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NEW SYNONYMY AND RECORDS OF PLATYPODIDAE AND SCOLYTIDAE (COLEOPTERA)¹

Stephen L. Wood²

During the past year the opportunity came for me to study the types of bark and ambrosia beetles (Platypodidae and Scolytidae) in three old, significant collections. The oldest of these is the collection of Count C. G. Mannerheim, presently housed in the Universitetets Zoologiska Museum, Helsinki, Finland. It is noteworthy because it contains the types of species taken in Russian America (mostly Alaska) at an early date when few American species were known. Most of the 17 species of concern here were previously correctly known to specialists; notable exceptions involve *Bostrichus* (now *Ips*) *tridens*, *Hulurgus* (now *Pseudohylesinus*) *sericeus*, and a new status for *H.* (now *Dendroctonus*) *obesus*.

The second collection considered here, in terms of age priority, is that of Victor von Motschulsky presently housed at the Zoological Institute of the USSR, Moscow. The 26 species of concern here were described largely from Ceylon and, for the most part, have been known to specialists only from the original descriptions and a very few duplicate specimens evidently distributed by Motschulsky. Previous workers were not successful in locating the types and have either ignored the names or have considered the types lost or destroyed. The policy adopted here in this article apparently is consistent with the action of previous workers; that is, specific names of these species were given their normal place in priority, but three generic names, *Anodius* (1860) and *Phloeotrogus* (1863) (= *Xyleborus* Eichhoff, 1864), and *Olonthogaster* (1886) (= *Phloeosinus* Chapuis, 1869) clearly predate the priority of names now used for the genera to which they apply. These names, *Xyleborus* and *Phloeosinus*, have been applied consistently for a century to large genera of almost world-wide distribution and it is not in the interest of nomenclatorial stability that they be changed. Although *Anodius*, *Phloeotrogus*, and *Olonthogaster* have been listed in catalogs in an

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incerta sedis category. I feel they qualify as *nomena oblita*. The case with the monobasic *Genyocerus* (1858) is different. Strohmeyer evidently deliberately named a homonym in the genus *Diapus* to replace *G. albipennis*, the type-species of *Genyocerus*. It apparently has been clearly recognized that *albipennis* belongs to the species group currently assigned to *Diacavus* Schedl, 1939. Contrary to Schedl's (1959:515) statement, the type of *albipennis* is available and the characters of *Genyocerus* are clearly definable as his placement of *albipennis* in *Diacavus* indicates. *Diacavus* was established recently and it involves a limited number of species (about 15) from a restricted region (oriental). For these reasons I place *Diacavus* Schedl in synonymy under the much older name *Genyocerus* Motschulsky (*New synonymy*).

The third collection treated here is part of the Felicien Chapuis material on which his 1869 (and 1873) *Synopsis des Scolytides* was based. This part of his material is currently housed in the Institut Royal des Sciences Naturelles de Belgique, Brussels. Because a more extensive treatment of the American material contained in this collection is in preparation, only four items of immediate concern are treated here.

My sincere appreciation is extended to the above named institutions for their kindness in permitting me to examine their material; and to Dr. Walter Hackman and Mr. Hans Silfverberg, at Helsinki. Dr. A. N. Zhelochovtsev, at Moscow, and Dr. Roger Damoiseau, at Brussels, for their kindness and cooperation.

In order to resolve some of the problems presented here and to facilitate other work, six American species are described below as new to science. These species are in the genera *Pseudohylesinus* (1), *Phloeotribus* (3), and *Chramesus* (2).

MANNERHEIM COLLECTION

Of the 17 species of Scolytidae named from Alaska by Mannerheim, subsequent workers have correctly placed most of them. A few have been misidentified. My comments on the collection follow.

Bostrichus affaber Mannerheim (1852)

This species has correctly been referred to *Dryocoetes*. The type is a female.

