### NEW SPECIES OF BARK BEETLES (COLEOPTERA: SCOLYTIDAE), MOSTLY MEXICAN PART VII1

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In order to make names available for other work, 21 species of Scolytidae are described on the following pages as new to science. Most of the species are from Mexico, although four species occur in Honduras; three of these four are common to both areas. The genera represented include: Hylastes (1), Pseudothysanoes (1), Cactopinus (1), Pityophthorus (3), Pseudopityophthorus Gnathotrichus (4), Monarthrum (3), Microcorthylus (1), Amphicranus (2), and Corthylus (1).

Most of the specimens were collected either by Dr. J. B. Thomas. Canada Department of Forestry, or by myself. The type material is mostly either in the Canadian National Collection or my collection, except for a few paratypes in the California Academy of Sciences.

### Hylastes mexicanus, n. sp.

This species is more closely allied to nitidus Blackman than to other known species, but it has the sides of the pronotum much more strongly arcuate and the pronotal surface much more finely punctured.

Female.—Length 4.5 mm. (paratypes 4.3-4.5 mm.), 2.8 times

as long as wide; color black.

Frons convex, with a weak, transverse impression between eyes and more strongly impressed just above epistoma; median carina inconspicuous, more strongly elevated below, continuing dorsad as a fine line to interoccular impression; surface smooth and shining above, rather dull below, very finely, deeply, closely punctured; vestiture minute. inconspicuous, covering entire surface.

Pronotum 1.1 times as long as wide; sides widest on basal third. but almost parallel to a point just anterior to middle then broadly, evenly rounded to anterior margin, appearing much wider than in nitidus; surface smooth and shining, with punctures fine, deep, close, separated by distances about equal to their own diameters; glabrous.

Elytra 1.9 times as long as wide. 1.9 times as long as pronotum; sides straight and subparallel on basal half, then increasingly arcuate to the rather narrowly rounded posterior margin; striae 1 moderately, others weakly impressed, the punctures small, deep; interstriae as wide as striae, feebly convex, subshining, the punctures rather coarse, close, deep, confused, their diameters slightly greater

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 Department of Zoology and Entomology, Brigham Young University, Provo, Utah. Scolytoidea

than half those of striae. Vestiture confined to declivity, stout, almost scalelike except for median rows of equally short bristles on each interspace.

Male.—Similar to female except from narrower and fifth visible sternum longitudinally impressed and pubescent.

Type Locality.—Forty miles west of Toluca, Mexico, Mexico.

Host.—Pinus sp.

Type Material.—The female holotype, male allotype and three paratypes were taken at the type locality on July 15, 1953, at an elevation of 7.900 feet, from the base of a pine about 14 inches in diameter, by S. L. Wood. In addition, 64 paratypes were taken 10 miles west of El Salto, Durango, Mexico, during July 1964, in flight, by J. B. Thomas.

The holotype, allotype and some of the paratypes are in my collection, other paratypes are in the Canadian National Collection.

### Cactopinus mexicanus, n. sp.

Although not very closely related. this species is more nearly like hubbardi Schwarz than other species. It may be readily separated by the stouter body, by the tuberculate elytral interspaces, by the much steeper, more deeply sulcate elytral declivity, and, in the male, by the shorter, widely separated frontal horns.

Male.—Length 1.6 mm. (paratypes 1.3-1.6 mm.). 2.1 times as

long as wide; color black.

Frons deeply excavated from eye to eye and from epistoma to vertex, the margin at vertex rather sharp; epistoma armed by two long, tapered spines, each about equal in width at base to one-fourth width of epistoma and in length to distance between epistoma and vertex, the spines separated at bases by a distance equal to basal width of one spine; spines and margin of excavation bearing a few rather coarse, hairlike setae. Eye oval, entire. Antennal club subcircular, the sutures bisinuate, marked by rows of setae.

Pronotum wider than long; widest at base, sides rather strongly arcuate on basal half, strongly constricted behind the rather narrowly rounded anterior margin; summit well behind middle, its elevation continuing behind basal margin, ending posteriorly in a single projecting cusp; surface rather coarsely punctured, each puncture with a large granule or small asperity on its anterior or lateral margin, those toward summit slightly larger; vestiture scanty, hairlike.

Elytra 1.2 times as long as wide; sides weakly arcuate to base of declivity, then more strongly rounded to lateral elevations of declivity, deeply, rather broadly emarginate behind; striae not impressed, coarsely, very deeply punctured; interstriae about as wide as striae, the punctures in uniseriate rows, about one-third as large as those of striae, deep, each armed on its posterior margin by a high, pointed or rounded tubercle from base to apex. Declivity rounded, vertical, deeply sulcate; interspace 1 moderately raised, striae 1 im-

pressed; lateral areas elevated, the summit reached near middle of declivity on interspaces 3 and 4.

Female.—Similar to male except frons shallowly impressed, epistoma unarmed, and general sculpture finer.

Type Locality.—Thirteen miles north of Juchitlan, Jalisco, Mexico.

Host.—Giant cactus.

Type Material.—The male holotype, female allotype and 112 paratypes were taken at the type locality on July 2, 1965, at an elevation of 3,000 feet, by S. L. Wood, from just under the epidermis of a dying giant cactus.

The holotype, allotype and paratypes are in my collection.

### Pseudothysanoes thomasi, n. sp.

This species is unique among described species in the genus. The male has a prominent declivital elevation on the third interspaces that ends abruptly just below the middle of the declivity. The female declivity is simple as in other species of the genus.

MALE.—Length 1.1 mm., 2.5 times as long as wide; body color

light brown.

Frons broad, weakly convex below upper level of eyes, with epistomal area distinctly elevated. more strongly convex above eyes; surface rugulose and with a small, rounded granule at base of each seta; vestiture consisting of moderately long and abundant fimbriate setae, those above directed dorsad, those on epistoma directed orad. Antennal scape short, subcircular, scarcely longer than pedicle, club 1.4 times as long as wide; pubescent, with sutures indistinctly indicated.

Pronotum 0.94 times as long as wide; sides strongly arcuate, widest just behind middle; summit distinct, the asperites moderately large; anterior margin armed by eight coarse, basally separate teeth; surface behind summit minutely reticulate, with a few small, rounded, squamiferous granules; vestiture consisting of semierect

scales and a few inconspicuous bristles.

