same locality on 19-V-1964, 300 m, No. 587, from a shrub, by me.

The holotype, allotype, and paratypes are in my collection.
Elytra 2.0 times as long as wide, 1.7 times as long as pronotum; outline about as in *minutalis*; striae not impressed, punctures coarse, deep, close; interstriae as wide as striae, smooth, shining, with minute impressed points, impunctate except 1 with a few punctures on posterior third. Declivity steep, shallowly bisulcate; not as steep as in *minutalis*, more broadly impressed; interstriae 2 with minute impressed points. Vestiture confined to declivity on odd-numbered interstriae, fine, rather sparse, of moderate length.

Male.—Similar to female except frons rather shallowly, transversely impressed from epistoma to upper level of eyes, its upper margin on median third marked by a subcarinate, transverse, impunctate elevation, surface smooth, shining, coarse, rather closely punctured; declival sulcus conspicuously deeper, tubercles slightly larger.

*Type Locality.*—Three km SE Cartago, Cartago, Costa Rica.

*Type Material.*—The female holotype, male allotype, and 30 paratypes were taken at the type locality on 2-VIII-1963, 1,300 m, No. 99, from a woody vine, by me.

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

*Pityophthorus laetus*, n. sp.

This species is distinguished by the small, elongate, aseptate antennal club, by the pronotum which has asperities extending to near the basal margin, and by the simple elytra.

Female.—Length 1.7 mm (paratypes 1.6-1.7 mm), 2.6 times as long as wide; color black.

Frons flat from eye to eye, from epistoma to above eyes (concealed by pronotum above eyes), epistomal margin narrowly, weakly elevated; surface smooth, shining, punctures very fine, shallow, very sparse on central two-thirds, more numerous, towards margins, margins rounded; vestiture of fine long hair on margins, a few sparse, shorter hairs in central area, longest setae equal in length to about half distance between eyes. Antennal club slightly longer than scape, 1.6 times as long as wide, smooth, shining, glabrous on anterior face, not septate, sculpture 1 obsolete, 2 very feebly indicated on surface by a procurred line on apical half, sutural constrictions and setae confined to margins.

Pronotum 1.05 times as long as wide; widest on basal third, sides moderately arcuate on basal third, almost straight and converging on middle third, rather narrowly rounded in front, anterior margin armed by 10-14 rather coarse serrations, summit indefinite, at or slightly behind middle; asperities small, numerous, continuing in declining, subparallel, somewhat indistinct rows almost to base, posterior areas shining, with numerous impressed points, punctures small, spaced by two to four or more diameters, those in lateral areas mostly associated with subasperate lines. Vestiture of short, sparse hair, glabrous on disc.

Elytra 1.7 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, punctures very fine, shallow, spaced by two to four diameters of a puncture, in rows; interstriae three to four times as wide as striae, surface smooth, brightly shining, with many obscurely impressed points and irregular lines, a few fine punctures on odd-numbered interstriae on posterior half. Declivity steep, convex; striae not impressed, punctures slightly smaller than on disc; interstriae 1 very feebly elevated, higher than 3, 2 as wide as 1 or 3, very feebly impressed, impunctate, 1 and 3 with a row of minute granules. Minute strial setae on declivity, odd-numbered interstriae on disc with rather widely spaced, erect, moderately long, stout hair, declivity with all interstriae except 2 with similar setae.

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

*Type Material.*—The female holotype and two female paratypes were taken at the type locality on 19-XI-1963, 2,500 m, No. 261, from a tree branch 8 cm in diameter, by me.

The holotype and paratypes are in my collection.

*Pityophthorus lenis*, n. sp.

This species is distinguished by the large, elongate, obovate antennal club.
with sutureate, rather obscure sutures, by
the strongly reticulate pronotal disc, and
by the simple elytral sculpture.

**Female.**—Length 1.2 mm (paratypes
1.2-1.4 mm), 2.8 times as long as wide;
color brown.

Frons transversely, broadly concave,
transversely impressed from epistoma to
upper level of eyes (longitudinally con-
cave); surface reticulate, median third
impunctate from epistoma to vertex, lat-
eral areas rather coarsely, closely punct-
tured; punctured areas ornamented by
long, moderately abundant hair, longest
setae equal in length to about two-thirds
distance between eyes. Antennal club 1.7
times as long as scape; club 1.3 times as
long as wide, obovate, widest on apical
third, anterior face shining, glabrous ex-
cept for short setae along sutures, sutures
aseptate, marked by a fine line and a
row of short setae.