Bostrichus cavifrons Mannerheim (1843)

Three specimens taken at Sitka by Holmberg are in the Mannerheim drawer with the types, but none has been designated as the type. In another drawer containing general Mannerheim Scolytidae there are eight specimens designated "Spec. typ.," collected by D. Eschscholtz or Blaschke. Evidently the type, collected by Eschscholtz, is among the latter eight specimens. All are of *Trupodendron lineatum* (Olivier) with which this species has correctly been placed in synonymy.

Bostrichus concinnus Mannerheim (1852)

This species has correctly been referred to the genus *Ips*. The type is a female.

Bostrichus interruptus Mannerheim (1852)

This species has correctly been referred to the genus *Ips*. The type is a female.

Bostrichus nitidulus Mannerheim (1843)

This species has correctly been referred to the genus *Pityophthorus*. The type is a female.

Bostrichus semicastaneus Mannerheim (1852)

This species has correctly been made a junior synonym of *Dryocoetes autographus* (Ratzeburg). The sex of the type was not determined.

Bostrichus septentrionis Mannerheim (1843)

This species has been made a junior synonym of *Dryocoetes autographus* (Ratzeburg). A specimen bearing this name was not found in the Mannerheim collection.

Bostrichus terminalis Mannerheim (1843)

This species belongs in the family Cisidae.

Bostrichus tridens Mannerheim (1852)

This species has correctly been referred to the genus *Ips*. The type is a female exactly identical to the female type of *Ips interruptus* (Mannerheim) (*new synonymy*). The name *interruptus* appears first on the page, but I exercise the right as first revisor in this instance and select the name *tridens* for this species. The morphological form having a greatly enlarged female frons, generally known as *Ips tridens*, does not require a new name; it will be treated in the near future in a detailed study by Dr. Gerald Lanier.

Cryphalus striatulus Mannerheim (1853)

A specimen bearing this name could not be found in the Mannerheim collection. It evidently is the species currently known as *Trypophloeus nitidus* Swaine.

Hylastes cristatus Mannerheim (1853)

A specimen bearing this name could not be found in the Mannerheim collection. It has been treated as a junior synonym of *Hylur-gops subcostulatus* (Mannerheim).

Hylastes subcostulatus Mannerheim (1853)

This species has correctly been transferred to the genus *Hylurgops*. There were no specimens under this name in the Mannerheim material; however, it is easily recognized from the original description.

Hylurgus nigrinus Mannerheim (1852)

This species has correctly been referred to the genus *Hylastes*. The type is a female.

Hylurgus obesus Mannerheim (1843)

This species has correctly been referred to *Dendroctonus*. While my (Wood, 1963) revision of *Dendroctonus* was in press a delayed comparative note on the type of *D. rufipennis* (Kirby) was received indicating that *obesus* is a junior synonym. In my absence the correction was properly placed in the synonymy but the senior name was not substituted elsewhere in the manuscript. Since then I have re-examined the types of both *obesus* and *rufipennis*. There are obvious synonyms, with the name *rufipennis* having priority (*new status*).

Hylurgus pumilus Mannerheim (1843)

This species has correctly been referred to the genus *Dolurgus*. The sex of the type was not determined.

Hylurgus rugipennis Mannerheim (1843)

This species has correctly been referred to the genus *Hylurgops*. The specimen labeled "Type" in the Mannerheim type collection was not collected by Eschscholtz and, therefore, probably is not actually the type. Seven other specimens of this species in the Mannerheim material are from Sitka, but were also taken by other collectors.

Hylurgus sericeus Mannerheim (1843)

Under this name in the Mannerheim collection are two specimens. The second specimen belongs to the genus *Leperisinus* and is from Louisiana. The first is from Sitka, collected by Blaschke, and is considered to be the type. This specimen is a female of the species generally known as *Pseudohylesinus grandis* Swaine (*new synonymy*); Swaine's name, therefore, must be placed in synonymy. *Pseudohylesinus sericeus* of Swaine and Blackman is an unnamed species (see below).

Polygraphus saginatus Mannerheim (1853)

This species has correctly been placed as a junior synonym of *P. rufipennis* (Kirby). The only specimen of this species in the Mannerheim material is a female without locality data, bearing the generic and specific names, but no author or other identifying information. It could be the type, but it is not so designated.

