SCOLYTIDAE OF THE MARQUESAS*

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No Scolytidae have previously been reported from the Marquesas. The collection made by the Pacific Entomological Survey comprises more than 200 specimens representing 5 genera and 21 species which occur in one subfamily, the Cryphalinae, as defined by Hopkins in 1915. This subfamily is also the only one known to occur in the Society Islands, but no great significance should be attached to the fact at the moment. With the exception of one, the genera are of world-wide distribution; *Ptilopodius* Hopkins, represented by a new species, is known from the Philippines and India. Four species are widely distributed in the tropics, one occurs in North America and South America, and the remainder are new forms restricted to the Marquesas.

The Society Islands have in common with the Marquesas only three tropicopolitan species of *Xyleborus* and these are also the only links with Samoa.

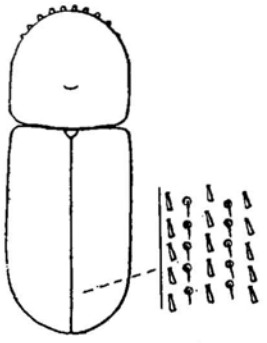

FIGURE 1.—*Ptilopodius marquesanus,* new species: dorsal view and details of elytral vestiture, × 40.

Ptilopodius marquesanus, new species (fig. 1).

Length 1.15 to 1.3 mm. Fuscous or piceous brown, legs testaceous brown, seminitid, squamose. Front closely reticulate, matt, punctate, impressed and more densely punctate behind the sinuate epistome on either side of a median carina, which extends to the vertex and bears a small shining tubercle opposite the lower edges of the eyes. Pronotum longer than broad, sides curved and very slightly convergent for two thirds, narrowed to center of apical margin which bears 4 larger and 2 smaller projecting well-separated

* Pacific Entomological Survey Publication 8, article 6.

teeth; basal and lateral margins marked with an incised line and a carina, the angle between them obtuse; anterior area moderately steep, its rugosities close but not contiguous; posterior area depressed behind the summit, rugulose granulate-punctate above, coriaceous at the sides. Scutellum rugose.

Elytra cylindrical, about 1.7 times as long as pronotum, with sides parallel and apex obtusely rounded, declivity convex; striae confused with interspacial punctures and only recognizable by the vestiture, punctures large, separated by more than their diameters, not impressed; interspaces irregularly rugose-punctate; sculpture of declivity similar.

Vestiture. Front with erect hairs near mouth; pronotum with short hairs between the rugosities, and semirecumbent, short, blunt setae directed forward in the posterior area; elytra with ground pubescence of recumbent linear microsetae, each interspace with a regular close series of semierect blunt scales becoming broader on the declivity and more linear toward the elytral base; abdominal segments with long scales.

Antenna oval, without sutures, anterior face pubescent toward margin, a few isolated hairs in median third; posterior face with transverse reticulation, sparsely pubescent near margin; funicle 4-segmented, segments 2, 3, and 4 transverse, the 4th widest. Anterior tibia and tarsus with branched appendages, the branches in a simple unilateral series, stem not laminate.

Eiao: uplands toward north end, east side, altitude 1,855 feet, September 29, 1929, on *Hibiscus tiliaceus,* 1 specimen, Adamson.

Hivaoa: Tahauku, July 10, 1929, near shore, 1 specimen, Adamson.

Uapou: Hakahetau Valley, altitude about 1,000 feet, December 14, 1929, under dead bark, 24 specimens, Whitten.

Abundantly distinct from *P. stephegynis* Hopkins (Philippine Islands).

Hypothenemus capitalis, new species (fig. 2).

Length 1.3 to 1.4 mm. Head, metasternum, and elytra fuscous or piceous, prothorax and abdomen brown, asperate area of pronotum lighter brown, legs testaceous; in immature beetles the head is the darkest part, dark brown even in testaceous specimens. Front broadly transversely impressed between epistomal margin and level of upper edge of eyes, the impression with rugose piliferous punctures at the sides, smooth, brilliant, with a few punctures in the median third and limited posteriorly by an obtuse carinula and a rugose-punctate zone; rest of front and vertex convex, finely reticulate. Antennal funicle 4-segmented.

Pronotum about as broad as long, rather depressed, sides feebly curved and broadly rounded apically; apical margin with 8 or 9 separated teeth of which 4 to 6 are larger; anterior area strongly convex with numerous, almost contiguous asperities forming in the center a rounded, somewhat elevated boss; posterior zone occupies about three eighths, transversely depressed above, and shining, finely aciculate-punctate, more coarsely and closely punctate laterally; base margined with a shallow sulcus and fine carinula not extending beyond the basal angles.

Elytra cylindrical, 1.8 times as long as pronotum, parallel, declivity convex, apex obtusely rounded; striae not impressed, punctures distant by at least their diameters; interspaces flat, finely rugulose or alutaceous, subnitid, punctures uniseriate, smaller but as numerous as strial punctures; sides rugose and more strongly punctate.