Pronotum 1.05 times as long as wide;
sides on basal half subparallel, feebly ar-
cuate, rather narrowly rounded in front;
anterior margin subcostate, armed by
10-12 low, basally fused serrations; pro-
notum reticulate, punctures in posterior
areas rather small, moderately close.
Glabrous except in marginal areas.

Elytra 1.6 times as long as wide, 1.5
times as long as pronotum; sides almost
straight and parallel, rather broadly, ir-
regularly rounded behind; striae 1 weakly
impressed near declivity, others not im-
pressed, punctures fine, becoming minute
near declivity; in rows; interstriae almost
smooth, shining, impressed points ap-
pearing as minute, confused punctures,
punctures about. Declivity steep, shal-
lowly bisulcate; striae obsolete; interstriae
1 moderately, abruptly elevated, 2 almost
twice as wide as 1, rather strongly, broad-
ly impressed, smooth, shining, obscure
points indicated, 3 as high as 1, rounded,
armed by about four very fine tubercles.
Vestiture confined to odd-numbered inter-
striae, of widely spaced, erect, rather
short, slender bristles.

**Male.**—Similar to female except frons
broadly, evenly convex, coarsely, rather
closely punctured, a weak median tubercle
on epistoma, vestiture short, sparse, in-
conspicuous.

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

*Type Material.*—The female holotype,
male allotype, and 11 paratypes were
taken at the type locality on 24-X-1963,
1,300 m, No. 24-4, from a woody vine, by
me.
The holotype, allotype, and paratypes
are in my collection.

*Pityophthorus parilis*, n. sp.

This species is distinguished from *guate-
malensis* Blandford by the more sculp-
tured female frons, by the more coarsely
punctured elytral striae, by the more
shallowly sulcate elytral declivity, and
by other characters.

**Female.**—Length 1.6 mm (paratypes
1.6-1.7 mm), 2.8 times as long as wide;
color very dark brown.

Frons flat from epistoma to vertex,
from eye to eye, subangulate margin sepa-
rated from margin of eye by distance
equal to diameter of three facets; surface
smooth, shining, rather coarsely, closely,
uniformly, deeply punctured; vestiture
rather abundant, uniformly distributed,
distinctly longer at margins, longest setae
about equal to one-third distance between
eyes.

Pronotum 1.1 times as long as wide;
outline as in *guatemalensis*; posterior
areas weakly reticulate, punctures rather
fine, moderately close. Glabrous except
at margins.

Elytra 1.6 times as long as wide, 1.5
times as long as pronotum; outline and
disc as in *guatemalensis* except interstriae
only slightly wider than striae. Declivity
as in *guatemalensis* except steeper and
much less strongly bisulcate. Vestiture
confined to declivity, stouter than in
*guatemalensis*.

**Type Locality**—Buenos Aires, Cortez,
Honduras.

*Type Material.*—The female holotype
and two female paratypes were taken at
the type locality on 7-V-1964, 2,300 m,
No. 578, from a Quercus branch 4 cm in
diameter, by me.
The holotype and paratypes are in my
collection.

*Pityophthorus scitulus*, n. sp.

This species is distinguished from
*guatemalensis* Blandford by the coarser
strial punctures, by the steeper, more
strongly sulcate declivity, and by the much more coarsely punctured declival striae 1 and 2.

**Female.**—Length 1.9 mm (paratypes 1.8-2.1 mm), 3.2 times as long as wide; color brown.

Frons essentially as in *guatemalensis* except more finely punctured, central area on lower half more extensively impunctate, lateral margins of flattened area separated from eye by distance equal to width of one facet, vestiture much more abundant on margins, shorter in central area, longest setae equal to more than half distance between eyes.

**Pronotum** 1.25 times as long as wide; outline basically similar to *guatemalensis*; posterior areas with surface smooth, shining, small and minute punctures intermixed. Glabrous except at margins.