MOTSCHULSKY COLLECTION

The types of 26 species of Scolytidae and Platypodidae are in the Motschulsky collection. Synonymy for nine of the species has been suggested by previous workers, based on an examination of the original descriptions or of a very few duplicate specimens presumably distributed by their author. The taxonomic placement of the 17 remaining species has not been clear. It was noted that labels were mostly written in German and did not always correspond with the published type locality designated by Motschulsky. However, after examining the entire Motschulsky collection presently available, I see no reason whatever to question the types as they are presently designated. Five of them have been carefully remounted on the same pin above the original microcard, and all bear a red type label in addition to the original designation. My comments on the alphabetically arranged Motschulsky species follow.

Anodius denticulatus Motschulsky (1860)

Six female specimens are mounted individually on six microcards on one pin. The upper five are *Xyleborus perforans* Wollaston; the sixth specimen, placed in the lowest position on the pin, is *Xyleborus similis* Ferrari. I here designate the uppermost specimen as the lectotype of *denticulatus* Motsch. (*new synonymy*).

Anodius distinctus Motschulsky (1866)

One female specimen. Comparative material was not at hand for varification, but this species is *Coccotrypes floridensis* Schedl which is the species I have recognized as *C. carpophagus* Hornung. Schedl refers Hornung's name to a different species, *C. pygmaeus* Eichhoff; I have not yet verified his synonymy. Regardless of how the later problem is resolved *Coccotrypes distinctus* (Motsch.) is a senior synonym of *C. floridensis* Schedl (*new synonymy*).

Anodius piceus Motschulsky (1863)

One female specimen. This species is *Xyleborus indicus* Eichhoff. The apices of the elytra are immersed in glue. The pronotum is subquadrate, the color is dark, the basal half of the elytral declivity may be very slightly more convex than in many *indicus*, but it is within the range of variation for this species. *Xyleborus piceus* (Motsch.) has priority and must replace *X. indicus* Eichhoff (*new synonymy*).

Anodius tuberculatus Motschulsky (1863)

Two female specimens. They were compared directly to authentic specimens of *Xyleborus perforans* Wollaston; there is no question as to the synonymy. Wollaston's name has priority (*new synonymy*).

Eccoptopterus sexspinosus Motschulsky (1863)

Three females labeled "India occidental, Birma." The length of these specimens is about 2.3 mm., and the second and third pairs of teeth on the elytral declivity are smaller, with the second pair closer together than in my specimens of *E. spinosus* (Olivier). In spite of these differences, I feel the previously suggested synonymy is correct.

Genyocerus adustipennis Motschulsky (1859)

One female specimen, from Japan. An examination of the literature treating the Platypodidae of Japan strongly suggests that this is *Crossotarsus niponicus* Blandford. Synonymy should await varification of this observation.

Genyocerus albipennis Motschulsky (1858)

One female specimen labeled "Aus Indien or (word illegible)." It is about 2.5 mm. in length; the frons is elaborately ornamented by slight impressions on lateral areas that extend dorsad to the upper level of the eye, with tufts of coarse, long hair occupying the lateral thirds from the upper level of the eye to two-thirds of the distance toward the mandibles and projecting forward a distance equal to the length of the head then curling back toward the mouth and touching the mandibles; additional tufts arise on the mouthparts and curl upward to the middle of the frons; median one-third to one-half of frons glabrous; base of pronotum with about a dozen coarse pores. This is a *Diacavus* species reminiscent of *quadriporus* Schedl, but distinct. However, as indicated above *Diacavus* must be placed in synonymy under the much older *Genyocerus*.

Hylesinus granulifer Motschulsky (1863)

Two male specimens mounted on one pin. These specimens agree in all details with my male of *H. despectus* Walker, from Tonkin.

Hylesinus sericeus Motschulsky (1866)

One female specimen. It belongs to the genus *Cryphalus*, and probably is *C. indicus* Eichhoff. The size, sculpture and setae fit *indicus*, but specimens were not at hand for comparison.