Elytra about 1.5 times as long as wide; sides straight and subparallel on basal two-thirds. rather broadly rounded behind; striae feebly impressed, the punctures minute and distinguished with difficulty from those of interstriae; interstriae subrugose, the punctures indistinct. Declivity convex, moderately steep; interspace 2 strongly narrowed below, interspace 3 with a large unarmed elevation extending about two-thirds the length of declivity from base, ending abruptly below. its base as wide as interspaces 1 and 2 combined, its height slightly less than its basal width. Vestiture consisting of rows of short, recumbent, strial, hairlike setae, and slightly longer scalelike setae, each scale on posterior half at least as wide as long.

Female.—Similar to male except from more strongly impressed, strial punctures more strongly impressed, elytral declivity devoid of

elevation, interspace 2 almost normal, and elytral scales slightly more slender.

Type Locality.—Mazatlan, Sinaloa, Mexico.

Type Material.—The male holotype, female allotype and seven paratypes were taken at the type locality, evidently in August 1964, from an unidentified tree by J. B. Thomas.

The holotype, allotype and part of the paratypes are in the Canadian National Collection, other paratypes are in my collection.

### Pityophthorus festus, n. sp.

This species is closely related to ponderosae Blackman, but is easily distinguished by the regular striae on the basal half of the elytra, by the more narrowly rounded elytral declivity, and by the smaller average size.

Male.—Length 1.4 mm. (paratypes 1.3-1.5 mm.), 2.6 times as

long as wide; color dark brown.

Frons convex; epistoma broadly emarginate; surface coarsely. deeply punctured, a sharply elevated, rather prominent median carina of almost uniform height extending from just above upper level of eyes to espistomal margin; vestiture sparse, inconspicuous

except on epistomal margin. Antenna as in ponedrosae.

Pronotum equal in length and width; widest on basal third, the sides weakly arcuate and converging to weak constriction just behind narrowly rounded anterior margin; anterior margin armed by eight small teeth; summit at middle, moderately impressed behind; posterior area rather coarsely, deeply, closely punctured; vestiture

short, sparse, inconspicuous.

Elytra 1.7 times as long as wide; sides straight and subparallel on more than basal two-thirds, rather narrowly rounded behind; striae in definite rows to base, the punctures small, rather deep; interspaces flat, as wide as striae, marked by some surface lines, impunctate. Declivity narrowly bisulcate, moderately steep; declivital punctures largely obsolete; interspace 1 moderately elevated, unarmed, striae 1 sharply impressed, lateral area gradually raised and rounded with the summit at striae 3; interspace 3 with a few very minute granules; general surface almost smooth, shining. Vestiture hairlike, fine, short, sparse.

Female.—Evidently indistinguishable from male except by seg-

mentation of abdominal terga.

Type Locality.—Eighteen miles west of El Salto, Durango, Mexico.

Host.—Pinus sp. (type). P. ayacahuite and leiophylla (para-

types).

Type Material.—The male holotype, female allotype and two paratypes were collected at the type locality on June 3, 1965, from pine branches, at an elevation of 7.500 feet, by S. L. Wood; two other paratypes bear the same data but were taken 3 miles west of El Salto from P. ayacahuite. Four paratypes were taken 23 miles

west of Durango. Durango, on June 4, 1965, from *P. leiophylla*; five paratypes were taken 14 miles northwest of Guadalajara, Jalisco, on July 19, 1953, from pine branches, all by S. L. Wood. Four additional paratypes were collected 10 miles west of El Salto, Durango, during July 1964, by J. B. Thomas.

The holotype, allotype and some of the paratypes are in my col-

lection, other paratypes are in the Canadian National Collection.

### Pityophthorus foratus, n. sp.

Among described species this species is more closely related to *schwerdtfergeri* (Schedl) than to any other, but it is easily distinguished by the second declivital interspace which is almost twice as wide as in Schedl's species.

Female.—Length 2.5 mm. (paratypes 2.1-2.5 mm.). 2.5 times as long as wide; body color dark brown, the elytra a lighter brown.

Frons plano-convex from upper level of eyes to epistoma, rather coarsely, closely punctured; vestiture very fine, hairlike, moderate

in length and abundance, as in schwerdtfergeri.

Pronotum very slightly wider than long; widest at base, sides weakly arcuate and converging toward the narrowly rounded anterior margin; anterior margin armed by about eight low teeth; summit at middle, definite; posterior area with rather coarse. close, deep punctures, surface not entirely smooth, shining; vestiture fine.

inconspicuous.

Elytra 1.5 times as long as wide, 1.8 times as long as pronotum; sides straight and subparallel on basal three-fourths, abruptly, very broadly rounded behind; strial and interstrial punctures confused on basal half of disc, striae 1 impressed near declivity and punctures of 1 and 2 recognizable, rather small, deep; punctures of interspace 1 recognizable at base of declivity, slightly smaller than those of striae. Declivity flattened, steep; strial punctures reduced but distinct on all striae; interspace 1 narrow, moderately elevated, unarmed. 2 impressed, very broad, three times as wide as 1, subreticulate, impunctate, 3 very narrow, narrower than 1, summit of lateral elevation reached on 4, unarmed. Vestiture limited to sides, fine, hairlike, rather long.

Male.—Not represented in series at hand.

Type Locality.—Ten miles west of El Salto, Durango, Mexico.

Type Material.—The female holotype and six female paratypes were collected at the type locality during July, 1964, in flight in a pink-oak forest, at about 9.000 feet in elevation, by J. B. Thomas.

The holotype and some paratypes are in the Canadian National

Collection, other paratypes are in my collection.

### Pityophthorus quercinus, n. sp.

Among described species this species should be placed near *rhois* Swaine in Blackman's group II, although it is not closely related.

The much larger size and entirely different sculpturing of pronotum and elytral declivity distinguish it.

Female.—Length 2.1 mm. (paratypes 1.8-2.2 mm.), 3.0 times as long as wide; color dark brown.

Frons broadly flattened from vertex to epistoma, with epistomal area slightly elevated, the lateral margins not sharply defined; surface closely, rather coarsely granulate-punctate and uniformly ornamented by moderately abundant, long, yellow hair of uniform length. Antennal club rather small, 1.2 times as long as wide; sutures 1 and 2 straight and septate, widest through segment 2, 1 and 3 about equal in width.