Elytra 1.9 times as long as wide, 1.6 times as long as pronotum; sides straight and parallel on basal three-fourths, rather abruptly rounded then subacuminate behind; striae not impressed except 1 near declivity; interstriae smooth, shining, punctures coarse, very close; interstriae smooth, shining, with obscure, fine transverse lines, impressed points appearing as fine, confused punctures, punctures absent. Declivity steep, rather strongly bisulcate, apex subacuminate; striae 1 and 2 very coarsely punctured, punctures appear confused on some specimens; interstriae slightly elevated, finely punctured, 2 strongly sulcate, narrowly above, broadly below, shining, space almost entirely occupied by strial punctures, 3 slightly higher than 1 and armed by two pairs of pointed denticles on upper half, an additional granule present on lower third, lateral areas rather coarsely punctured. Vestiture of moderately long interstrial hair on base and lateral areas of declivity.

**Male.**—Similar to female except frons broadly convex, coarsely, closely punctured, vestiture short, sparse, inconspicuous; declivity more strongly impressed, lateral denticles distinctly larger.

**Type Locality.**—Volcan de Chiriquí, Chiriquí, Panama.

**Type Material.**—The female holotype, male allotype, and 18 paratypes were taken at the type locality on 11-I-1964, 1600 m, from a *Quercus* limb, by me. Five paratypes are from Tapantí, Cartago, Costa Rica, 2-VII-1963, 1,300 m, No. 6, *Quercus* limb, by me.

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

**Pityophthorus conspectus,** n. sp.

This species is distinguished from *guatemalensis* Blandford by the less extensively flattened female frons with the vestiture much shorter and less abundant, by the coarser pronotal punctures and by the very different declivity described below.

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

Frons as in *guatemalensis* except less extensively flattened, margin of flattened area separated from margin of eye by distance equal to width of five facets, not extending as high on vertex; vestiture moderately abundant on smaller area, longest setae equal to about one-third distance between eyes. Antennal club larger and more nearly circular than in *guatemalensis*, sutures 1 and 2 rather strongly procurred (almost straight in *guatemalensis*)

**Pronotum** 1.1 times as long as wide; as in *guatemalensis* except punctures on posterior areas much coarser.

Elytra 1.7 times as long as wide, 1.7 times as long as pronotum; outline and disc as in *guatemalensis*. Declivity steep, convex; striae 1 and 2 not impressed, punctures very fine; interstriae 1 feebly elevated, armed by two or three very fine granules, 2 flat, as wide as 1, not impressed, impunctate, 3 not elevated, armed by a row of about five small granules. Vestiture consisting of erect, short, interstrial setae on posterior third of disc and declivity except absent on declival interstriae 2.

**Male.**—Similar to female except frons weakly convex, a median callus on upper half, coarsely punctured, vestiture short, sparse, inconspicuous.

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

**Type Material.**—The female holotype, male allotype, and one female paratype were taken at the type locality on 26-IX-
1963, 2,300 m, No. 208, from a branch (possibly Quercus), by me.
The holotype, allotype, and paratype are in my collection.

Pityophthorus medialis, n. sp.

This species is distinguished from guatemalensis Blendford by the moderately procurred sutures of the antennal club, by the more posterior summit of the pronotum, by the punctured discal interstriae, by the steeper, less strongly sulcate elytral declivity, and by other characters described below.

Female. Length 2.0 mm (paratypes 1.9-2.4 mm), 2.6 times as long as wide; color dark brown.

Frorns similar to guatemalensis except more extensively flattened, pubescent area separated from margin of eye by distance equal to diameter of three facets, vestiture more abundant, slightly shorter. Antennal club with sutures 1 and 2 moderately procurred.

Pronotum 1.1 times as long as wide; similar to guatemalensis except summit distinctly behind middle, low crenulations extending to base on sides and lateral areas of disc, punctured area on disc about half as large as in guatemalensis (about one-third width of pronotum).

Elytra 1.7 times as long as wide, 1.6 times as long as pronotum; outline and disc as in guatemalensis except interstriae each with a sparse row of punctures, punctures about equal in size to those of striae. Declivity steep, convex; similar to guatemalensis but steeper, sulcus perhaps half as deep, tubercles on interstriae 1 and 3 slightly larger. Vestiture of minute strial hair and moderately long, erect, fine, interstrial setae on disc and declivity, except largely absent on declival interstriae 2.

Male. — Similar to female except frorns convex, a slight transverse impression above epistoma, surface shining, closely, deeply, rather coarsely punctured, vestiture short, sparse, inconspicuous; declival sulcus deeper, broader, similar to female guatemalensis.