Hypoborus cinerotestaceus Motschulsky (1866)

One female specimen in very poor condition. It is about 1.3 mm. in length, with erect, interstitial rows of stout setae, the length of each less than half as great as distance between rows. It is similar to *paganus* Eichhoff or *pallidus* Eichhoff, but specimens were not available for comparison.

Hypoborus dorsalis Motschulsky (1866)

Two females and one male mounted on one card on one pin. They are of *Cryphalus indicus* Eichhoff, or very near. The size, sculpture and setae are as in *indicus*, however, specimens were not available for direct comparison.

Hypoborus nebulosus Motschulsky (1866)

Two specimens, probably males, with the frons hidden. Also of *Cryphalus*, probably *indicus*. The size, sculpture and setae are as in *indicus*, however, specimens were not available for direct comparison.

Olonthogaster nitidicollis Motschulsky (1866)

One female specimen. This is a large *Phloeosinus* similar to *asper* (Sampson). Specimens were not available for comparison.

Olonthogaster nitidifrons Motschulsky (1866)

One male specimen. This is a *Phloeosinus* species presently unknown to me. It is about 2.5 to 2.7 mm. in length; declivital interstriae 1 and 3 each bear three or four widely separated, sharply pointed teeth.

Phloeotrogus attenuatus Motschulsky (1863)

One female specimen. This specimen is *Xyleborus sordicauda* (Motsch.) (*new synonymy*) and is known to specialists by that name. It agrees completely with my homotype.

Phloeotrogus bidentatus Motschulsky (1863)

One female specimen labeled "India occidental." This specimen agrees with the species generally known to specialists as *Xyleborus bidentatus* (Motsch.) My specimen was compared directly to the type.

Phloeotrogus crassiusculus Motschulsky (1866)

Three females labeled "India occidental," mounted on individual microcards on one pin. The specimens are somewhat greasy, making the transition from shiny to opaque areas on the elytra difficult to see. My homotype (2.8 mm.) is very slightly larger than the types, but it is clearly *Xyleborus semiopacus* Eichhoff (*new synonymy*). Motschulsky's name has priority.

Phloeotrogus obliquecauda Motschulsky (1863)

Four females labeled "India occidental." This species is allied to *Xyleborus minor* (Stebbing) and is of the same size and proportion; however, the declivital sculpture and armature are much more nearly like *X. tachyderus* (Zimmermann). It is a species presently unknown to me.

Phloeotrogus sordicauda Motschulsky (1863)

Two female specimens. These specimens were compared to my specimen and the characters agree completely. It is the species known generally among specialists as *Xyleborus sordicauda* (Motsch.).

Phloiotribus subquadratus Motschulsky (1866)

One specimen. This specimen superficially resembles the genus *Phloeotribus*, but it belongs to the family Anobiidae.

Platypus caudatus Motschulsky (1863)

Six male specimens labeled "India oriental." all badly covered by fungal growth, unquestionably are *Platypus solidus* Walker as was previously suggested.

Platypus cordatus Motschulsky (1863)

Four female specimens labeled "India oriental." These specimens agree with my female homotype except that the major pronotal pores are very slightly smaller. It is a junior synonym of *Platypus solidus* Walker (*new synonymy*).

Platypus luniger Motschulsky (1863)

Three males and three females labeled "India oriental." Notes and diagrams indicates this species is *Platypus caliculus* Chapuis (*new synonymy*).

Platypus rotundicauda Motschulsky (1863)

Two female specimens labeled "India oriental." At the present time I am not familiar with the *Platypus* species to which this name should be associated.

Tomicus adusticollis Motschulsky (1863)

One female labeled "Ceylon." This specimen is about 2.2 mm. in length; my notes and diagram indicate it is *Xyleborus pumilus* Eggers. A specimen was not available for direct comparison (*new synonymy*).

Tomicus quadrispinus Motschulsky (1863)

One female labeled "India or Birma." This specimen is about 2.5 mm. in length; it is either *Xyleborus amphicranulus* Eggers, a small specimens of *X. emarginatus* Eichhoff or very closely related. More specimens of these species are required to more fully understand their ranges of variation.

