

Notes on Hawaiian Plagithmysides and Anobiides (Col.) with Descriptions of New Species.*

BY R. C. L. PERKINS.

The following notes have been made on examination of a small, but very interesting collection of Hawaiian Longicorns, submitted to me by Mr. O. H. Swezey, the greater number of the specimens being from the collection of Mr. W. M. Giffard. In most cases the trees from which the species were obtained have been carefully noted, but a considerable number of specimens were taken at large. The numbers attached to Mr. Giffard's captures are here quoted, but the order is not preserved, because the same species is sometimes sent under numbers that are not consecutive, owing to the different circumstances under which the individuals were obtained.

1. A dark specimen of *Plagithmysus blackburni* taken on bastard sandal wood (*Myoporum sandwicense*) on the high plateau (6000 ft) Puulehua, Kona, Hawaii, by J. F. Rock. Mr. Giffard's note says, "It was probably only resting on that tree." This is likely to be correct, as the species is common on Mamani (*Sophora chrysophylla*) in the neighborhood, being attached to that tree, and I have taken specimens on the wing on the plateau. Dark examples occur also on *Sophora* with the paler ones.

16. Three examples of a series taken on Mamani (*Sophora chrysophylla*) at Puuwaawa, N. Kona, Hawaii, are also *P. blackburni* and are quite similar to my own from that locality and from Mauna Loa.

17. Three examples from a series taken on Mamani (*Sophora chrysophylla*) near Kilauea, Hawaii (4000 ft) are rightly named *P. darwinianus*, and three others from a series of twelve (No. 15) taken from a dead tree, which could not be identified, but was not *Sophora*, are also typical specimens of the same. Under (19) are two examples of *darwinianus* from a series of *Plagithmysus* taken on *Xanthoxylum dipetalum*

* This paper by Dr. Perkins (dated Jan. 14, 1921) was received before going to press and is very appropriately included here. (Ed.)

in the above named district (the series consisting of *darwinianus* and *bishopi* mixed) and under (20) four other individuals from another series found on the same species of tree are also *darwinianus*. Whether this series consisted entirely of the latter or partly of *bishopi* I do not know. In July, 1906, I obtained one or two specimens of *darwinianus* on a dying *Xanthoxylum* tree which was full of *Plagithmysus* larvae. The tree was decaying and the bark gave out a strong odor. From material carried away I subsequently bred a series of *P. bishopi*, nine examples of which series I still possess. No specimen of *darwinianus* was bred, and I thought it probable that those I took were merely attracted by the scent, the species being abundant on *Sophora* near by, but Mr. Giffard's experiences lead one to suspect the probability of its breeding both on *Sophora* and *Xanthoxylum*.

14. Three examples of *P. bishopi*, being part of a series taken on *Pelea cinerea* near Kilauea, are quite ordinary, as also are two taken on *Xanthoxylum* from a series of mixed *darwinianus* and *bishopi* referred to above under (19). The series that I bred from the latter tree showed no differences whatever from another series (also bred) from *Pelea*.

13. The larger specimen taken at 1800 ft. Olaa, 19 miles from Hilo, Hawaii, resting on Mamake (*Pipturus albidus*), is a not uncommon variety of *P. lamarckianus*, in which the pubescent lines of the elytra are yellow and very wide basally, so that the insect closely resembles *sulphurescens* in appearance. It is, however, perfectly distinct from this, and *lamarckianus*, so far as I know, always has red antennae in this variety, while in *sulphurescens* they are black. Sharp has specially alluded (F. H. II, p. 111) to the alliance between these species.

13a. The second and smaller example is of the more black-legged variety, but also has flavescent lines of pubescence, and was taken on *Suttonia*—"no doubt an accidental capture"—at 3800 ft., Olaa. The flavescent color of the lines in *lamarckianus* is not a constant character of the species. I have myself bred specimens from the same piece of *Pipturus* both with pure white and with flavescent lines, and no doubt these soon fade to white, so that the latter color is likely to be more usual in

captured examples. In other species (e. g. *vitticollis*) yellow hairs are sometimes substituted for white.