Vestiture. Pronotum with long hairs in the asperate area and at sides, scattered setae in the dorsal punctate area; strial punctures with fine decumbent white hairs; interspaces with a single series of erect white, narrowly triangular scales, no ground pubescence.

Uapou: Hakehetau Valley, altitude 1,000 feet, December 23, 1929, reared from dead wood, 8 specimens, Whitten.

Uahuka: Vaipaee Valley, Putatauua [Putataua], altitude 800 feet, September 20, 1929, dead banana leaves, 1 specimen, crushed, possibly *H. capitalis,* Adamson.

Closely allied to several oriental species (including undescribed Indo-Malayan species); in Hopkins' key runs down to section d_4 (American and African species).

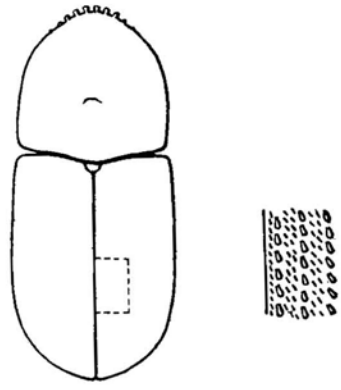

FIGURE 2.—*Hypothenemus capitalis,* new species: dorsal view and details of elytral vestiture, × 40.

Hypothenemus areccae Hornung.

Bostrichus areccae Hornung: Stett. Ent. Zeitschr., vol. 3, p. 117, 1842.

Eiao: above Vaituha, altitude 1,000 feet, October 2, 1929, on *Dodonaea viscosa,* 1 specimen, Adamson.

This species is recorded from Japan, Indo-Malayan region, Colombia, and Guinea, and is probably a composite. Known from areca nut, coffee seeds, and fungus.

The Eiao specimen is fully colored, has the pronotum wide at the base, and the six pronotal marginal teeth equal in size.

Hypothenemus species.

No useful purpose would be served by naming the following specimens until the numerous inadequately characterized species of *Hypothenemus,* based on unique specimens, have been revised and redescribed:

Hypothenemus species **A.**

Elytra brown, pronotum yellowish brown, apical margin with 4 plus 4 teeth. Front convex, rugose-punctate, median line weak. Strial hairs regularly uniseriate. Interspacial scales short triangular, no ground pubescence dorsally but a few additional hairs on the declivity.

Hivaoa: Tapeata, east slope of Mount Ootua, altitude 2,500 feet, May 25, 1929, 1 specimen, Mumford and Adamson.

Hypothenemus species **B.**

Elytra brown, pronotum light brown, apical margin with 4 teeth. Front convex, slightly depressed behind the mouth, the depression limited behind by a median, shining, subconical elevation. Strial hairs regular. Interspacial scales subtriangular with a few additional hairs on the declivity.

Hivaoa: Atuona Valley, altitude 325 feet, July 6, 1929, from dead *Erythina indica,* 1 specimen, Mumford and Adamson. A darker specimen of apparently the same species is from Hivaoa: Hanaheka [Tanaeka] Valley, altitude 1,100 feet, June 4, 1929, 1 specimen, Mumford and Adamson.

Hypothenemus species **C.**

Elytra dark brown, pronotum yellowish brown, apical margin with 4 teeth. Front convex, a feeble depression behind the mouth interrupted by a median elevated line, central subconical elevation absent. Strial hairs regularly alined. Interspacial scales uniseriate, no ground pubescence.

Eiao: uplands toward north end, east side, altitude 1,855 feet, September 29, 1929, *Hibiscus tiliaceus,* 1 specimen, Adamson. An immature testaceous specimen from Eiao, near center, altitude 1,655 feet, September 28, 1929, other data the same, is probably the same species.

Hypothenemus species **D.**

Elytra and pronotum concolorous dark brown, pronotal margin crushed. Front convex, rugose-punctate with a shining median elevated line. Striae with hairs and interspaces with scales uniseriate; declivity dirty.

Uapou: Hakahetau Valley, altitude 1,000 feet, December 23, 1929, reared from dead wood, 1 specimen, Whitten.

Hypothenemus species **E.**

Elytra and pronotum concolorous dark brown, pronotal margin with 4 teeth. Front convex, rugose-punctate, feebly impressed behind mouth with a feeble shining elevated median line. Strial hairs regular; interspaces with uniseriate scales with a few additional hairs on or before the declivity.

Uahuka: Vainui, altitude 600 feet, March 18, 1931, on *Sida* species, 1 specimen, LeBronnec and H. Tauraa.

Stephanoderes lebronneci, new species (fig. 3).

Length 1.35 to 1.5 mm. Head and elytra black or very dark brown, the pronotum especially the scabrate area, less dark; legs light brown. Front convex, behind epistome a flat shining area narrowing backward to an obscurely elevated point midway between the eyes; on either side of the shining area rugose-punctate and piliferous; the rest of the front and vertex finely reticulate, subopaque, with a few minute hairs. Antennal funicle 5-segmented.