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

Type Material. — The female holotype, male allotype, and 52 paratypes were taken at the type locality on 26-IX-1963, 2,300 m, No. 208, from Quercus branches less than 10 cm in diameter, by me. Fifteen paratypes are from Cerro de la Muerte, San José, Costa Rica, 1-VIII-1966, 3,200 m, No. 45, Quercus, by me; two paratypes are from Volcan Poas, Heredia, Costa Rica, 14-VII-63, 2,500 m, No. 48A, from a cut seedling, by me.

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

Pityophthorus indigenus, n. sp.

This species is distinguished from nanus Wood by the much more feebly sulcate elytral declivity, by the very different frorns in both sexes, and by other characters described below.

Female. — Length 1.2 mm (paratypes 1.2-1.4 mm), 2.7 times as long as wide; color yellowish brown.

Frorns flattened to well above eyes, ascending slightly at epistomal margin; lateral margins abruptly angulate, separated from margin of eye by distance equal to width of two facets; surface smooth, shining, punctures fine, not close, uniformly distributed; vestiture of fine hair, those in central area of moderate length, those on margin twice as long, tips of longest setae on upper margin reach epistomal margin.

Pronotum 1.05 times as long as wide; essentially as in nanus Wood except anterior margin more narrowly rounded, serrations more restricted to median area, punctures on posterior areas less numerous, slightly smaller.

Elytra 1.6 times as long as wide, 1.5 times as long as pronotum; essentially as in nanus except declivity more strongly convex, striae 1 narrowly, rather deeply impressed, punctures on 1 and 2 smaller, interstriae 2 narrower, ascending more abruptly laterally, 1 and 3 without granules.

Male. — Similar to female except shallowly, transversely impressed to upper level of eyes, its upper margin broadly, obtusely subcarinate, surface rather coarsely, sparsely punctured, impressed area ornamented by sparse, very long hair.

Type Locality. — Two miles or 3 km W Armeria, Colima, Mexico.
Type Material.—The female holotype, male allotype and six paratypes were taken at the type locality on 28-VI-1965, 70 m, No. 129, from Bursera branches. Other paratypes were taken in Mexico from Bursera branches as follows: three from 18 miles or 29 km W Niltupec, Oaxaca, 23-VI-1967, 30 m, No. 88, and one from 13 miles or 21 km N Juchitlan, Jalisco, 2-VII-1965, 1,000 m, No. 180. All were taken by me.

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

Pityophthorus burserae, n. sp.

This species is distinguished from indigens Wood by the larger size, by the longer, more abundant vestiture on the female frons, and by other characters mentioned below.

Female.—Length 1.5 mm (paratypes 1.5-1.6 mm), 2.7 times as long as wide; color yellowish brown.

Frons as in indigens except central area almost impunctate and glabrous, extending higher on vertex, marginal setae longer.

Pronotum and elytra essentially as in indigens except elytral declivity narrowly, more deeply sulcate, lateral convexities slightly higher than suture, interstrial setae on all declivital interstriae except upper two-thirds of 2.

Male.—Similar to female except frons as in male indigens.

Type Locality.—Atenquique, Jalisco, Mexico.

Type Material.—The female holotype and two female paratypes were taken at the type locality on 21-VI-1965, 1,000 m, No. 114, from Bursera branches, by me. The male allotype and two female paratypes are from 13 miles or 21 km N Juchitlan, Jalisco, Mexico, 2-VII-1965, 1,000 m, No. 180, Bursera, by me.

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

Pityophthorus morosus, n. sp.

This species is distinguished from paulus Wood by the distinctly, moderately arcuate sutures 1 and 2 of the antennal club, by the absence of a median callus on the vertex, and by other characters mentioned below.

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

Frons broadly convex, a feeble transverse impression in some specimens; surface smooth and shining on lower half, reticulate above, reticulation on vertex often transversely etched, punctures rather fine, never confluent, median callus feebly developed or absent; vestiture fine, sparse, short, inconspicuous. Antennal club conspicuously longer than scape; sutures 1 and 2 slightly arcuate.

Pronotum as in paulus except discal punctures much smaller, impressed points minute, less abundant; asperities varying from subconcentric to confused.