18. Five examples of *P. giffardi* from a very long series obtained on dying *Suttonia* (*Myrsine* of Hillebrand's Flora) agree entirely with those that I obtained at a rather higher elevation and a few miles distant on the same tree. Mr. Giffard's great series, he informs me, exhibits no variation except in the color of the hairs of the hind tibiae, which is usual, and therefore no approach is made to the closely allied *P. sulphurescens*,* which is attached to *Urera*. The species is remarkably constant.

11. Three examples from Olaa, 29 miles from Hilo on the way to Kilauea, being part of a large series collected on dying trees of *Perrottetia sandwicensis*, are typical *P. vitticollis* (except that in one the pubescent spots are yellow) as also is (9), one taken at large in the same locality (8) is a very unusual variety with the femora wholly red and (12) found on a dead *Pipturus* tree, standing near those of *Perrottetia* above mentioned, is a variety with the elytra to a large extent yellowish brown and the antennae, except the apical joints, similarly pale. This example does not differ much from a variety in the original series of *vitticollis*, captured by me on *Rubus* at a considerably higher elevation, and now in the collection at the British Museum.

The original specimens described by Dr. Sharp were all obtained from the native *Rubus*, on the stems of which they were running, and several of them were in copula. Later I took casual examples on the wing or settled on leaves or ferns in the forest about a mile and a half below the volcano along the Hilo road. Frequent search of the native *Rubus* there (imported species were not then evident) failed to yield the beetle and almost certainly those that I caught were stragglers from trees of *Perrottetia*, as Mr. Giffard's observations in the same locality would show.

7. A single specimen taken in Olaa, 19 miles from Hilo, on *Bobea elatior*, is *P. vitticollis* var. *longulus* of the ordinary

* The fig. in Fauna Haw. was, I believe, drawn from a *giffardi* included in the series of *sulphurescens*.

form. This variety was observed by me in great numbers in the same district, as well as in other parts of Puna and in the Hilo district, breeding always in *Bobea*, but in no other tree. No conspicuous variations were observed except that one example had the legs entirely black, and this occurred among numbers of ordinary individuals.

* 5 and 6. Three examples from above Waimea, Kauai, at elevations of 3300, 3500, and 4000 ft., each taken at large, are exactly similar to those taken by myself on Ohia-ha, in which they were observed ovipositing, and with those given me by Mr. G. C. Munro, which are now in the British Museum. Except in size and depth of coloring the species does not seem to vary greatly.

6a. Two examples taken by Mr. H. T. Osborn at Kokee, Kauai, and labeled *P. munroi*, agree with the original specimens. One of these was taken on ohia lehua and probably this is the food plant. As in *P. aequalis* the femora are either black or red.

4. A single example of *P. aequalis* from Kaholuamano, Kauai, is a typical specimen of the red-legged form. It was taken at large, but the species is entirely attached to *Acacia koa*, in the bark of which I have seen very large numbers ovipositing.

3. A single example taken "at large" at Kaholuamano, Kauai, is *P. ignotus*, originally discovered by Mr. G. C. Munro at a considerably lower elevation. Its food plant still remains unknown. The only specimens known have red femora, but whether the species is constant in this, like *concolor*, or variable, like *munroi*, *aequalis*, and *arachnipes*, remains to be discovered.

These Kauai species bear a very great superficial resemblance to one another, and even the larger *concolor* might in the case of smaller and darker individuals be easily confused in the field, if captured away from its food plant. The following table will distinguish the species on characters, which are visible to the naked eye and can be used by the collector.

* Exact determinations not given by Dr. Perkins. I suppose he means these to be *P. munroi*. (W. M. Giffard.)

TABLE FOR SEPARATION OF KAUAI *PLAGITHMYSUS*.