Pronotum 1.2 times as long as wide; sides on basal half straight and subparallel; anterior margin broadly rounded and armed by an indefinite row of basally fused teeth; summit in front of middle, indefinite; asperities on anterior area rather small, confused, not extending to base laterally; posterior area subshining, closely, deeply, rather finely punctured, and with numerous impressed points; disc glabrous.

Elytra 1.8 times as long as wide; sides straight and subparallel on more than basal two-thirds, rather narrowly rounded behind; striae 1 impressed to base, others feebly if at all impressed, the punctures rather small, deep, close; interspaces shining, weakly convex, impunctate but with rather abundant impressed points.

Declivity bisulcate, moderately steep; all striae with punctures distinctly impressed but slightly smaller than on disc; interspace 1 rather strongly elevated and armed by three widely spaced, moderately large, pointed granules. 2 impressed, flat, impunctate, 3 moderately elevated but not equal to 1, armed by a row of about seven rather large granules, lateral areas with punctures confused. Vestiture hairlike, confined to sides and to setiferous granules on declivity.

Male.—Similar to female except from convex, somewhat protuberant on upper half, more deeply, closely punctured, glabrous, and elytral declivity conspicuously deeper and wider, with striae obscure, the granules larger.

Type Locality.—Three miles west of El Salto, Durango, Mexico. Host.—Quercus sp.

Type Material.—The female holotype, male allotype and 41 paratypes were taken at the type locality from the phloem tissues of the bole of a very large oak, on June 7, 1965, at an elevation of 7,500 feet by S. L. Wood. Twelve additional paratypes were collected at 33 miles east of Moralia, Michoacan. Mexico, on June 14, 1965, at an elevation of 9,000 feet, from the same oak, by S. L. Wood. Ten paratypes were also taken 10 miles west of El Salto, Durango, Mexico, during July 1964, from oak, by J. B. Thomas.

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

### Pseudopityophthorus hondurensis, n. sp.

Using Blackman's (1931, J. Ent. Soc. Washington 21:225) key this species is placed near *agrifoliae* Blackman. However, it differs in frontal vestiture in both sexes and in lacking the short setae of striae and interstriae on the elytra.

Male.—Length 1.3 mm. (paratypes 1.2-1.6 mm.), about 2.8 times as long as wide; body color very dark brown, summit of pro-

notum somewhat lighter.

Frons plano-convex over a broad area, with a marginal fringe of long, yellow hair, the median area punctured. Antennal club widest

through segment 3.

Pronotum 1.05 times as long as wide; sides straight and subparallel on basal half, then moderately constricted before the broadly rounded anterior margin; anterior margin armed by about 14 low teeth; summit poorly developed, at middle; posterior area smooth and shining, with rather sparse, coarse, deep punctures and more

numerous minute points; almost glabrous.

Elytra 1.5 times as long as wide; sides approximately straight and parallel on basal two-thirds, almost semicircularly rounded behind; striae not impressed, the punctures, fine, distinct but not deep, in definite rows; interstriae almost flat, smooth and shining, with a few fine lines and impressed points. Declivity convex, moderately steep; strial punctures obsolete; interspaces except 2 with a few minute setiferous granules. Vestiture mostly confined to declivity, consisting of slender, erect, hairlike, interstrial setae.

Female.—Almost indistinguishable from male, but evidently

with frontal vestiture less abundant and shorter.

Type Locality.—Buenos Aires, Cortes, Honduras.

Host.—Quercus sp.

Type Material.—The male holotype, female allotype and 28 paratypes were taken from a dying oak branch at the type locality on May 7, 1964, at an elevation of 7,000 feet by S. L. Wood.

The holotype, allotype and paratypes are in my collection.

## Pseudopityophthorus granulifer. n. sp.

This species is closely related to granulatus Blackman, but it is much larger and has longer and more abundant frontal vestiture in both sexes.

Female.—Length 1.8 mm. (paratypes 1.6-2.0 mm.), 2.8 times as long as wide; color almost black.

Frons plano-convex over a broad area, with a dense marginal fringe of long, yellow hair as in the male of most species. Second and third segments of antennal club equal in width.

Pronotum 1.2 times as long as wide; sides gradually, arcuately narrowed toward the rather broadly rounded anterior margin; anterior margin armed by about 14 teeth; summit indefinite, at middle; posterior area smooth and shining, with fine, rather sparse, deep

punctures and more abundant minute points; vestiture limited to

sides and asperate area.

Elytra 1.5 times as long as wide; sides almost straight and subparallel on basal two-thirds, rather narrowly rounded behind; striae 1 weakly impressed, the others not at all impressed, the punctures very small, shallow, in rather indefinite rows; interstriae obscure, with a few punctures, points and surface lines. Declivity convex, rather steep, with interspace 2 impressed; strial punctures obsolete; interspaces 1, 2 and 3 each armed by a row of rounded granules that decrease in size and number toward apex; declivital surface smooth. dull. Vestiture consisting of rather sparse, erect bristles arranged in fine strial and coarse interstrial rows; some interstrial bristles on declivity strongly flattened.

MALE.—Evidently exactly like the female, distinguishable only by segmentation of abdomen.

Type Locality.—Zamorano, Morazan, Honduras.

Hosts,—Quercus sapotaefolia (type), and hondurensis (para-

Type Material.—The female holotype, male allotype and 10 paratypes were taken from Quercus sapotaefolia and five paratypes from Q. hondurensis at the type locality on April 18, 1964, at an elevation of 2.200 feet, by S. L. Wood. One other paratype was taken in flight at Guatemala City, Guatemala, May 30, 1964. A specimen probably belonging to this species, but not designated as a paratype. was collected at San Cristobal de las Casas, Chiapas, Mexico, on July 5. 1956, by D. D. Linsdale.

The holotype, allotype and paratypes are in my collection.

## Pseudopityophthorus tropicalis, n. sp.

This species evidently is allied to pulvereus Blackman, but is readily distinguished by the rows of erect declivital scales.

Male.—Length 1.7 mm. (paratypes 1.5-1.7 mm.), 2.8 times as long as wide: color rather dark brown with white vestiture.

Frons plano-convex from eye to eye from vertex to epistoma, and ornamented at margins by a fringe of abundant, long, yellow hair, central area concealed in all males at hand. Antennal club elongate, about 1.5 times as long as wide, with segments 2 and 3 equal in width.