Pronotum a little wider at the base than long (1.13 times), sides rounded and gradually narrowed to the broadly rounded apical margin, which has six separate equal-sized teeth; scabrate area with asperities numerous, well separated, occupying a triangular space beginning some way behind apical margin and not extending to sides; boss a little post-central, elevated; posterior area slightly transversely depressed behind boss, granulate-punctate, subopaque.

Elytra about 1.8 times as long as pronotum, cylindrical, apex obtusely rounded, declivity convex; striae impressed, straight, punctures large, close, almost contiguous on declivity; interspaces narrow, weakly convex, transversely rugose, with a series of squamiferous punctures smaller and closer than the strial punctures, regularly seriate dorsally and occasionally irregular mediolaterally. Declivity simply convex, the interspaces narrower and more prominent, the striae more impressed, the punctures more crowded.

Vestiture. Scabrate area of pronotum with setae, granulate area with short triangular scales mixed with fine short hairs directed forward; strial hairs very fine, recumbent; interspaces with erect, short, triangular scales from base to apex uniform in size and not larger on declivity; no ground pubescence.

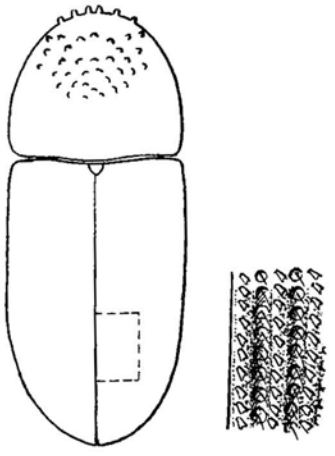

FIGURE 3.—*Stephanoderes lebronneci,* new species: dorsal view and details of elytral vestiture, × 40.

Tahuata: Hanatuuna Valley, altitude 150 feet, July 19, 1930, on *Psidium guayava,* 11 specimens, LeBronnec and H. Tauraa.

Uapou: Hakahetau, altitude about 500 feet, December 17, 1929, beating, 1 specimen, Whitten.

Runs down to section c_5 or d_5 in Hopkins' key and is allied to species from the south of the United States, as *S. georgiae* Hopkins.

Stephanoderes hivaoea, new species.

Very similar in color, form, sculpture, and vestiture to *S. lebronneci.*

Length 1.55 mm. Front convex with a shallow, brilliant, impunctate impression commencing at the middle of the epistome where there is a small elevation, and broadening backward to the middle of the frons, where it is appreciably concave and its posterior edge is a curved elevation with a faint trace of a median line continued backward from

its center; at the sides of the shining depression, rugose-punctate and piliferous, behind it reticulate, opaque. Pronotum about 1.1 times as wide at base as long; the six marginal teeth prominent. Elytra about 1.75 times as long as pronotum; striae rather less impressed and interspaces rather less rugose than in *S. lebronneci.*

Hivaoa: Tahauku, July 10, 1929, near shore, 1 specimen, Mumford and Adamson.

Differs from *S. lebronneci* in that the frontal impression broadens and deepens backwards; in *lebronneci* the shining area is narrowed behind and not impressed at its apex.

Ericryphalus trypanoides, new species (fig. 4, *a*).

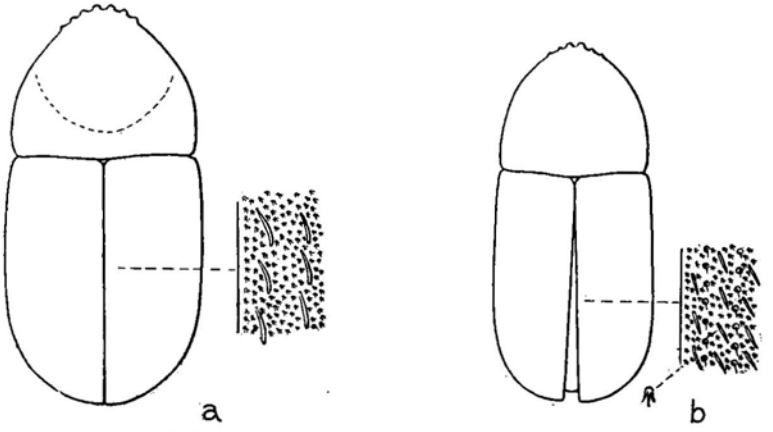

FIGURE 4.—*Ericryphalus,* new species, × 35: *a, E. trypanoides,* dorsal view of (?) male and details of elytral vestiture; *b, E. uapouensis,* dorsal view and details of elytral vestiture.

Length 1.85 mm. Testaceous yellow, the scabrate area of the pronotum, and head infuscate, under surface testaceous, legs darker. Front concealed, rugulose- or granulate-punctate behind epistome; from center of epistome an elevated, shining, median line broadens backward. Pronotum 1.2 times as wide as long, dorsal outline as in figure 4, *a*; apical margin with 6 or 7 prominent contiguous teeth decreasing in size from middle pair; scabrate area extending three quarters the length of the pronotum, the asperities not contiguous except in the row behind the apical margin; minutely granulate between the asperities and in the posterior zone; base very slightly sinuous, vaguely margined with a carinula which continues in a curve half way round the side; basal angle (lateral view) obtuse.