- 1 (2) Metepisterna with a general clothing of fine white hairs, which do not form one or more very dense, definite, and conspicuous spots, though often more dense at the apex than elsewhere. (Hind femora rufescent, never black; the largest species.)
.....*concolor*.
- 2 (1) Metepisterna with a very dense and definite tomentose spot at the apex and sometimes one at the base, or else very densely covered over all or nearly all the surface.
- 3 (4) Hind femora with a very long, pallid (almost white) basal stalk, which is nearly half the length of the whole joint; surface of metepisterna concealed entirely (or almost so) beneath dense short hair or tomentum.....*arachnipes**.
- 4 (3) Hind femora with the stalk sometimes not thus pallid, or if so, then only about one-third the length of the joint; metepisterna with a dense tomentose spot at the apex and sometimes another at the base, but the middle bare.
- 5 (8) A single dense tomentose spot on the metepisterna at the apex, the rest bare. (N. B. There may be a spot on the mesopleura also.)
- 6 (7) Longitudinal stripes on either side of pronotal crest indistinct to the naked eye (the crest itself being covered with minute white hairs); pubescence along the suture of the posterior half of the elytra practically continuous, not forming distinct, separate spots.....*aequalis*.
- 7 (6) Longitudinal stripes of pronotum quite distinct to the naked eye; pubescence along the suture of the posterior part of the elytra forming distinct separate spots or flecks.....*munroi*.
- 8 (5) Metepisterna with a dense conspicuous spot in front and another behind (apically).
(Along the suture posteriorly the pubescence is broken up into separate spots, placed in a single row, while the basal part of the elytra is pubescent, but the hairs there are not grouped into well separated distinct spots, as they are in *munroi*)
.....*ignotus*.

The species of the *blackburni* group which occur on Hawaii, being subject to much variation in several cases, can generally

* These characters were taken from females, the only sex before me when the table was written. The female in this species is not like its allies in superficial appearance, but the male resembles them very closely.

be easily distinguished by the characters given in the following table. Very large numbers of all these species have passed through my hands but I cannot remember to have seen any doubtful specimen, although many have borne no indication of the food plant. No doubt extreme aberrations of some of the species may be found, which might not be distinguished by the table. Owing to the great variability in the size of the individuals, so far as possible the characters of different species should be compared in examples of about equal size, where the characters are comparative.

TABLE FOR DISTINGUISHING BLACKBURNI GROUP OF
PLAGITHMYSUS.

- 1 (10) Pubescent lines of the elytra rarely yellow and wide and in that case the antennae have more than the scape red.
- 2 (3) Elytra without distinct black or dark fuscous color between the furcation formed by the pubescent lines; antennae black, the scape at most sometimes more or less red.
(Elytra often entirely pale externally to the pubescent lines, more rarely these are margined with black outwardly; hind femora in one common variety conspicuously red on the apical portion, black in the middle, and unlike any other species in this case).....*varians*.
- 3 (2) Elytra distinctly black or very dark colored in the furcation; antennae often wholly or largely red (sometimes dull, dark red) but in extreme cases only the second joint is of this color.
- 4 (7) Hind femora wholly red, sometimes suffused with black, apically at the sides, but on the upper side the red extends to the apex.
- 5 (6) Basal joints of the antennae with the black, bristly hairs long, dense and conspicuous; usual food plant *Sophora**darwinianus*.
- 6 (5) Basal antennal joints evidently less setose. (When series are placed side by side the present species appears to have the elytra evidently wider at the base than the preceding and its food plant is *Pipturus*.).....*lamarckianus* ab.
- 7 (4) Hind femora either largely or wholly black except the basal stalk, or at least with a considerable portion at the apex entirely black, even on the upper surface.