Pronotum 1.1 times as long as wide; widest at base, sides weakly arcuate and gradually narrowed anteriorly, weakly constricted just before anterior margin; anterior margin rather broadly rounded and armed by about 14 low teeth; summit indefinite; posterior area finely, closely, deeply punctured, and with abundant impressed points; vestiture largely confined to sides and asperate area.

Elytra 1.5 times as long as wide; sides straight and parallel on basal two-thirds, semicircularly rounded behind; striae and interstriae indistinguishable, the punctures fine, shallow, confused. Declivity convex, rather steep, interspace 2 rather strongly impressed. Vestiture abundant, consisting of short semierect bristles, narrow anteriorly, almost scalelike posteriorly, and rows of longer erect scales on declivital interspaces 1, 3 and 4, each scale shorter than twice the length of the ground vestiture and only slightly wider.

Female.—Similar to male except from more coarsely punctured, with the vestiture shorter, less abundant and more uniformly distributed.

Type Locality.—Zamorano, Morazan, Honduras.

Hosts.—Quercus sapotaefolia (type), and hondurensis (para-

type).

Type Material.—The male holotype, female allotype and 39 paratypes from branches of *Quercus sapotaefolia* and 9 paratypes from *Q. hondurensis* were taken at the type locality on April 19, 1964, at an elevation of 2,200 feet, by S. L. Wood. Five other paratypes were collected at Volcan de Agua, Guatemala, on May 19, 1964, from *Quercus* branches, at an elevation of 3,000 feet by S. L. Wood. Six additional paratypes were taken 7 miles northeast of Copala, Sinaloa, Mexico, on July 22, 1953, at an elevation of 3,000 feet, by S. L. Wood.

The holotype, allotype and paratypes are in my collection.

### Pseudopityophthorus micans, n. sp.

This species evidently is allied to *opacicollis* Blackman, but it is unique in having the pronotum and elytra glabrous, smooth and shining.

Male.—Length 2.2 mm. (paratypes 2.0-2.5 mm.), 2.7 times as long as wide; color dark brown.

Frons plano-convex on three-fourths of a circle, smooth and shining at center with a marginal fringe of closely placed, long, erect, hairlike setae, marginal pubescent area closely, finely granulate-punctate. Eye deeply emarginate; finely granulate. Antennal club widest through segment 3.

Pronotum 1.1 times as long as wide; sides weakly arcuate, almost parallel on basal half, then moderately constricted before the rather narrowly rounded anterior margin; anterior margin armed by about 14 small teeth; summit indefinite; posterior area behind summit smooth and shining with rather abundant fine punctures and minute

points; glabrous except at margins.

Elytra 1.6 times as long as wide; sides straight and subparallel on basal two-thirds, abruptly narrowed at posterolateral angles, rather narrowly rounded behind; elytral punctures largely limited to anterior two-thirds of disc. fine, confused except for striae 1; surface smooth and shining but marked with a few fine lines. Declivity abrupt with apical and sutural area somewhat produced posteriorly; surface smooth and shining. Glabrous except for a few setae at anterolateral angles.

Female.—Similar to male except from finely, deeply punctured except for a narrow median line; frontal vestiture sparse, scattered; and declivital punctures minute but evident.

Several paratypes are more distinctly punctured on the elytral declivity than the type. Some also appear dull, rather than shining;

the shine evidently disappears with advancing age.

Type Locality.—Sixty miles west of Durango, Durango, Mexico.

Host.—Quercus spp.

Type Material.—The male holotype, female allotype and 23 paratypes were taken at the type locality on June 5, 1965, at an elevation of 7,000 feet, from a dying oak tree about 10 inches in diameter, by S. L. Wood. Other paratypes were collected in Mexico as follows: seven from 20 miles west of Durango, Durango; four from 18 miles west and one from three miles west of El Salto. Durango; four from 33 miles east of Moralia, Michoacan; and three from four miles south of Carapan. Michoacan; all were taken from oak trees, between 7,000 and 9,000 feet in elevation during June 1965, by S. L. Wood. Thirteen additional paratypes were taken 10 miles west of El Salto, Durango, in July 1964, by J. B. Thomas.

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

### Gnathotrichus dentatus, n. sp.

## Fig. 1

This unique species differs from all previously described species in having the elytral declivity of the male rather deeply sulcate and armed by a pair of large bi- or tridentate processes. The pubescence of pronotum and declivity is also much more conspicuous than in previously known species.

Male.—Length 3.4 mm. (paratypes 3.1-3.6 mm.), 3.1 times as

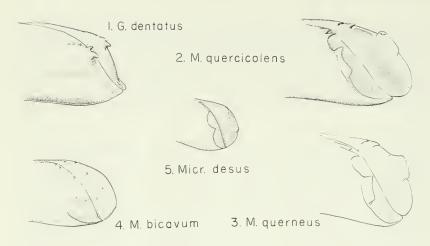
long as wide; color dark brown.

Frons very broad, convex; surface rather coarsely, shallowly punctured becoming increasingly aciculate toward median portion of epistoma; a short, transverse, elevated carina in median area at upper level of eyes and from it an impunctate line extending dorsad; vestiture short, inconspicuous.

Pronotum 1.2 times as long as wide; sides straight and parallel on basal half, rather broadly rounded in front; anterior margin armed by 10 low serrations; summit indefinite, in front of middle; posterior area smooth, subshining, finely, shallowly, rather sparsely

punctured; vestiture fine, short, rather abundant on sides.

Elytra 2.0 times as long as wide; sides almost straight and parallel on basal three-fourths, narrowly rounded behind and narrowly notched at suture; punctures obsolete, striae and interstriae not indicated; surface very finely marked by surface lines and indefinite, shallow punctures, dull. Declivity with a broad, moderately deep



Figs. 1-5. Posterolateral aspect of male elytral declivity; 1, Gnathotrichus dentatus; 2, Monarthrum quercicolens; 3, M. querneus; 4, M. bicavum; and 5, Microcorthylus desus.

sulcus between the pair of prominent processes borne on interspace 3; lateral processes supported on prominent lateral elevations, the processes arising from median edge of elevation and bearing on dorsal margin a series of (two or) three rather large teeth; the teeth directed caudad and somewhat mesad, increasing slightly in size posteriorly; about three small dentitions on third interspace anterior to process, and with three similar small tubercles on interspace 1 at base of declivity; elytral apex explanate and narrowly notched. Vestiture consisting of rather abundant minute hairs and some longer, erect, coarse, hairlike setae.