CHAPUIS COLLECTION

Only a few items relating to the Chapuis (1869) types are mentioned here, the remainder will be treated in a later publication.

Hylastes vastans Chapuis

The female holotype is labeled "Mexico, Dy." It was compared directly to my homotype of *Hylastes gracilis* LeConte and is of the same species. LeConte's name has priority (*new synonymy*).

Dendroctonus parallelocollis Chapuis

The type evidently is a female; it is labeled "Mexico, Dy." My concept of this species (1963) was based on specimens supposedly compared to this type by Hopkins, Eggers, and Schedl. All clearly were in error. The type is identical to *D. aztecus* Wood (*new synonymy*). The species for which the name *parallelocollis* has been used in all references except Chapuis (1869) must now take the name of the only available junior synonym, *D. approximatus* Hopkins.

Phloeotribus obliquus Chapuis

The Chapuis series consists of four specimens, two labeled as types, and two as "ex-typus" identified by Chapuis. The first syntype is a female of *P. transversus* Chapuis (types compared directly); the second syntype and both of the other specimens (ex-typus) are of the one species. I here designate the second syntype to be the lectotype of *P. obliquus* Chapuis. There is no indication on either specimen or in subsequently studied material to suggest a Mexican (or even a Central American) origin for specimens of this species.

Phloeotribus sulcifrons Chapuis

This species has been widely reported from Central America. The female type, however, from Colombia, is quite different. The female frons is narrowly, rather strongly sulcate from the vertex to the position normally occupied by a frontal fovea in this genus. Pronotal and elytral characters also indicate that *P. sulcifrons* of Blandford and other authors, from Central America, requires a new name (see below).

SUPPLEMENTAL NOTES

Liparthrum Wollaston (1854)

The original spelling of this generic name was *Leiparthrum*; in 1864, Wollaston changed it to *Liparthrum* which was used consistently from then until Bright (1968) declared Wollaston's (1864) action an unjustified emendation, evidently without seriously studying the matter, and reverted to the 1854 spelling. Article 33a of the International Code says a justifiable emendation "is the correction

of an incorrect original spelling and the name thus emended takes the date and authorship of the original spelling." This generic name was based on the Greek root *leipo* which transliterates into the Latin *lipo*. Wollaston, in 1864, clearly indicated by a footnote that his emendation was intentional; he evidently assumed his reason for the change was obvious. The spelling *Liparthrum*, therefore, is correct and should be continued in the interest of nomenclatorial stability.

Phloeotribus Latreille (1802/3)

This generic name was originally presented as *Phloiotribus* (Latreille, 1796), a nomen nudum; it was validated in 1802/3 by the same author. Later, Erichson (1836), recognizing the same type of problem in transliterating the Greek root word *phloios* into the Latin *phloeos* as treated above, emended the name to *Phloeotribus*. With one or two minor exceptions (including that of Motschulsky, used above) the spelling *Phloeotribus* has been used consistently from 1836 until an apparent attempt to revive the original spelling by Barr (1969), presumably influenced by Bright. Erichson's emendation was justifiable under article 33a of the International Code and should be preserved.

Chaetophloeus phoradendri Wood, emendation

In the recent validation of this name (Wood, 1969:8), the specific designation inadvertently was spelled *phorodendri*. It should be corrected to *phoradendri* to correspond with the generic name of its host.

Pseudohylesinus pini, n. sp.

This is the species previously known as *Pseudohylesinus sericeus* of Swaine, Blackman, etc., not Mannerheim. As indicated above, the type of Mannerheim's species is of a different species than was treated by Swaine and Blackman.

This species is distinguished from *sitchensis* Swaine by the smaller average size, by the more strongly arcuate sides of the pronotum, by the stouter scales on the female pronotum, and by the host.

FEMALE.—Length 2.6 mm. (paratype 2.3-2.8 mm.) 2.2 times as long as wide; color very dark brown with a mottled pattern of dark and light scales.