- 8 (9) Basal joints of the antennae with dense and very conspicuous bristly black hairs; hind femora normally black (except the basal stalk) and partially red-legged examples infrequent.
(On *Sophora*, Kona side of Hawaii).....*blackburni*.
- 9 (8) Antennae evidently less strongly setose, examples with largely red hind femora are common, though perhaps more are like typical *blackburni*.
(Pubescent lines of elytra either white or distinctly yellow being variable; food plant *Pipturus*).....*lamarkianus*.
- 10 (1) Antennae black or practically so throughout, except that in some examples the scape is pitchy or, more rarely, distinctly red; the pubescent lines on the elytra yellow and wide, not or hardly furcate at the base, though the basal edge is emarginate.
- 11 (12) Elytra yellow or rufescent basally and at the sides.
(Food plant *Urera*.).....*sulphurescens*.
- 12 (11) Elytra yellow at the sides as far forward as the base of the yellow pubescent marking or somewhat in advance of this, but black above from the base of this marking to the base of the elytra themselves.
(Food plant *Suttonia*.).....*giffardi*.

P. vitticollis is best distinguished from the var. *longulus* by the dense white clothing of the hind tarsi, that of the latter being black, sometimes with a few white hairs mixed, just as the other may have a few black ones. In life, *vitticollis* always appeared to me a brighter insect, owing, I think, to the rather greater development of the yellow pronotal stripes. So far as is known the var. *longulus* never produces varieties with more or less yellow elytra.

The species of *Plagithmysus* which are attached to *Pelea*, whether on Hawaii or other islands, are always distinguishable from the members of the *blackburni* group at the merest glance by the deep velvety black spot in the furcation of the pubescent lines of the elytra, which to my eyes gives them a more pleasing appearance than the others. The following form appears to be either a new species or at least a new race of *P. vicinus* Sh. Originally I possessed a small series of this new form, but having given away specimens under the name *vicinus*, I now have only a pair left. It was found on a species of

Pelea in N. Kona, but in a drier locality and a good many miles from the spot where the typical *vicinus* occurred.

***Plagithmysus frater* sp. n.**

Red, the head above obscure red or reddish black, the face black. Antennae dark red or blackish red. Pronotum entirely red, the median crest appearing more or less darker, and there is a broad, dark, longitudinal band on each side in dorsal aspect, but even here the surface is not black, though darkened. Elytra red, with the usual dark velvety spot in the furcation of the pubescent lines which are subflavescent; beneath the dense black hairs, which form the velvety spot, the surface is red as elsewhere. Legs red, the apices of the femora black, the tarsi with very dense snow-white hairs, the hind tibiae with very dense black hairs, which are directed backwards and not long. Pronotum with the vittae on either side of the crest broad, but very feebly developed or indistinct. The hairs being minute and not very dense, entirely different from the vittae of *bishopi*. Consequently to the naked eye the greater part of the pronotum in dorsal aspect appears greyish on a red surface, the grey color divided by a narrow darker line. Antennae with the setae very dense, black and bristly. The base of the elytra is very densely, rugosely punctured, considerably more so than in several examples of *bishopi*, with which it was directly compared. Size of *bishopi*. Probably closer to *vicinus*, which has a black pronotum and differs in other respects. So far as I can judge without dissecting, the examples are males.

Hab.—N. Kona, Hawaii, about 3000 ft., on *Pelea* sp. Perhaps no more than a local race of *vicinus*. The type is in my collection.

***Plagithmysus decorus* sp. n.**

Black, the femora entirely red (except for the paler basal stalk) as in *P. elegans*, the antennae dark red basally, the more apical joints of a dark fuscous color, the setae on the basal joints not strongly developed.

Pronotum black on about the middle third or more in dorsal aspect, the rest densely covered with minute yellow hairs, the dorsal and lateral vittae of ordinary species having merged into one broad band as in *elegans*; on the sides beneath this band the surface is bare and as densely punctured as possible. Elytra very densely and rugosely punctuate on the basal part, more so than in *vitticollis*, which the species considerably resembles in the pattern of spots, and with this sculpture extending farther back, the white spots along the upturned lateral margin much more developed and almost forming a continuous line. Size probably less than the average of *vitticollis*.