Female.—Similar to male except from less strongly convex and devoid of carina; anterolateral angles of pronotum with a small tuft of hair; and elytral declivity with sulcus shallow, lateral processes not strongly developed, and dentitions absent except for one or two small, rounded granules.

Type Locality.—Eighteen miles west of El Salto, Durango,

Mexico.

Host.—Quercus sp.

Type Material.—The male holotype, female allotype and 20 paratypes were taken at the type locality on June 7, 1965, from the bole of a very large oak, at an elevation of 7,500 feet, by S. L. Wood. Other paratypes include: 11 same data as holotype but taken three miles west of El Salto; four taken 10 miles west of El Salto during July 1964, by J. B. Thomas; one taken 16 miles east and 21 taken 33 miles east of Moralia. Michoacan, Mexico. on June 14. 1965, from a Quercus bole, at an elevation of 9,000 feet by S. L. Wood.

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

other paratypes are in the Canadian National Collection.

### Gnathotrichus nimifrons, n. sp.

This species is allied to *dentatus* Wood, described above, but is readily distinguished by its smaller size, by the narrower and longer declivital sulcus with the lateral processes undeveloped.

Male.—Length 3.0 mm. (allotype 2.7 mm.), 3.3 times as long

as wide; color brown.

Frons very broad, strongly convex; surface smooth and shining in central area, shallowly punctured laterally, weakly aciculate toward epistoma; vestiture sparse, inconspicuous.

Pronotum 1.3 times as long as wide; as dentatus except posterior

areas more finely, shallowly and closely punctured.

Elytra 1.9 times as long as wide; sides straight and subparallel on basal three-fourths, rather narrowly rounded behind, shallowly notched at suture; striae and interspaces not indicated; surface minutely irregular, with rather sparse, shallow, fine punctures. Declivity rather narrowly, deeply sulcate, moderately steep; suture not raised, lateral area including interspace 3 strongly elevated from declivital base about two-thirds the distance to apex, the crest armed by about seven small, pointed granules; elytral apex explanate, narrowly notched. Vestiture consisting of fine, short hairlike setae on disc and sides, becoming much longer and abundant on declivity.

Female.—Similar to male except frons less strongly convex and with fine aciculate lines extending at least to upper level of eyes; and declivity shallowly sulcate, the lateral elevations poorly developed, the granules fewer in number and smaller.

Type Locality.—Eighteen miles west of El Salto, Durango,

Mexico.

Host.—Quercus sp.

Type Material.—The male holotype, female allotype and one male paratype were collected at the type locality on June 7, 1965, at an elevation of 7,500 feet, by S. L. Wood, from the bole of the same large oak tree that contained the holotype of dentatus. One paratype is from Carr Canyon, Arizona, taken at blacklight, on August 8, 1962, by S. L. Wood.

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

### Gnathotrichus perniciosus, n. sp.

This species is allied to, but not closely related to deleoni Blackman. It is distinguished by the smaller size, by the more slender form. by the very different frons. by the striate elytral disc, by the sculpture of the elytral declivity, and by other characters.

Male.—Length 2.4 mm. (paratypes 2.2-2.6 mm.), 3.2 times as long as wide; color dark brown, the elytral bases somewhat light-

Frons moderately convex; surface convergently aciculate from upper level of eyes to median point on epistoma, two of the ridges on median line (one in some paratypes) more strongly raised, par48

ticularly above, the grooves between ridges and above aciculate area

rather sparsely, deeply, coarsely punctured.

Pronotum 1.2 times as long as wide; widest at base, the sides straight, converging anteriorly very slightly on basal three-fourths, then broadly rounded in front; anterior margin armed by about 12 low, blunt teeth; summit well in front of middle, marked by a raised transverse line; posterior area finely reticulate, dull, very finely, rather sparsely punctured; vestitute inconspicuous, confined to sides.

Elytra 1.8 times as long as wide; sides almost straight and parallel on basal three-fourths, narrowly rounded behind, with a very small notch at suture; striae not impressed, the punctures in semi-definite rows, small, shallow; interspaces with surface lines, points, and an occasional puncture, subshining. Declivity steep, narrowly and shallowly sulcate; striae 1 and 2 indicated by fine, shallow punctures; interspaces 1 and 2 very narrow, impressed, 3 moderately, rather abruptly elevated and armed by about four rounded granules. Vestiture limited to declivity, fine, hairlike, short and a few longer setae intermixed.

Female.—Similar to male except outer margin of antennal

funicle and club bearing a few long setae.

Type Locality.—Six miles south of Carapan, Michoacan, Mexico.

Hosts.—Pinus spp.

Type Material.—The male holotype, female allotype and 69 paratypes were collected at the type locality on June 18, 1965, at an elevation of 7,000 feet, from the base of a pine 12 inches in diameter, by S. L. Wood. Other paratypes, all taken in Mexico, include: two from Tres Rios, Chihuahua, July 13, 1959, by W. W. Tanner and G. W. Robison; one from 20 miles northeast of Copala, Sinaloa, July 22, 1953, from *Pinus*, by S. L. Wood; three from the southeast slopes of Mt. Colima, Colima, Dec. 2, 1948, by E. S. Ross; two from near Cuernavaca, Morelos, August 5, 1949, by J. P. Perry; one from seven miles south of Mazamitla, Jalisco, December 1, 1948, by H. B. Leech; and one from 15 miles south of El Guarda, Distrito Federal, November 14, 1946, by E. S. Ross. This species was also taken at Cerro Pena Blanca. San Lucas, Yuscaran. and Zamorano, Honduras, from *Pinus oocarpa* and *pseudostrobus*, but the specimens from these localities are not designated paratypes.

The holotype, allotype and some of the paratypes are in my collection, other paratypes are in the California Academy of Sciences.

### Gnathotrichus imitans, n. sp.

This species evidently is more closely allied to *perniciosus* Wood, described above, than to other known forms, but it is easily distinguished by the black or dark brown color, by the impressed lower half of the frons, and by the more strongly striate elytra.

ADULT.—Length 3.0 mm. (paratypes 2.9-3.1 mm.), 3.3 times as

long as wide; color dark brown.

Frons impressed on more than median half from upper level of eyes to epistoma, convergently aciculate toward median point on epistomal margin on most of impressed area; surface coarsely, rather sparsely, deeply punctured over most of front of head to vertex; a median carina extending dorsad from upper level of eyes; vestiture

sparse, inconspicuous.