Elytra 1.5 times as long as pronotum, base transverse, margined with a carinula which continues around the humeral angle and is interrupted from the lateral margin; along the suture the convexity is broad and uniform from scutellum to apex; interspaces smooth, flat, minutely multipunctate; striae superficial, only distinguishable by the transparency of the elytra.

Vestiture. Pronotum with long erect hairs, ground-scaling obscured but apparently the same as on the elytra; elytra with close ground-scaling of minute recumbent scales and uniseriate rows of erect setiform hairs, stouter than those of the pronotum and margins (fig. 4, *a*).

Uapou: Hakahetau Valley, altitude 2,600 feet, December 6, 1929, Adamson. A unique specimen, probably a male.

Allied to the male of *E. trypanus* Sampson (Seychelles), which has the pronotum less produced and the apical teeth less prominent, the base of the elytra distinctly incurved to the scutellum, the declivity more convex and not continuously curved with the dorsum; the antennal club of *E. trypanus* is larger and more circular. *E. samoensis* Beeson (Upolu) is smaller with different sculpture and vestiture.

Ericryphalus uapouensis, new species (fig. 4, *b*).

Length 1.25 to 1.3 mm. Light brown, the pronotum and head darker, the legs testaceous-yellow. Front convex with a feebly elevated, median line, dull, finely rectículate, closely punctate behind epistome, sparsely punctate elsewhere. Antennal club with three more or less transverse sutures and one procurved apical suture feebly indicated on anterior face; three procurved sutures on posterior face. Pronotum 1.1 times as broad as long, planoconvex in front, not strongly declivous, apex with two large teeth flanked by two much smaller ones; asperities well separated, granulate-punctate between them and in the posterior zone; base subtransverse, margined with a carinula; basal angle (side view) broadly curved and marginate. Scutellum minute.

Elytra 1.6 times as long as pronotum, minutely densely multipunctate on a very finely rugulose ground; strial punctures scarcely visible but bearing exceedingly small hairs; elytral curve along suture just appreciable; declivity broadly convex.

Vestiture. Pronotum with dense ground-vestiture of minute branched (trifid) scales interspersed with numerous recurved hairs in the scabrate area and a few very short hairs in the posterior zone; elytra with a dense ground-vestiture of minute trifid scales and uniseriate rows of short recurved hairs which become shorter and stouter and setiform on the declivity. Tarsus with segment 3 weakly emarginate.

Uapou: Hakahetau Valley, altitude 1,000 feet, December 23, 1929, reared from dead wood, 3 specimens, Whitten.

Of the cylindrical form of a *Cryphalus* (for example, *C. piceus* Eggers, Ussuri, Japan), but with the pronotal apex more produced, and on antennal characters probably assignable to *Ericryphalus*.

Ericryphalus species **A.**

Fatuhiva: Uia [Ouia] Valley, near sea level, September 2, 1930, on *Sida* species, 1 male, unique, LeBronnec.

Very close to *Ericryphalus discretus* Eichhoff (Burma and Sunderbans, Bengal) but with apex of pronotum more produced and interspacial setae shorter and stouter.

Ericryphalus species **B.**

Mohotani: west side near plantation, altitude 975 feet, August 13, 1932, on *Miscantia floridulus,* 1 male, unique, Mumford and Adamson.

Allied to several undescribed Indian species near *discretus* Eichhoff.

Xyleborus confusus Eichhoff.

Xyleborus confusus Eichhoff: Berl. Ent. Zeitschr., vol. 11, p. 401, 1867.

Eiao: near center, altitude 1,300 feet, October 1, 1929, under bark of *Pisonia* species, 1 female, Adamson.

Fatuhiva: Ihiota, Hanavave Valley, altitude 600 feet, September 10, 1930, 1 female, LeBronnec.

Hivaoa: Avaoa Valley, altitude 1,350 feet, January 4, 1932, at light, 1 female, LeBronnec; Kopaafaa, altitude 2,800 feet, February 25, 1930, from dead twigs of *Crossostylis biflora,* 1 female, Mumford and Adamson.

Tahuata: Hanamiai Valley, altitude 300 feet, May 30, 1930, 1 female, LeBronnec and H. Tauraa.

Uapou: Hakahetau Valley, altitude about 1,500 feet, under bark of dying *Aleurites moluccana,* 11 females, Whitten.

For distribution in the Pacific and neotropics and for other food-plants, see Beeson, Insects of Samoa, pt. 4, fasc. 4, p. 245, 1929.

Xyleborus fuscatus Eichhoff.

Xyleborus fuscatus Eichhoff: Berl. Ent. Zeitschr., vol. 11, p. 400, 1867.

Hivaoa: Kopaafaa, altitude 2,800 feet, February 25, 1930, from dead twigs of *Crossostylis biflora,* 1 female, Mumford and Adamson.

