

Notes on Marianas Islands Curculionidae (Coleoptera)

By ELWOOD C. ZIMMERMAN

Hawaiian Sugar Planters' Association Experiment Station

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This is a report based principally upon the weevils collected by R. G. Oakley and Henry Townes in the Marianas Islands in 1946 during the entomological survey under the direction of the United States Commercial Company. The material was sent to me for study by the Division of Insects, United States National Museum. I have added some notes from other specimens from the collections of the Hawaiian Sugar Planters' Association Experiment Station and Bishop Museum.

Perhaps the most outstanding contribution made by this collection is that it reveals for the first time that many of the species heretofore known only from Guam are more widespread in the archipelago.

Subfamily OTIORHYNCHINAE

Trigonops inusitata Zimmerman.

Trigonops inusitata Zimmerman, Bishop Mus. Bull. 172:83, pl. 1, F, 1942.

Rota Island: eight examples taken on leaves of *Pipturus argenteus* at Rugi, June 29, 1946, Oakley number 930. This is a new island record, for the species has been known only from the type island of Guam. The average color of the scaling on this series is paler than for the Guam specimens, and possibly it may be associated with the color of the hostplant.

Trigonops inaequalis Zimmerman.

Trigonops inaequalis Zimmerman, Bishop Mus. Bull. 172:84, pl. 1, E, H, 1942.

Tinian Island: two specimens taken on *Morinda citrifolia* leaves on Mt. Lasso, June 12, 1946, Townes number 647.

This species has been known only from Guam. The dorsal color and color pattern of the scales is subject to striking variation, and different individuals of a series frequently may be thought not to be this species.

Trigonops hirsuta Zimmerman.

Trigonops hirsuta Zimmerman, Bishop Mus. Bull. 172:87, pl. 1, D, 1942.

Agrihan: two examples collected August 12, 1945, by D. J. Borror. Guam: three specimens Agaña airport, taken on screens of airport building, Townes number 658, June 13, 1946.

Rota: ninety examples collected on sweet potato leaves at Ongiano, June 27, 1946, Oakley number 911. Seven specimens taken on *Intsia bijuga*, June 29, 1946, at Rugi, Oakley number 981. Nine specimens from eggplant from Rota village, June 20, 1946, Townes number 863.

Tinian: twenty-one specimens from cotton leaves in Marpo Valley, June 11, 1946, Oakley number 570; four, same place and date from grape vines, Oakley number 588; four, same place and date on guava, Oakley number 571. Three examples from leaves of *Morinda citrifolia* at Mt. Lasso, June 12, 1946, Townes number 647, and eight examples from leaves of *Bikkia marianensis*, June 11, 1946, Townes number 632, and without locality other than Tinian.

The records from Rota, Tinian and Agrihan are new; the species has been recorded only from Guam.

There is a bewildering variation in color and pattern in these large series. The dorsal scaling varies from white to brown.

Trigonops viridis, new species (figure 1).

Derm mostly shining black, but with antennae, coxae, bases of femora, parts of tibiae and tarsi, and last two or three ventrites reddish brown; scaling predominantly green over-all, but some examples with the green faded or gray with a faint greenish, purplish or bronze cast, the scales iridescent; without a dorsal color pattern other than a variable, paler, median vitta on pronotum and a paler suture on elytra.

Head with front punctured, but punctures not very prominent, mostly inconspicuous because of the placement of the scales, bearing white decumbent setae which are conspicuous only at inner margins of eyes; scales round or ovate, usually appearing slightly convex and hard, mostly appearing scattered and each separated distinctly from its neighbor so that derm is plainly visible, with a small bare patch at angle of basal rostral suture; eyes evenly convex, strongly interrupting longitudinal lateral outline of head, about four-fifths to nearly as long as narrowest part of interocular area.

Rostrum with basal part between transrostral carina and basal suture nearly straight or appearing slightly concave as seen in profile, slightly shorter than interocular breadth, median line partly bare; declivitous apical part shiny, the round punctures capped with round scales or giving rise to white setae.