Pronotum 1.4 times as long as wide; widest at base, sides almost straight on basal three-fourths and slightly converging anteriorly, rather broadly rounded in front; anterior margin with an irregular, indistinctly serrate, raised rim; summit well in front of middle, clearly marked by a transverse elevation; posterior area almost smooth and shining, rather closely, deeply, finely punctured; vestiture restricted to sides.

Elytra 1.9 times as long as wide; sides straight and subparallel on basal three-fourths, rather narrowly rounded behind; striae not impressed, the punctures small, deep; interstriae little wider than striae, marked by a few surface lines and points, subshining. Declivity moderately steep, convex; all punctures minute, not clearly impressed; interspace 1 weakly elevated, 2 impressed, 3 slightly elevated and armed by a series of about five very small granules; apical margin not extended as in most representatives of the genus. Vestiture confined to sides and declivity; longer and in distinct rows on declivital interspaces 3 and 4.

Sexual differences are not apparent in the material at hand, al-

though both sexes probably are represented.

TYPE LOCALITY.—Three miles west of El Salto, Durango, Mexico. TYPE MATERIAL.—The holotype (a female?) and six paratypes were collected at the type locality on June 7, 1965, at an elevation of about 7.500 feet, in flight, by S. L. Wood. Other paratypes were collected in flight near the type locality as follows: 4 from El Salto, June 3, 1937, by Juan Manual, and 69 from 10 miles west of El Salto, during July 1964, by J. B. Thomas.

The type and some of the paratypes are in my collection, other paratypes are in the California Academy of Sciences and the Can-

adian National Collection.

## Monarthrum quercicolens, n. sp.

### Fig. 2

Of the described species known to me this species evidently is more closely allied to *scutellare* (Leconte), but it is not closely related. The third pair of elevated processes on the declivity and the pubescent female from serve to distinguish it from other species.

Male.—Length 4.0 mm. (paratypes 3.7-4.3 mm.), 3.1 times as long as wide; pronotum brown, elytral base light brown, posterior half of elytra dark brown.

Frons convex, with a feeble median elevation below; surface reticulate below, subshining above, finely, deeply, rather closely

punctured; glabrous. Antennal club 1.8 times as long as wide, widest

one-third from apex.

Pronotum 1.4 times as long as wide; sides almost straight and parallel on basal two-thirds, broadly rounded in front; anterior margin not clearly armed although several irregular, submarginal asperities present; asperities restricted to slightly more than anterior third; posterior area subreticulate, dull, with sparse, minute, shallow punc-

tures; glabrous.

Elytra 1.9 times as long as wide; sides straight and subparallel on basal three-fourths, abruptly rounded behind, shallowly emarginate toward suture; elytral punctures very fine, more or less in rows, those of striae and interstriae similar in size and depth; surface marked by irregular surface lines and points, subshining. Declivity broadly, concavely excavated, abrupt, moderately steep; interspaces 2 and 3 each armed at base by a rather large, sharply pointed tooth; lateral margin raised, abruptly rounded from second tooth to apex with its middle third abruptly produced forming a long, flattened process on lateral margin about equal in height to teeth on upper margin; sutural margin feebly elevated, the concavity broadly concave, its surface rather coarsely, deeply punctured. Elytra glabrous, except in declivital excavation rather densely pilose, the setae fine, rather long, with marginal row of setae distinctly longer.

Female.—Similar to male except from less strongly convex, with a small, shallow, median impression and subtriangular patch of rather dense, fine, erect hair on median third between upper level of eyes and epistoma; declivity not excavated, with two pair of small tubercles on interspace 2; and antenna with tuft of hair characteristic of genus.

Type Locality.—Thirty-three miles east of Moralia, Michoacan, Mexico.

Hosт.—Quercus sp.

Type Material.—The male holotype, female allotype and three paratypes were taken at the type locality on June 14, 1965, from a large oak log, at an elevation of 9,000 feet, by S. L. Wood. Other paratypes were taken in Mexico from oak as follows: five from Carapan, Michoacan, June 18, 1965, 7,000 feet elevation; one from three miles west of El Salto, Durango, June 7, 1965, 7,500 feet elevation, all by S. L. Wood; six from 10 miles west of El Salto, during July 1964, by J. B. Thomas.

The holotype, allotype and some of the paratypes are in my collection, other paratypes are in the Canadian National Collection.

### Monarthrum querneus, n. sp.

### Fig. 3

This species is related to *quercicolens* Wood, described above, but is readily distinguished in the male by the smaller size, by the shallower, more widely flattened elytral declivity, and by the slightly

longer third pair of declivital processes; the female from is glabrous and has a moderately large cavity on the vertex.

Male.—Length 3.1 mm. (paratypes 2.8-3.4 mm.), 3.3 times as long as wide; color dark brown with sides and base of pronotum and basal two-thirds of elytra lighter.

Frons convex, with a low median elevation below; surface coarsely reticulate below, becoming smooth above with rather close, shal-

low punctures and numerous fine points; glabrous.

Pronotum and elytral disc as quericicolens. Declivity about as in quercicolens but concavity more broadly flattened, the apical margin less strongly produced, and the flattened lateral processes a little shorter and higher with the declivital vestiture less well developed.

Female.—Similar to female of quercicolens except from convex and glabrous with moderately large impression on vertex as wide as antennal club and shorter than wide, the impression abrupt above, gradual below, its depth equal to less than one-fourth its width.

Type Locality.—Thirty-three miles east of Moralia, Michoacan,

Mexico.

Host.—Quercus sp.

Type Material.—The male holotype, female allotype and 42 paratypes were taken at the type locality on June 14, 1965, at an elevation of 9,000 feet, by S. L. Wood, from the same large oak log that contained the holotype of quercicolens.

The holotype, allotype and paratypes are in my collection.

# Monarthrum bicavum, n. sp.

## Fig. 4

While the declivital structure of this species has a superficial resemblance to that of vittatum Blandford, the two are not closely related. In this species the apical margin of the declivity forms a finely raised, continuous line across the entire posterior margin of the declivity without a sutural emargination. The female frons is also unique in being shallowly concave from eye to eye and from vertex to epistoma with a low median elevation dividing it.

Female.—Length 2.9 mm. (paratypes 2.9-3.3 mm.), 3.0 times as long as wide; color dark brown.