I am unable to separate this specimen from *X. fuscatus* from the United States and South America.

Xyleborus kraatzi Eichhoff.

Xyleborus kraatzi Eichhoff: Berl. Ent. Zeitschr., vol. 12, p. 152, 1868.

Fatuhiva: Vaikoao, Omoa [Oomoa] Valley, altitude 1,600 feet, August 27, 1930, 1 female, LeBronnec.

Hivaoa: Mataovau, altitude 390 feet, June 5, 1929, 1 female, Mumford and Adamson; Atuona Valley, altitude 325 feet, July 6, 1929, from dead *Erythrina indica,* 3 females, Mumford and Adamson; Avaoa Valley, altitude 1,350 feet, January 4, 1932, at light, 11 females, LeBronnec; Anatuakina, altitude 1,520 feet, June 3, 1929, 1 female, Mumford and Adamson; Anatikaue, altitude 1,750 feet, August 1, 1929, *Xylosma suavolens,* 1 female, Mumford and Adamson.

Tahuata: Hanamiai Valley, altitude 300 feet, May 30, 1930, 23 females, LeBronnec and H. Tauraa.

Uahuka: Hane Valley, altitude 150 feet, March 9, 1931, at light, 1 female, LeBronnec and H. Tauraa; Penau Ridge, altitude 2,000 feet, March 4, 1931. at light, 7 females, LeBronnec and H. Tauraa.

For the distribution of this common oriental species see Beeson, Insects of Samoa, pt. 4, fasc. 4, p. 240, 1929.

Xyleborus torquatus Eichhoff subspecies **badius** Eichhoff.

Xyleborus torquatus Eichhoff: Berl. Ent. Zeitschr., vol. 12, p. 146, 1868.

Xyleborus badius Eichhoff: Berl. Ent. Zeitschr., vol. 12, p. 280, 1868.

Fatuhiva: Vaikoao, Omoa [Oomoa] Valley, altitude 1,500 feet, August 30, 1930, sweeping herbage, 1 female, LeBronnec.

Hivaoa: Atuona, February 16, 1929, at light, 2 females; July 12, 1929, sea level, 1 female; March 7, 1930, 1 female, at light, Mumford and Adamson; Avaoa Valley, 1,350 feet, January 4, 1932, at light, 1 female, LeBronnec.

Nukuhiva: Taiohae, October, 1929, 1 female, Mumford and Adamson.

Tahuata: Hanamiai Valley, altitude 300 feet, May 30, 1930, 6 females, LeBronnec and H. Tauraa; Vaitahu Valley, sea shore, June 18, 1930, at light, 1 female, LeBronnec and H. Tauraa.

Uahuka: Penau Ridge, altitude 2,000 feet, March 4, 1931, at light, 18 females, LeBronnec and H. Tauraa; Hane Valley, altitude 30 feet, March 13, 1931, at light, 1 female, LeBronnec and H. Tauraa.

An analysis of the range of pigmentation in this species is of interest. In the series of 18 from Penau Ridge, altitude 2,000 feet, March 4, all taken at light and therefore normal adult beetles (as opposed to immature beetles taken from brood tunnels) the color range is: *a,* testaceous, 2; *b,* ferrugineous-testaceous, 6; *c,* ferrugineous-brown, 6; *d,* elytra fuscous-brown, pronotum infuscate anteriorly, 4; *e,* elytra black or deep piceous-brown, none. The remainder, 14 specimens, from various localities are *a,* 3; *b,* 4; *c,* 4; *d,* 3; *e,* none. All the 32 specimens are referable to *X. badius* Eichhoff which I consider should rank as a subspecies of *X. torquatus* Eichhoff.

The fully pigmented typical *X. torquatus* apparently does not occur in the Marquesas or in the Society Islands. Hagedorn (Col. Cat., Ipidae, pp. 99, 112) records both *X. badius* and *X. torquatus* from Tahiti; the latter is an error due to uncritical transcription of the localities given by Blandford in 1898.

Eichhoff (Ratio Tomicinorum, pp. 378-380, 1878) separated beetles with black or fuscous-brown elytra found in South America and Cuba (*X. torquatus*) as specifically distinct from beetles with ferrugineous or ferrugineous-testaceous elytra found in Madagascar, Tahiti, and Cuba (*X. badius*) but with the qualification that *X. badius* might be a local variety of *X. torquatus.* Blandford (Biol. Centr. Amer., Col., vol. 4, pt. 6, pp. 214-215, 1898) found that Central American specimens range in a series from fuscous to light-colored examples and that dark and light forms are about equally common. He queried the validity of the Cuba record of *X. badius* and expected that a geographical distinction would eventually be demonstrated, *X. torquatus* being neotropical and *X. badius* palaeotropical. Nevertheless he extended the habitat of *X. torquatus* Eichhoff to include all the previously recorded *X.*