Hab.—Olaa, Hawaii, near Kilauea (29 miles from Hilo) in the forest. The unique example of this beautiful species was taken "at large" by Mr. W. M. Giffard in August, 1913, and is in his collection. This specimen has a slight bare mark in the yellow pronotal bands and this may be due to abrasion, as the hairs of the tibiae and tarsi appear to have been wet. This bare mark is not present in my bred *elegans*. It is No. 10 in the consignment of species.

21. Six examples of *P. aestivus* from Kalamaula, Molokai, taken in April, 1907, I must have seen previously, as I have a note of their occurrence. They differ in no wise from the original examples, the locality lying between the two spots, whence these came, and only a short distance from either. The species is always on *Ohia lehua*.

1. *P. solitarius* female, with the femora thick and well developed for this sex, the specimen collected by Koebele. This species is generally distributed over the Koolau range from the neighborhood of Honolulu to parts above Waialua and Waimea wherever the *Ohia ha* (*Eugenia*) grows. However, on one occasion specimens were actually bred from the *Ohia lehua* on Tantalus. In 1900 nearly all the larvae in that locality (though numerous) were parasitized by the two species of *Ischiogonus*, but in February, 1903, a series of the beetle, including black-legged examples, was taken there, and in October, 1906, a single example, flying across the road. I did not attempt to breed any from more distant localities, so do not know whether it was similarly parasitized in these.

A single specimen, not numbered but labeled by myself "*Clytarlus* undescribed sp.," is a female of *P. immundus* Sh., which was bred by me from dead wood brought from Kona, and supposed to be that of the tree *Charpentiera*. It is a most variable species, red, black, or particolored, and has the weak clothing of the hind tibiae and metatarsi characteristic of *Clytarlus*.

Callithmysus.

As recorded by Swezey (Proc. Haw. Ent. Soc. 1919, p. 265), *C. microgaster* var. *hirtipes* was bred by him from *Perrottetia*

and I think I am right in saying that the actual type of that variety was obtained from the same kind of tree, although recorded from *Bobea*. This individual was found resting amongst dead leaves of a broken branch, on a day when it rained heavily and continuously, and collecting was almost impossible. The "on *Bobea*" was added later, when I had become aware that *C. microgaster* s. l. was attached to that tree, having found fragments of the beetle and larvae therein, and was not intended to refer to this particular example, but to the species. Though so infrequently met with alive, the beetle must be quite numerous on occasion, as in 1903, and also on a former occasion, I brought down large numbers of the larvae to Honolulu from different localities, but owing to my absence from home, these nearly all died for want of attention and the few beetles that emerged were dead and in poor condition when I returned. One or two of these that were in moderate condition I sent away, and one or two of the worst I still have. All the larvae were in *Bobea*. Two of those recorded in the Fauna Haw. were taken on the trunks of this tree near Waialua, and are said to differ from the typical form. The late W. H. Ashmead, when collecting with me, captured one on the wing as it flew over a bare ridge in the mountains below the forest. I took one flying on the Tantalus road a little above the house then owned by Mr. Giffard in November, 1906—a small specimen newly emerged, which I still possess, and another in nearly the same locality on another occasion. All these probably belonged to the form with the tibial hairs shorter than the type and the base of the tibiae is not bare to the extent shown in the original figure of the species. If the variety *hirtipes* from *Perrottetia* proves constantly different from these *Bobea* specimens, the case would be similar to that of *P. vitticollis* and its var. *longulus*, which are found on these trees on Hawaii, the most evident difference between the beetles being found in the tarsal hairs. One may suspect that the typical *microgaster* found by Blackburn was attached to some different tree, as the form on *Bobea* seems to occur over most, if not the whole of Oahu. At the same time one must remember that in some *Plagithmysus* there are

very great differences in the hairs of the tibiae and of other parts, as variation or according to sex, and sufficient material of *C. microgaster* for a proper investigation has not yet been secured.