Frons shallowly concave from eye to eye and from vertex to epistoma, its margin abruptly rounded; concavity divided by a median carina, subacute above, broad below; each half of concavity with an almost hemispherical impression at upper level of eyes about equal in diameter to greatest width of eye; entire surface of concavity and carina densely covered by very short pilose hair. Antennal club 1.4 times as long as wide, widest one-third from distal end, marked by two strongly arcuate sutures; posterior face bearing tuft of hairlike setae as in other species of the genus.

Pronotum 1.2 times as long as wide. subquadrate, the sides weakly arcuate, anterior margin only slightly more strongly arcuate, the anterior angles only slightly more broadly rounded than those of base; summit two-fifths of pronotum length from anterior margin, poorly developed; posterior area minutely reticulose-granulose, impunctate; glabrous.

Elytra 1.5 times as long as wide; sides almost straight and parallel on basal two-thirds, then slightly convergent posteriorly to declivital base, then rather abruptly angled and broadly rounded behind; strial and interstrial punctures not in definite rows, but not entirely confused, the punctures small, not deep; surface shallowly reticulate and with surface lines, subshining. Declivity rather abrupt, very steep, sulcate on upper half; punctures not clearly evident but sutural interspace feebly raised, 2 narrow, impressed about to middle of declivity, 3 rather strongly raised above but disappearing by middle of declivity and armed by a small tubercle near upper limit and another at middle of declivity, the lower tubercles more widely separated from one another than the upper; the lower third of lateral margin marked by an acute, low. elevated line continuing without interruption to apex, not emarginate at suture; surface minutely reticulose-granulose. Vestiture scanty, restricted to sides and declivity.

Male.—Similar to female except frons weakly convex, with a broad irregular median carina, the surface granulose with sparse, shallow punctures; posterior area of pronotum with shallow punctures indicated; and declivity more broadly flattened above, the elevation of interspace 3 forming an indefinite crescent on middle third

of declivity, and three or four fine tubercles may occur.

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

Host.—Quercus sp.

Type Material.—The female holotype, male allotype and 19 paratypes were collected at the type locality on July 16, 1965, from the bole of a fallen oak, at an elevation of 3,000 feet, by S. L. Wood.

The holotype, allotype and paratypes are in my collection.

### Microcorthylus desus, n. sp.

### Fig. 5

Of the described species known to me none are closely related and, at best, only superficially resemble this species. Superficially it might be placed intermediate between *Monarthrum egenum* Blandford and *M. edentatum* Eggers. The subvertical declivity and nonemarginate elevated apex of the elytra distinguish this species. In some respects it might resemble *M. bicavum* Wood, described above.

Male.—Length 1.9 mm. (paratypes 1-8-2.1 mm.), 2.5 times as long as wide; color brown.

Frons convex, coarsely, not closely or deeply punctured, with a small, elongate median tubercle at upper level of eyes; vestiture inconspicuous. Antennal club oval, 1.5 times as long as wide, widest at middle, two sutures very weakly angulate; funicle one-segmented.

Pronotum 1.3 times as long as wide; sides straight and subparallel on basal half, rather broadly rounded in front; anterior margin unarmed; summit at middle; posterior area reticulate, dull, very

finely, sparsely punctured; disc glabrous.

Elytra about 1.5 times as long as wide; sides straight and parallel to declivital base, posterior margin straight, the posterior angles curving caudomesad to form lower declivital spines with their apices directed mesad; elytral punctures small, indistinct, confused, the surface reticulate, dull. Declivity abrupt, subvertical, somewhat more gradually rounded at base near suture; face broadly, rather shallowly concave, the lateral margin rather strongly, broadly elevated and armed by a rather large, pointed tubercle on upper third about in line with normal position of striae 3 and a larger incurved, hooked spine two-thirds of declivital length from top; height of lower spine about equal to its basal width, its apex directed mesad; apical margin acutely, not strongly elevated on median half of elytral width, not at all emarginate at suture. Vestiture not conspicuous, limited to sides and declivity.

Female.—Similar to male except elytral declivity less strongly sculptured, only moderately impressed, the lateral areas not high, the tubercles small; apical margin of elytra, frons and antenna as in male.

Type Locality.—Sixteen miles east of Moralia, Michoacan,

Mexico.

Hosт.—Quercus sp.

Type Material.—The male holotype, female allotype, and 18 paratypes were collected at the type locality on June 14. 1965, at an elevation of 7.600 feet, by S. L. Wood. from the dying limb of an oak.

The holotype, allotype and paratypes are in my collection.

### Amphicranus quercus, n. sp.

### Figs. 6-7

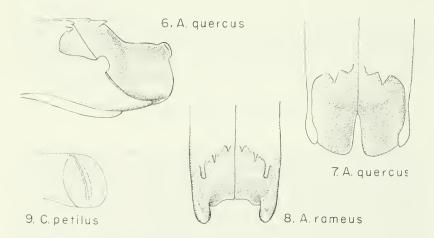
This species is allied to *torneutes* Blandford, but it is much smaller. it lacks a frontal callosity, and it has only one rounded and one pointed tooth near suture at base of male declivity.

Male.—Length 4.5 mm. (paratype males 4.4-4.6, females 3.4-3.8 mm.), 3.4 times as long as wide; color dark brown.

Frons convex, the surface rather coarsely, shallowly punctured except small area at center; epistoma bearing a sparse, poorly developed brush of hair directed orad. Antennal funicle two-segmented; club with sutures 1 and 2 evenly, rather weakly arcuate.

Pronotum 1.8 times as long as wide; sides straight and parallel on basal two-thirds, then anteriorly narrowed slightly to an abrupt subangulate point and broadly rounded in front; anterior area rather abruptly declivous, the indefinite summit one-third from anterior margin; asperities fine, confused except a small area equal in size to antennal club medially from summit forward, slightly impressed and devoid of asperities, its surface reticulate; posterior area indistinctly reticulate, dull with fine, sparse punctures; glabrous.