badius localities. Hagedorn (Col. Cat., Ipidae, pp. 99, 112, 1910) treated *X. torquatus* and *X. badius* as separate species recording the former from Madagascar, Mauritius and Tahiti as well as from Central America and South America, and confining *X. badius* to the Old World with the addition of Cuba. In 1913 (Madagas. Ip., in Voeltzkow Reise Ostafrika, vol. 3, p. 256) he stated *X. badius* to be widespread in the tropics. Sampson (Linn. Soc., Trans., vol. 16, p. 387, 1914) placed *X. badius* as a synonym of *X. torquatus* but with a query. Eggers, who has always treated the two as distinct species, stated (Rev. Zool. Afr., vol. 15, p. 195, 1927) that *X. badius* is widely distributed in the tropics (South America, Africa, Indo-Malayan Region). He also recorded *X. torquatus* from Sumatra and the Philippines (Treubia, vol. 7, p. 408, 1926). Schedl (Ann. Mag. Nat. Hist., 10th ser., vol. 8, pp. 346, 347, 1931) recorded *X. torquatus* from Argentina and *X. badius* from East Africa.

From an examination of South American and African series and of a few Malayan examples I am convinced that *X. badius* Eichhoff is (as he himself suspected) a color form of *X. torquatus* Eichhoff. A complete gradation occurs in the South American continent, but the extreme deeply pigmented form has not yet been recorded from many regions of the palaeotropics. Until typical *X. torquatus* is discovered in these regions the most practical arrangement is to use the name *badius* subspecifically.

Under the designation *X. torquatus* this species has been recorded from the trunk and leaf stalks of the coconut palm in Brazil (Bondar), from logs of timber in British Guiana (Cleare), from the sugar cane in Fiji (Veitch), and from coffee branchwood in Madagascar (Frappa).

Xyleborus mumfordi, new species (fig. 5).

Female

Length 3.9 to 4.1. mm. Light to dark brown, irregularly infuscate to almost entirely infuscate above and piceous below; head and under surface fuscous to piceous, appendages much lighter. The infuscation in the lighter examples appears first in the umbonation, median line from umbo to base, basal angles and apical asperate triangle of the pronotum; and in suture, apical half and declivity, lateral striae and borders of the elytra. Sparsely pubescent.

Front with a few rugose piliferous punctures on a finely coriaceous ground. Pronotum oblong, basal angles broadly rounded, sides subparallel, or irregular (? muscular contraction), apical margin broadly curved; slightly ascending from base to the umbonation which is considerably postcentral, thence obliquely planoconvex, and more steeply curved in the apical fifth; asperities small, weakly developed, almost obsolete in the apical fifth and anterolaterally, passing into inconspicuous aciculations in the middle zone; basal half with an alutaceous gloss, smooth, almost entirely impunctate.

Elytra compressed dorsoventrally, humeri prominent, sides subparellel to apical third and narrowed before declivity, which is obliquely truncate, its sides obtusely carinate from the 6th interspace to the sutural apex; striate-punctate, the strial punctures large, sharp, shallow, very close, the striae somewhat sinuous and impressed; interspaces sub-

convex on the disc, weakly rugulose, shining with very small, piliferous, granulate punctures, uniseriate at distances of 5 or 6 strial punctures.

Declivity smooth, brilliant, its surface rather undulating, the striae represented by minute irregular punctulation confused with still more minute and more numerous interspacial punctures bearing fine recumbent micro-hairs and some larger erect ones. At the upper edge of the declivity the sutural interspace bears a conical tubercle, mesad of which are one or two smaller tubercles; the 3rd interspace has 2 small tubercles, the 4th 2 small granules, the 5th explanate and bearing an acute tubercle at about the middle of the declivity.

Fore tibia broadened at apex and minutely serrate from the apical spur to the external margin.