A complete description of this species is given by Blackman (1942:24) under the name *P. sericeus*.

MALE.—Similar to female except slightly smaller, stouter; frons broadly, more strongly impressed; pronotal scales somewhat stouter.

TYPE LOCALITY.—Pacific Grove, California.

TYPE MATERIAL.—The female holotype, male allotype and three paratype were collected at the type locality on December 12, 1923, from Monterrey pine; one male paratype is labeled "Carmel Cal., 5-IV-25, F. O. Ballou, *Pinus radiata*."

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

Phloeotribus quercinus, n. sp.

This species is closely allied to *pruni* Wood, but it may be distinguished by the less strongly attenuate lateral extension of segments of the antennal club, by the absence of submarginal crenulations near the elytral bases, by the coarser pronotal punctures, and by the host.

FEMALE.—Length 2.0 mm. (paratypes 1.8-2.1 mm.), 1.9 times as long as wide; color black.

Frons evenly convex above level of antennal insertion, transversely impressed below. smooth epistomal margin slightly elevated; premandibular lobe small, distinct; surface strongly reticulate, punctures small, obscure, rather close; vestiture fine, hairlike, rather sparse. Antennal club with segments 1 and 2 each very slightly less than twice as wide as long.

Pronotum 0.82 times as long as wide; widest at base, sides arcuate, converging to a slight constriction just before broadly rounded anterior margin; surface reticulate, devoid of all indications of asperities, punctures coarse, moderately deep, separated by distances up to diameter of a puncture; part of median line impunctate in front of middle; vestiture very fine, long.

Elytra 1.35 times as long as wide, 2.0 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; scutellum small, rounded, scutellar notch rather deep; basal margins each armed by 14 rather narrow, high crenulations, devoid of submarginal crenulations; striae weakly impressed toward declivity, punctures moderately coarse, deep; interstriae slightly wider than striae, devoid of punctures, moderately large, rounded granules moderately confused. Declivity convex, steep; striae moderately impressed; interstriae feebly convex, not elevated, granules almost uniseriate. Vestiture consisting of fine, semirecumbent strial hair, and erect, confused interstitial bristles of uniform length, fine at base, becoming stout and shorter toward declivity, each almost equal in length to width of an interspace.

MALE.—Unknown.

TYPE LOCALITY.—Sixteen km. (10 mi.) east of Pachuca, Hidalgo, Mexico.

TYPE MATERIAL.—The female holotype and 22 female paratypes were collected at the type locality on June 10, 1967, 2,600 m., No. 5, by S. L. Wood, in broken *Quercus* branches less than 2 cm. in diameter.

The holotype and paratypes are in my collection.

Phloeotribus destructor, n. sp.

This species is closely related to *frontalis* (Olivier), but it may be distinguished by the absence of the tubercles on declivital interstriae 1 to 4, by the much coarser pronotal punctures, with the interspaces between them devoid of impressed points, and by the different host and distribution.

MALE.—Length 2.2 mm. (paratypes 1.8-2.5 mm.) 2.1 times as long as wide; color dark brown.

Frons shallowly, broadly concave from epistomal margin almost to level of upper margin of eyes; lateral margins armed by a pair of moderately large, pointed tubercles at level of antennal insertion; surface shining, subreticulate below, almost rugulose above, marginal areas above tubercles with rather abundant, small, rounded granules; vestiture of rather abundant, coarse, short hair. Segment 1 of antennal club 2.6 times as wide as long.

Pronotum 0.81 times as long as wide; widest at base, sides rather weakly, arcuately converging to a feeble constriction just behind anterior margin, rather narrowly rounded in front; surface coarsely, very closely, rather shallowly punctured, a few granules and fine asperities in anterolateral areas, interspaces between punctures less than half as wide as diameter of a puncture, devoid of impressed points; vestiture of rather fine, moderately abundant, short hair.