Elytra 2.1 times as long as wide; sides straight and almost parallel from base to level even with apex of third declivital teeth, very slightly wider just before apex of elytra, broadly rounded behind and very deeply, broadly emarginate; depth of cleft equal to onefifth elytral length, its width equal to one-half its depth; striae very indistinctly indicated by minute, shallow punctures, interstriae with a few confused similar punctures, surface essentially smooth, dull. Declivity abrupt, sharply margined above, excavated, with lateral areas very strongly produced, floor of cavity broadly flattened, rather steep; upper third sharply margined by a low elevation about as high as thick, its sutural half bearing two almost equal dentitions, one at interspace 2, pointed, the other bluntly rounded at sutural interspace; lower two-thirds of lateral margin abruptly, very strongly produced posteriorly, upper margin of this process horizontal to level equal with sutural apex, then armed by a large, short, flat, blunt posterodorsally projecting process, and continuing posteroventrally to acute, very deep sutural emargination. Vestiture confined to declivity, consisting of rather abundant short, fine, erect hair in the excavated area, with much longer setae on margins of expanded lateral areas.



Figs. 6-9. Male elytral declivity of: 6-7, Amphicranus quercus, posterolateral and dorsal aspects; 8, A. rameus, dorsal aspect; and 9, Corthylus petilus, posterolateral aspect.

Female.—Similar to male except inner face of antennal club bearing a tuft of hair, impressed reticulate area in front of pronotal summit absent, and declivity simple, flattened, with a low, acute margin on lower half only and armed by two pair of moderately small, pointed tubercles on interspace 3, one near upper margin, the other near middle of declivity; declivity subglabrous.

Type Locality.—Three miles west of El Salto, Durango, Mexi-

co.

Host.—Quercus sp.

Type Material.—The male holotype female allotype and 44 paratypes were collected at the type locality on June 27, 1965, at an elevation of 7,500 feet, by S. L. Wood, from the boles of several large oak trees.

The holotype, allotype and paratypes are in my collection.

## Amphicranus rameus, n. sp.

### Fig. 8

This species is similar to *propugnatus* Blandford, but it may be distinguished by the presence of a specialized, raised, coarsely reticulate, frontal area, and by very different arrangement of the elytral declivity.

Female.—Length 3.7 mm. (paratypes 3.5-3.7 mm.), 3.7 times as long as wide; color of pronotum in front of summit, elytral declivity and abdomen almost black, remainder of pronotum reddish

brown, remainder of elytra yellowish brown.

Frons convex, its surface reticulate and rather coarsely, indistinctly punctured, median third with a low, sharply raised, flat, coarsely reticulate area having outline of a cup (more nearly heartshaped in paratypes); vestiture inconspicuous. Antennal funicle two-segmented; club with two non-septate weakly arcuate sutures.

Pronotum 1.5 times as long as wide; sides straight and parallel on basal three-fifths, rather narrowly rounded in front; anterior margin projecting downward very slightly at center. armed by about 10 low teeth, the median pair more prominently extended; summit three-fifths of pronotum length from base, indefinite; rather strongly declivous and coarsely asperate in front of summit, posterior area finely reticulate with small, shallow, rather sparse punctures;

glabrous.

Elytra 2.2 times as long as wide; sides straight and parallel to a point even with sutural apex, posterolateral angles convergently projecting behind beyond the broadly emarginate elytral apex; disc irregularly smooth, shining, subsurface punctures suggested but not attaining surface. Declivity abrupt, moderately steep, broadly excavated; margin subacutely elevated from interspace 1 about two-thirds of distance from top of declivity, the elevation not as high as wide, then continued on lower third to projecting subquadrate, converging lateral processes, the processes about one and one-half

times as long as their width in lateral profile; lateral margin armed by small, equal, pointed spines on interspaces 1 and 3 at base of declivity, and at interspace 4 by a slender blunt tooth about twice as long as upper ones; lateral processes without special armature; median two-thirds of posterior margin emarginate, the emargination about half as deep as wide. Vestiture fine, scanty, confined to declivity.

Male.—Similar to female except frontal raised callus absent; a smaller tuft of hair present on antennal club.

Type Locality.—Three miles west of El Salto, Durango, Mexico. Host.—Quercus sp.

Type Material.—The female holotype, male allotype and two female paratypes were collected at the type locality on June 7, 1965, at an elevation of 7,500 feet, by S. L. Wood, from a limb four inches in diameter of the same large oak species that produced quercus Wood (above).

The holotype, allotype and paratypes are in my collection.

## Corthylus petilus, n. sp.

#### Fig. 9

Although this species is truncate behind as in *compressicornis* (Fabricius), it is not at all closely related. It differs from *compressicornis* by the smaller, more slender body, and in the female, by the absence of a tuft of hair on the antennal club and the presence of a pale, spongy area on the epistomal area.

Female.—Length 2.0 mm. (paratypes 1.9-2.1 mm.). 2.5 times

as long as wide; color dark brown.

Frons rather deeply concave from eye to eye and from epistoma to vertex; upper three-fourths rather coarsely reticulate, finely, shallowly punctured, shining; lower fourth spongy, dull, pale in color; margin above eyes ornamented by a fringe of rather long, plumose hair. Antennal club much as in *compressicornis*, without a tuft of hair.

Pronotum about equal in length and width; widest on basal third, sides weakly arcuate, very boardly rounded in front; summit well in front of middle, rather steeply declivous in front; posterior area reticulate, becoming almost smooth and shining at base, finely,

sparsely punctured; glabrous.

Elytra 1.7 times as long as wide; sides almost straight and parallel to truncate declivity, very weakly rounded behind; strial and interstrial punctures small, distinctly impressed, confused except striae 1 and 3 almost discernible toward declivity; surface with a few obscure lines and points, shining. Declivity subvertical, truncate, the margin abruptly rounded on upper half, acute below; rather strongly impressed on a complete circle, particularly below; sutural interspace strongly elevated on middle two-thirds, gradually reduced

above, more abruptly reduced below and obsolete before apex; surface smooth and shining except coarsely reticulate on sutural interspace, the punctures coarse, deep; sutural interspace armed by a row of about nine rounded granules. Almost glabrous.

Male.—Similar to female except frons convex, reticulate, with a few deep, coarse punctures; anterior margin of pronotum more strongly rounded and armed by two closely set, moderately large teeth.

Type Locality.—Three miles west of El Salto, Durango, Mexico.

Host.—Quercus sp.

Type Material.—The female holotype, male allotype and three paratypes were collected at the type locality on June 7. 1965, at an elevation of 7,500 feet, by S. L. Wood, from the same oak branch that contained the type series of *Amphicranus rameus* Wood (above).

The holotype, allotype and paratypes are in my collection.