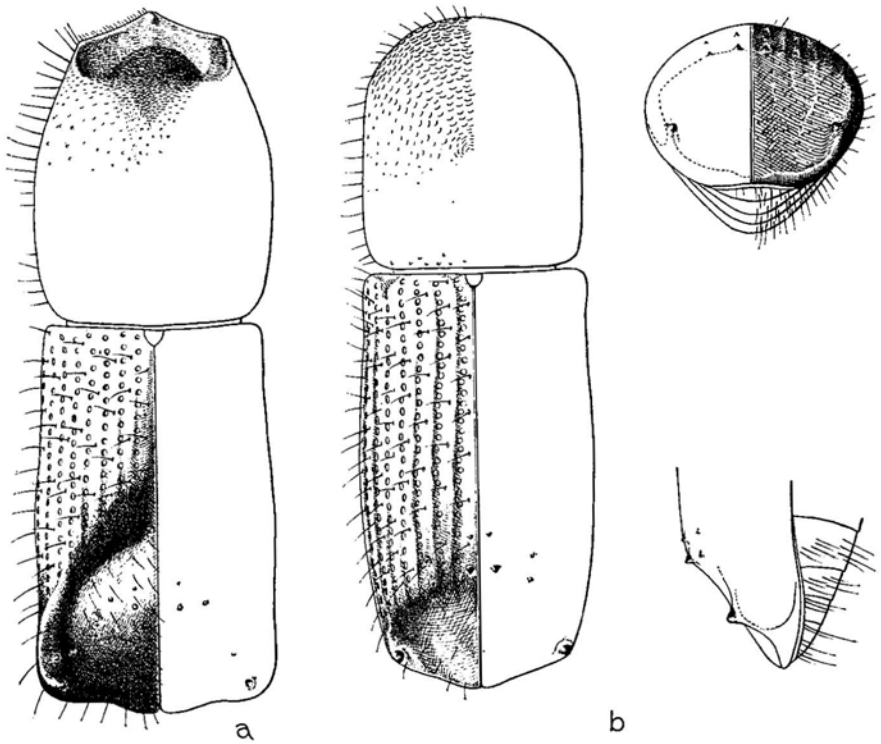

FIGURE 5.—*Xyleborus mumfordi,* new species, × 25: *a, male,* dorsal view; *b,* female, dorsal view, and terminal and lateral views of declivity.

Male

Length 4.0 mm. Head and prothorax dark brown, elytra and undersurface fuscopiceous, legs light brown. Head rostrate, front subrectangular with a median sulcus widening posteriorly from between the eyes, smooth, shining, a few hairs near the mouth; mandibles well developed. Pronotum (crushed) elongate-oval, produced apically beyond the head, base transverse; apical third excavate-retuse, impression with an irregular surface, weakly scabrate and piliferous, apical margin elevated and carinate with three obtuse teeth in the middle and on each side; posterior two thirds weakly convex, smooth, with scattered feeble punctures, glabrous.

Elytra with sides subparallel, apical edge transverse, sutural angle broadly obtuse; striae and interspaces as in female but more weakly sculptured; declivity beginning near the middle of the elytra as an oblique, slightly concave impression, bounded by obtusely carinate margins to just before the posterolateral angle, where there is a tubercle on a low conical elevation; in the middle of the declivity the surface is suddenly elevated into a convex blisterlike formation which extends transversely and is separated from the lateral carina by a deep sulcus; the summit of the blisterlike elevation bears a few large granules corresponding to those of the 1st and 3rd interspaces of the female; the apical slope brilliant, with minute irregular punctulation as on the female declivity.

Hivaoa: Mount Temetiu, northeast slope, altitude 3,620 feet, July 24, 1929, from dead wood of *Reynoldsia tahitensis,* 9 females, Mumford and Adamson; Mount Temetiu summit, altitude 4,160 feet, January 20, 1932, from wood of *Cyrtandra* species, 2 males, 21 females, LeBronnec; Feani Ridge, altitude 3,900 feet, January 19, 1932, on ferns, 1 female, LeBronnec.

Xyleborus mumfordi is a species of doubtful affinities. The displacement of the declivity by an oblique depression of the dorsum of the elytra before the true declivital summit is unique.

Xyleborus temetiuicus new species (fig. 6).

Female

Length 2.8 to 2.9 mm. Dark brown to black, shining. Front planoconvex, subnitid, finely reticulate, a closely punctate zone forming a fringe of long yellow hairs behind epistome, the rest of the front with sparse large punctures, some piliferous, and traces of a vaguely elevated median line. Pronotum subquadrate, as figured, apical margin very steep with the asperities much reduced, the boss transverse and postcentral, posterior half slightly depressed behind boss, very finely reticulate and with scattered fine punctures for the most part, glabrous. Elytra with the striae scarcely impressed, closely punctate with large shallow punctures uniform from base to apex; interspaces flat, smooth, with a single series of more distant aciculate punctures becoming granulate before declivity (fig. 6); viewed laterally the sutural line is broadly curved from scutellum to summit of declivity, which is steeply planoconvex, shining as on dorsal and lateral surfaces (figures of the declivity show light and shadow, not texture of the surface), and obtusely margined at sides, not carinate.

On the declivity the suture and other striae are impressed, the 1st interspace slightly elevated with three conical tubercles, larger than elsewhere, situated as in figure, the 2d interspace flatter with 2 or 3 granules, the 3d interspace with 3 or 4 small tubercles, the additional one near the apex, the 4th and conjoined interspaces with granules. Hairs on the pronotum, and elytral interspaces base to apex, yellow, long, fine, erect.

Hivaoa: Matauuna, altitude 3,700 feet, March 2, 1930, 1 female, H. Tauraa; Temetiu Ridge, altitude 3,900 feet, January 14, 1932, in logs of *Cheirodendron* species, 1 female, LeBronnec; Temetiu summit, altitude 4,160 feet, January 20, 1932, from wood of *Cyrtandra* species, 2 females, LeBronnec.

Allied to *Xyleborus posticus* Eichhoff (tropical America) and *X. rufipes* Eggers (Columbia; Guiana).