Elytra 1.4 times as long as wide, 1.9 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; scutellar notch rather shallow, obtuse; basal margins each armed by 12-14 coarse, overlapping crenulations; striae moderately impressed, punctures deep, rather fine on basal fourth, becoming coarser toward declivity; interstriae as wide as striae, closely crenulate, crenulations confused, each about half as wide as an interstriae, low except at base and much larger at base of declivity. Declivity convex, moderately steep; striae narrowly impressed, punctures rather small; interstriae 1 to 8 equally convex, armed at base by crenulations that increase in size laterally, interstriae on declivital face not at all granulate, uniseriately, finely punctured, except 9 joining costal margin, its elevation and course tubercles continuing to apex. Vestiture of slender, interstitial bristles of uniform length, slightly confused on most of disc, becoming uniseriate toward and on declivity, on declivity each equal in length to distance between rows.

FEMALE.—Similar to male except frons convex, a narrow, transverse impression immediately above epistoma, lateral tubercles absent.

TYPE LOCALITY.—Morelia, Mochoacan, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 5 paratypes were taken in the gardens behind No. 25 Avenida Acueducto at the type locality on June 14, 1965, in a peach tree, No. 57, by S. L. Wood; 12 paratypes were collected 19 km. (12 mi.) east of Carapan, Michoacan, on June 18, 1965, in wild cherry, No. 76, by S. L. Wood.

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

Phloeotribus furvus, n. sp.

As indicated above, this is the Central American species previously reported as *Phloeotribus sulcifrons* by Blandford (1897) and others. From the type of *sulcifrons* it differs by the convex female

frons, by the more closely punctured pronotum, and by the more finely, more closely placed interstrial crenulations (obscurely three to four ranked on each interstriae; only two to three ranked in *sulcifrons*).

MALE.—Length 3.0 mm. (paratype 2.8-3.3 mm.), 1.6 times as long as wide; mature color black.

Frons broadly, shallowly, subconcavely impressed from epistoma to upper level of eyes, lateral margins weakly elevated, except more strongly raised at level of antennal insertions, unarmed, a low, transverse callus at level of antennal insertions; surface strongly reticulate, with rather close, shallow punctures of moderately small size. Antennal scape with a small tuft of rather short hair, segment 1 of club more than eight times as wide as long.

Pronotum 0.80 times as long as wide; basal margin obtusely extended posteriorly, with median fourth more acutely extended; widest just in front of posterolateral angles, rather strongly, arcuately convergent, weakly constricted just before rather narrowly rounded anterior margin; surface very densely, rather coarsely punctured, becoming somewhat granulate on anterior third; anterolateral angles with two or three coarse asperities, a row of small asperities extending along anterior margin to opposite sides; vestiture of minute, dark setae at least in lateral areas.

Elytra 1.03 times as long as wide, 1.4 times as long as pronotum; sides weakly arcuate to base of declivity, rather broadly rounded behind; scutellar notch abrupt, deep, broad; basal margins each armed by 19 low, overlapping crenulations, striae abruptly, narrowly, deeply impressed, punctures small, deep; interstriae twice as wide as striae, dense crenulations narrow, rather high, often obscurely three-ranked, general surface evidently minutely punctured. Declivity convex, steep; interstriae as on disc but slightly narrower, median tubercles larger, others largely absent, 9 moderately elevated from middle of declivity anteriorly. Vestiture of minute, abundant, confused, hairlike bristles, each about equal in length to one-third width of an interstriae.

FEMALE.—Similar to male except frons convex, with an indistinct central fovea, punctures larger, very shallow, antennal scape not ornamented by hair; interstriae 9 less strongly elevated.

TYPE LOCALITY.—Turrialba, Cartago Province, Costa Rica.

TYPE MATERIAL.—The male holotype, female allotype and 29 paratypes were collected at the type locality on March 9, 1964, 2,000 ft. elevation, No. 459, from a broken limb of an unidentified tree, by S. L. Wood.

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

Chramesus vitiosus, n. sp.

This species was confused with *crenatus* Wood until an attempt was made to construct a key to include it. From *crenatus* it is distinguished by the shorter, erect interstrial bristles, by the absence of

male stria punctures, and by the greater distribution of pronotal punctures.