In *Plagithmysus bishopi*, even in examples bred from the same wood, there is variation in the density and arrangement of the hairs of the hind tibiae, and they may be pale or black, even in examples of the same sex. *P. giffardi* notably exhibits dimorphism in these hairs, while some others seem to exhibit neither variational nor sexual differences in these.

The two following species of *Nesithmysus* are very distinct species of this remarkable genus.

***Nesithmysus forbesii* sp. n.**

Black, the head slightly aeneous, the pronotum slightly so in some lights, the elytra very conspicuously metallic, with greenish tint. Head with yellow hairs, not densely clothed. Pronotum on each side about the middle with a strongly prominent angle; the median crest is represented by a strong prominence in front, in lateral view triangular, like a large blunt thorn, on its hind surface rugosely punctate, and a posterior prominence, which in side view is subtruncate and rugosely sculptured on its upper surface; between these and on most of its surface the pronotum is smooth and shining, irregularly and finely punctured, clothed with sparse yellow setae, representing the vittae of *Plagithmysus*. On either side between the posterior median prominence and the lateral angle, and on a line with the former, is another strong prominence, rounded at the apex, and between this and the lateral angle is another broad, but not dense, patch of yellow hairs. The elytra are shining and thinly and irregularly clothed with yellow setae like those on the thorax, but no definite pattern is formed. The sculpture consists of shallow depressions and larger punctures, mixed with finer ones, which are more definite. There is a dense line of yellow hairs extending from the hind coxae to the patch covering the ends of the metepisterna; on either side of the ventral segments 1-3 at the apex is a distinct spot of these hairs; the 5th ventral segment is conspicuously excised in the middle. The specimen is no doubt a female, the antennae short, about three-quarters of the length of the elytra, the 10th joint not twice as long as wide. Length about 20 mm.

Hab.—East Maui, Haipuaena, 3100 ft. A single example from *Pelea* on June 29th, 1920 (*C. N. Forbes*).

Nesithmysus haasii sp. n.

Black, scape of the antennae to a large extent, as also the small 2nd joint, the next two basally and the others on one side at least, though very obscurely, red or reddish. The trochanters, basal part of femora, tibiae for the most part, and basal portion of first tarsal joint also red. Face for the most part densely clothed with yellow hairs, the top of the head rather less densely. Pronotum with the median crest greatly raised in front, less strongly behind, coarsely rugosely sculptured, the anterior prominence bluntly triangular in lateral aspect, the hinder one curved, the prominences on either side of this strong and blunt, the lateral angles near the middle of the length of the pronotum obtuse and not strongly prominent, much less so than in the preceding species. The yellow vittae on either side of the median crest are conspicuous, widely separated, and irregular in width and are connected with the outer ones broadly in front and narrowly behind; these latter occupy all the flanks of the pronotum downwards from their origin except that the prominent lateral angles form a smooth glabrous area amongst the yellow hairs. The metepisterna have a dense yellow patch of hair posteriorly and there is another anterior to this on the mesopleurae. The elytra are about five times the length of the pronotum, very densely, finely and distinctly punctured all over, a yellow line on each just within the suture from apex to base, continued across the deflexed basal surface to near the shoulders and then continued backwards as a second longitudinal oblique line, which adjoins the sutural one at about the middle of the length of the elytra. Along the upturned lateral margin of these is a dense narrow line of similar yellow hairs extending from base to apex. The first four ventral segments of the hind-body have a pair of distinct yellow spots apically, the 5th is simply rounded or slightly truncate at the apex and not at all emarginate. Length about 25 mm. Female.

In the unique specimen described the yellow pubescent lines are in parts interrupted owing to abrasion, but are here described as if they were entire. The longitudinal ridges of the elytra, similar to those in some *Plagithmysus*, in which they often vary in individuals, are very definite in this specimen, the inner ones reaching behind the middle, the outer ones still further.

Hab.—Oahu, Wahiawa (*Chas. Haas*). A single example in the collection of Mr. O. H. Swezey.