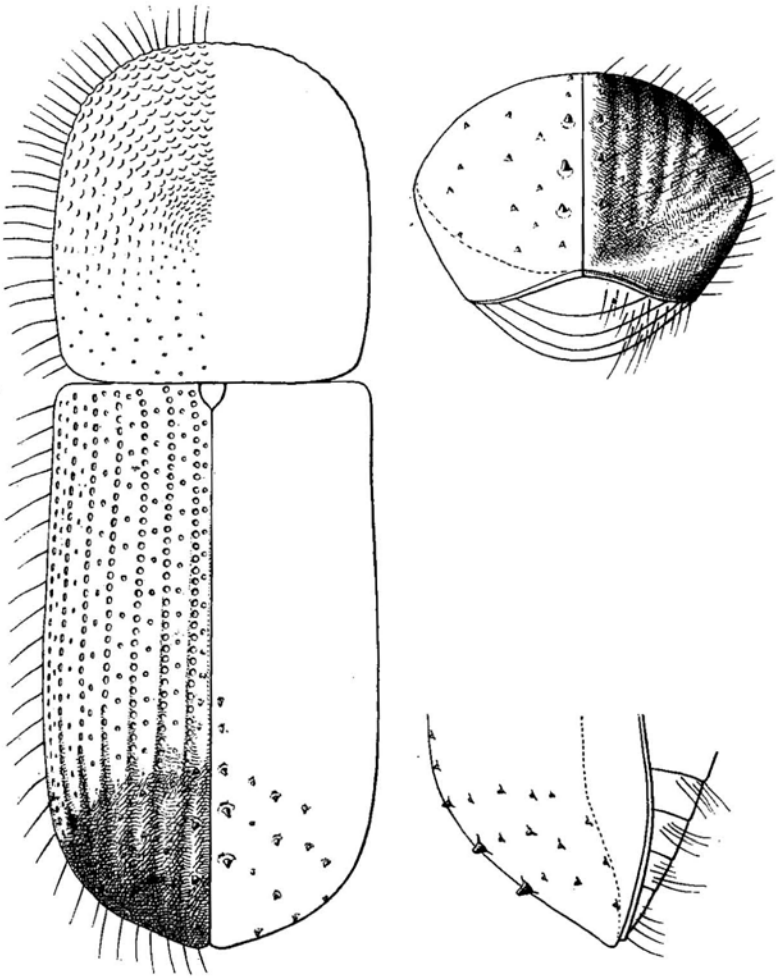

FIGURE 6.—*Xyleborus temetiuicus*, new species, female: dorsal view, and terminal and lateral views of declivity, × 35.

Xyleborus whitteni, new species (fig. 7, *a*).

Female

Length 2.2 mm. Testaceous, cylindrical, declivity shining, fairly steeply convex, 1st and 3d interspaces tuberculate, 2d immune. Pronotum a little longer than broad (about 1.2 times), sides straight or very slightly curved and divergent to the apical third, thence the apical margin broadly arcuate; rugosities of apical half larger toward the center; posterior half smooth, shining, very finely punctate.

Elytra narrower at base than the greatest width of pronotum, about 1.3 times as long as pronotum, sides parallel to beyond middle thence slightly convergent and eventually broadly rounded at apex; striae not impressed, straight, closely punctate; interspaces flat, not granulate; apical margin evident.

Declivity beginning behind middle, more abrupt and steeper than in *X. kraatzi* Eichhoff, slightly flattened and less convex than in *X. torquatus* Eichhoff; 1st and 3d interspaces each with 3 or 4 larger tubercles and a few minute granules as in *X. kraatzi,* 2d with granules at the summit.

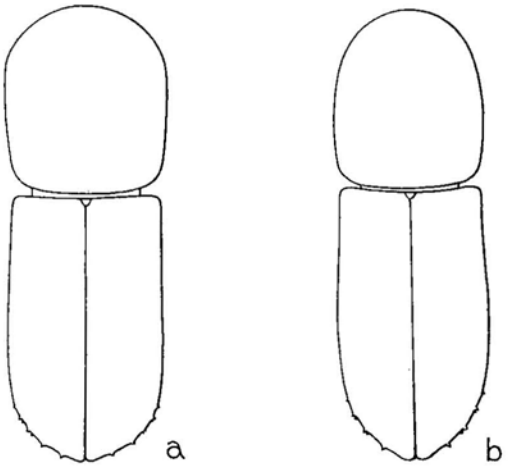

FIGURE 7.—*Xyleborus,* dorsal view of females: *a, X. whitteni,* new species; *b, X. kraatzi* Eichhoff from Ceylon.

Uapou: Hakahetau Valley, altitude about 1,500 feet, under bark of dying *Aleurites moluccana,* 4 females, Whitten.

Distinguished from *X. kraatzi* and *X. torquatus* by the wider pronotum and its broadly curved apical margin and by the relatively shorter elytra. Figure 7, *b,* shows the body outline compared with a specimen of *X. kraatzi* Eichhoff from Ceylon. Very closely allied to an undescribed species from Nilambur, Madras, and to an undescribed species from the Philippines (*X. proximus* Eggers in literature). Possibly allied to *X. ficus* Eggers (Congo) in which the declivity begins as a regular curve from before the middle.