MALE.—Length 1.3 mm. (paratypes 1.2-1.5 mm.), 1.4 times as long as wide; color very dark brown, vestiture pale.

Frons broadly, deeply concave from epistoma to well above eyes, lateral margins acutely, strongly elevated, attaining a subserrate summit at level of antennal insertion, lower tubercle predominating; surface shining, finely reticulate, punctures not clearly evident; vestiture fine, inconspicuous. Antennal club moderately large, 2.3 times as long as wide.

Pronotum 0.72 times as long as wide; widest on basal fourth, sides arcuately converging to slight constriction just before rather broadly rounded anterior margin; surface subreticulate, rather closely asperate, asperities largely replaced by fine punctures in posteromedian area, a few punctures occur almost to anterior margin in median area; vestiture of moderately abundant, short, stout, pale bristles over entire surface.

Elytra 0.91 times as long as wide, 1.4 times as long as pronotum; basal margins each armed by about 12 partly contiguous, low crenulations; sides straight and parallel on less than basal half, broadly rounded behind; striae distinctly impressed, glabrous, punctures obsolete; interstriae as wide as striae, almost smooth, small punctures close, confused. Declivity convex, rather steep; a few stria punctures obscurely present. Vestiture consisting of a ground cover of closely set short scales, each scale about twice as long as wide; and interstitial rows of erect, scalelike bristles, each bristle not more than twice as long as ground scales, about half as long as distance between rows or between bristles in a row.

FEMALE.—Similar to male except frons weakly convex, foveate at center, a weak, transverse impression just above epistoma; punctures on pronotum slightly coarser and more widely distributed; stria punctures small, distinctly impressed; occasional very small interstitial granules evident; scales in interstitial ground cover only slightly longer than wide.

TYPE LOCALITY.—Eight km. (5 mi.) south of Rosamorada, Nayarit, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 48 paratypes were collected at the type locality on July 14, 1965, 100 m. elevation, from *Inga paterno*, by S. L. Wood. Additional paratypes were taken in Nayarit as follows: 14 from 48 km. (30 mi.) north of Rosamorada, July 15, 1965, 100 m.; 1 from Los Corchos, July 10, 1965, 10 m.; all from the same host and collector.

Chramesus minutus, n. sp.

This species is closely allied to *acacicolens* Wood, but it is distinguished by the smaller size, by the more slender form, by the much shorter, erect, interstitial scales, and by the much stouter pronotal scales.

FEMALE.—Length 1.25 mm. (paratype 1.3 mm.), 1.8 times as long as wide; color yellowish brown.

Frons weakly convex, somewhat flattened on upper half, a slight transverse impression just above epistoma; surface minutely rugulose-reticulate, fine punctures indistinct; vestiture short, rather sparse, stout. Antennal club rather small for this genus, 2.0 times as long as wide.

Pronotum 0.80 times as long as wide; widest at base, sides rather weakly arcuate and converging slightly on basal two-thirds, broadly rounded in front; surface rather finely, closely granulate-punctate (largely obscured by scales), becoming finely asperate toward antero-lateral angles; vestiture of short, oval, almost white scales.

Elytra 1.2 times as long as wide, 1.7 times as long as pronotum; basal margins each armed by 13 crenulations; sides almost straight and parallel on slightly more than basal half, rather broadly rounded behind; striae weakly impressed, punctures coarse, sharply impressed, rather shallow; interstriae about one and one-half times as wide as striae, moderately convex, smooth, with minute, confused punctures, each interstriae with a median row of very fine granules. Declivity convex, moderately steep; essentially as on disc. Vestiture consisting of a ground cover of short scales, each scale as long as wide, slightly more than a third as wide as an interstriae; and median interstitial rows of erect scales, each only slightly longer than ground scales and mostly less than twice as long as wide.

TYPE LOCALITY.—Le Ceiba, Honduras.

TYPE MATERIAL.—The female holotype and one female paratype were collected at the type locality, at light, in 1949, by E. C. Becker, the holotype on June 10, the paratype on May 29.

The holotype and paratype are in my collection.

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