Elytra as in paulus except surface smoother, punctures much smaller, interstriae twice as wide as striae, impressed points on declivity less abundant and minute to absent, vestiture usually shorter, stouter.

Male.—Similar to female in all respects.

Type Locality.—Zamorano, Morazan, Honduras.

Type Material.—The female holotype, male allotype, and 19 paratypes were taken at the type locality on 18-IV-1964, 700 m, No. 554, from Eupatorium alticoides, by me. Nine paratypes are from Volcan de Agua, Guatemala, 10-V-1964, 1,000 m, No. 601, from a woody vine. A long series from 9 miles or 14 km E Huatulco, Veracruz, Mexico, was not included in the type series.

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

Pityophthorus molestus, n. sp.

This species is distinguished from paulus Eichhoff by the presence of a median frontal carina, by the more shallowly sulcate declivity, and by the longer elytral setae.

Female.—Length 1.4 mm (paratypes 1.3-1.5 mm), 2.8 times as long as wide; color yellowish brown.

Frons weakly convex, with a weak median carina from epistoma almost to upper level of eyes; surface shining, with
indistinct fine lines and punctures, more coarsely punctured above eyes; vestiture of fine, short, sparse hair.

Pronotum and elytral disc as in lautos. Elytral declivity as in lautos except interstriae 2 very slightly less strongly impressed, vestiture much longer.

Male.— Similar to female in all respects.

Type Locality.— Los Abrigos, San Luis Potosí, Mexico.

Type Material.— The female holotype, male allotype, and 12 paratypes were taken at the type locality (on Highway 80 east of Ciudad del Maíz) on 18-VI-1953, from Liquidambar sylvatilis, by me.

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

Pityophthorus diligens, n. sp.

This species is distinguished from sammbuci Blackman by the more broadly impressed elytral declivity, with the lateral convexities more abruptly rounded; by the more strongly, more extensively impressed frons; and by other characters.

Female.— Length 1.3 mm (paratypes 1.3-1.5 mm), 2.8 times as long as wide; color almost black.

Frons broadly convex, almost flat on median lower half, often with upper margin of impressed area abrupt or obscurely subcitrinate; surface smooth, shining, rather finely punctured; vestiture short, sparse, inconspicuous.

Pronotum 1.15 times as long as wide; outline as in sammbuci; anterior margin costate; posterior areas almost smooth, shining, very obscurely subreticulate, punctures rather fine, deep, not close. Vestiture as in sammbuci, disc glabrous.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; outline and disc about as in sammbuci except strial punctures deeper, surface smoother, without any reticulation. Declivity steep, shallowly bisulcate; as in sammbuci except punctures on striae 1 and 2 as large as on disc, appearing slightly more broadly impressed with lateral convexities more abruptly rounded, more deeply impressed in some specimens; vestiture finer.

Male.— Similar to female except frons and declival sulcus more distinctly impressed.

Type Locality.— Ten miles or 16 km E Pachuca, Hidalgo, Mexico.

Type Material.— The female holotype, male allotype, and 11 paratypes were taken at the type locality on 10-VI-67, 2,600 m, No. 186, from a desert shrub with bluish leaves, by me.

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

Pityophthorus corruptus, n. sp.

This species is distinguished from lautos Eichhoff by the larger size, by the different frons in both sexes, and by other minor differences described below.

Female.— Length 1.6 mm (paratypes 1.4-1.8 mm), 2.6 times as long as wide; color reddish brown.

Frons planocoxe in upper level of eyes, more strongly convex above; surface almost smooth and shining on lower half, punctures moderately coarse, not close, becoming closely granulate-punctate above eyes; vestiture of rather sparse, almost uniformly distributed, moderately long hair.

Pronotum and elytra as in lautos except elytral declivity steeper, interstriae 2 more strongly impressed, interstriae 3 conspicuously higher than 1.

Male.— Similar to female except lower half of frons moderately, transversely impressed, surface more coarsely punctured, vestiture short, inconspicuous.

Type Locality.— Matamoros, Puebla, Mexico.

Type Material.— The female holotype, male allotype, and 25 paratypes were taken at the type locality on 14-VI-67, 2,000 m, No. 34, from the stem of a climbing poison ivy (Toxicodendron sp.), by me.

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

Pityophthorus nebulosus, n. sp.