In the thick forest behind Waialua, twenty years ago, large exit holes of a Longicorn supposed to be *Plagithmysus* were found in some of the big *Pelea* trees growing there. Very

few were seen and no beetle was obtained, but it is possible that they may have been made by this large *Nesithmysus*. The heavy hind body and more cylindrical form of *Nesithmysus* have deprived the genus of the elegant shape of *Plagithmysus*, and one could imagine the insects to be much less active than the latter.

ANNObIIDES.

The Annobiid here described belongs to the very difficult genus *Xyletobius* in a wide sense, but the many species described by me are in my opinion not always congeneric and the present species is an abnormal one and unlike any known to me.

Xyletobius timberlakei sp. n.

Dark fuscous, the pronotum at the sides and posteriorly (and sometimes entirely excepting the disc) the apex, sides (more or less) and the basal margin of the elytra evidently red. The antennae, under side of the whole thorax, the coxae, femora and tarsi also red or reddish testaceous, the tibiae and abdomen darker, mostly dark fuscous.

Remarkable for its long cylindrical form as compared with most species. Eyes very large, in a front view of the face these together are fully as wide or wider than the space between them. The antennae are very long, the small second joint distinctly angulate beneath or with the lower apical angle a little produced in some aspects, third triangular and hardly as long as its greatest width, fourth, fifth and sixth increasing in length and becoming more slender, distinctly emarginate at the apex, seventh strongly elongate and evidently less wide than the sixth, the apical joints are wanting, except in one case where the antennae lies beneath the body, and in this the tenth joint appears to be more than twice as long as wide. Pronotum at the sides very widely explanate or flattened (at the hind margin the flattened parts are together as wide as the space between them) perceptibly emarginate in the middle, anteriorly, finely but distinctly margined both in front and behind, distinctly emarginate on each side between the hind angles, which are rounded, and the middle. Seen from above the pronotum has a distinct pattern formed of golden tomentum in the middle and other spots or marks external to this on each side. The elytra are fully three and a half times the length of the pronotum, and are notably compressed at the sides, so that a great subtriangular area appears bare on each wing case, the apex of each triangle coming rather near to but not reaching the suture at about the middle of the length of the elytra. From each apex an oblique

more or less broken line, of pale tomentum runs towards the side of the elytra behind the shoulders, defining more clearly one side of the triangles, which is in reality a feeble ridge, formed where the lateral compression meets the basal part of the wing cases. The second and third striae (the first being as usual abbreviate) unite at the apex, the fourth and fifth do so also, but do not extend so far back as the inner ones. In lateral view of the elytra the punctures in the outer striae are easily seen. Length 5.5 mm.

Hab.—Hawaii, Kealakekua, 3500 ft. (*Timberlake*). One on *Clermontia caerulea* and one on *Byronia sandwicensis*.

Holcobius hawaiiensis Perkins.

This species was originally described from a single example taken in the stem of a tree fern in Kona, Hawaii, and in the "Fauna" I referred to it others, taken later at Kilauea, also on tree ferns. The Kona example is smaller than the others and has dark antennae, but in the allied Maui species these organs showed some variation in color (*Fauna Hawaiiensis* III, 583). Mr. Giffard has taken five examples in his house at light, close to the spot where I found it near Kilauea. These agree well with mine and differ from the allied *H. haleakalae* in being evidently more robust and in the point of sculpture mentioned in the description of the original example from Kona. The length of the Kilauea specimens averages 9 mm., and this form may be called var. *vulcanus*. These large species of *Holcobius* seem to be almost entirely nocturnal and difficult to collect by day. By night those which have burrows in dead trees come out and sit on the bark, and may be found paired in some numbers, as I experienced in a thick forest on Haleakala. The dead trees that they frequented, mostly Ohia lehua, were unfortunately a considerable distance from my tent and I found such difficulty in regaining this by the light of a lantern that I had to give up this method of collecting the beetles. *Holcobius affinis*, *granulatus* and *glabricollis* as well as *hawaiiensis* have all been taken attracted by light.



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