This species is distinguished from nanus Wood by the very different female frons, by the smaller elytral punctures, and by the much more shallowly sulcate declivity.
Female.— Length 1.6 mm (paratypes 1.4-1.7 mm), 3.0 times as long as wide; color yellowish brown.

Frons transversely impressed from epistoma to upper level of eyes, upper margin subangular; surface shining, rather coarsely, closely punctured except sparsely on small central area; vestiture of moderately abundant rather long hair about uniformly distributed over impressed area.

Pronotum as in nanus except asperities in less definite rows, punctures on disc slightly smaller, disc more shagreened.

Elytra as in nanus except discal punctures smaller, declivital sulci as very shallow, interstriae 2 flat, 1 as high as 3, shagreened. Vestiture confined to odd numbered declivital interstriae, sparse, each seta flattened on its apical third, appearing narrowly spathulate.

Male.— Similar to female except slightly smaller; frontal impression restricted to lower half, deeper; punctures less abundant, more uniformly distributed; vestiture short, sparse, inconspicuous; declival impression wider, distinctly deeper (but much less strongly impressed than in nanus); lateral convexities unarmed or with very minute granules.

Type Locality.— “Lake” Catemaco, Veracruz, Mexico.

Type Material.— The female holotype, male allotype, and 16 paratypes were taken at the type locality on 1-5-V-1969, from Busera, by D. E. Bright.

The holotype, allotype, and 10 paratypes are in the Canadian National Collection; six paratypes are in my collection.

Ptyophthus melanurus, n. sp.

This species is distinguished from alni Blackman by the smaller average size, by the rugose-reticulate pronotal surface, by the coarser pronotal rugae on the posterior half, by the wrinkled elytral surface, and by other characters described below.

Female (?).— Length 2.0 mm (paratypes 1.7-2.0 mm), 3.0 times as long as wide; color black.

Frons broadly convex, a slight transverse impression immediately above epistoma; surface reticulate, punctures fine, rather sparse; vestiture fine, short, sparse. Antennal club 2.0 times as long as wide, sutures 1 and 2 straight, not marked by grooves or setae on middle half.

Pronotum 1.16 times as long as wide; outline about as in alni; anterior margin armed by about 16 rather coarse serrations; longitudinal rugae extending to base as in alni except much coarser on disc, surface between asperities and rugae rugose-reticulate, punctures not clearly evident. Vestiture restricted to margins and asperate area.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; outline as in alni; striae not impressed moderately to strongly confused, 1 and 2 often distinguishable on posterior half; surface shining, wrinkled, interstrial punctures similar to and largely confused with those of striae. Declivity steep, convex; sculpture as on disc, striae 1 and 2 slightly confused but identifiable, their punctures almost as large as on disc; interstrial punctures not granulate. Vestiture extending to base, similar on disc and declivity; consisting of moderately coarse, rather long stria hair and similar interstrial setae, interstrial setae on declivity slightly longer.

Type Locality.— Five miles or 8 km W San Cristobal de las Casas, Chiapas, Mexico.

Type Material.— The holotype and three paratypes, apparently all females, were taken at the type locality on 3 (type), 5, and 10-V-1969, beeting oak, by H. F. Howden.

The holotype and one paratype are in the Canadian National Collection and two paratypes are in my collection.

Arapus gracilis, n. sp.

This species is distinguished from dentifrons Wood by the smaller size, by the less strongly impressed frons in both sexes, and by the slightly smaller punctures on the pronotum and elytra.

Male.— Length 1.2 mm (paratypes 1.1-1.3 mm), 3.2 times as long as wide; color brown.

Frons as in dentifrons except almost flat, carina and marginal tubercles very slightly smaller.
Pronotum 1.3 times as long as wide; as in *dentifrons* except anterior margin more broadly rounded, punctures slightly smaller.

Elytra 1.8 times as long as wide, 1.5 times as long as pronotum; as in *dentifrons* except strial punctures smaller, more widely spaced.

*Female.*—Similar to male except frons; frons as in female *dentifrons* except weakly convex, vestiture finer, slightly shorter.

*Type Locality.*—Four miles or 6 km N Mazatlan, Sinaloa, Mexico.

*Type Material.*—The male holotype, female allotype, and four paratypes were taken at the type locality on 31-VII-1964, from an active oriole nest, by E. E. Lindquist.

The holotype, allotype, and two paratypes are in the Canadian National Collection; two paratypes are in my collection.