Antennae with scape about as long as funicle plus first segment of club, closely squamose but with scattered bare patches surrounding the origins of the numerous, long, decumbent setae, expanded distad; funicle with short and long setae and no scales, lengths of segments as follows: (1, 19, to base in apical sinus of scape) (2, 19) (3, 12) (4, 12) (5, 10) (6, 10) (7, 10); club as long as three preceding segments, its first segment as long as seventh funicular segment, two-tenths longer than its second segment.

Prothorax as broad as long (but appearing longer), broadest at middle, almost evenly arcuate on sides (measurements of one example [20 units to 1 mm.]: breadth at extreme base, 38; breadth at middle, 44; breadth at apex, 33; length, 44), gently and nearly evenly arcuate in longitudinal dorsal out-

line; punctures, although numerous, not individually conspicuous but obscured by the numerous, small, low, rounded, shiny granules protruding between the scales; scales not imbricated and with derm showing between many of them, especially on disc, rounded, mostly appearing slightly convex; setae inconspicuous, short, decumbent, not rising above the surface, none, or only a few at apex, to be seen on median line in profile.

Elytra two-thirds to seven-tenths as broad as long, females broadest at about basal third; base subtruncate or shallowly concave; scales rounded, appressed, mostly appearing flatter than those on pronotal disc, dense but not imbricated except laterad and caudad, most scales on disc slightly separated from or just touching their neighbors; striae marked by series of bare black spots where a low, shiny granule precedes each stria puncture, each puncture with a small, inconspicuous, recumbent seta, not impressed between punctures; intervals each bearing a row of small, decumbent setae which may be overlooked easily on disc.

Legs with hind femora reaching to a point below apex of first elytral stria in male (nearly to elytral apex), and to a point below and between apices of second and third striae in female, one-tenth longer than hind tibia, as wide at base as middle of tibia, strongly clavate, widest part of bulbous part at about three-fifths length of femur from base and there not quite three times as broad as base of femur; squamae on all femora densest on the expanded part and distad, nearly naked basad and ventrad, with numerous, slightly curved, slanting setae; tibiae squamose and with longer, more erect setae than femora.

Sternum with pleura of mesosternum broadly bare and shiny just above coxa, thence densely squamose to elytra, but epimeron usually with few scales; metasternum at its narrowest point between meso- and metacoxae as long as breadth of a mesocoxa.

Venter with first two ventrites nearly or quite free from squamae broadly down middle, but squamose as elytra on sides, shallowly depressed down middle in male, less distinctly so in female, punctures shallow, bearing white, slanting setae; ventrites three, four and five not squamose, third and fourth with fine setae confined mostly or entirely to sides and not punctuate on discs, fifth roughened over-all by setiferous punctures and about one-fourth longer than three plus four along median line. Length (excluding head and rostrum): 5-7 mm.; breadth: 2.5-3.5 mm.

Rota Island: Holotype male (U. S. National Museum number 58711), allotype female, and 16 paratypes collected from leaves of *Guettarda speciosa* at Rota Village, June 20, 1946, Townes number 803; eight paratypes collected on *Intsia bijuga* at Rugi Village, June 26, 1946, Oakley number 931; and two abraded specimens from the Bishop Museum collection collected by H. Hornbostel on Rota, July 15, 1925.

In my key to the Guam *Trigonops* (1942), this species runs to couplet 7(6) which includes *vulgaris* and *convexa*—two very different-appearing species. The larger size and different coloring of this species easily distinguishes it, and it should not be confused with any other known species from the Marianas.

***Trigonops angulithorax*, new species (figure 1).**

Derm reddish brown to black, elytra, pronotum, front of head, rostrum, clavae of femora, two basal abdominal segments black or nearly so, otherwise reddish brown to piceous with variation in the two available specimens;

scaling on holotype mostly pearl-gray, on allotype mostly bluish green, nearly concolorous and without a pattern; scales iridescent.

Head with frontal punctures distinct, each bearing a distinct, fine, white, decumbent seta; scales numerous, rather evenly placed; but not dense, much of derm exposed between them, round or oval, appearing hard, mostly slightly convex and mostly each distinctly separated from its neighbor and with a bare median patch at angle of basal rostral suture; eyes strongly convex, about three-fourths as broad as long as seen from front, strongly protuberant, posterior contour steeper than anterior contour in male holotype, nearly evenly convex in female allotype, length of eye compared to breadth of interocular area in holotype male 12/14, in allotype female 13/18.

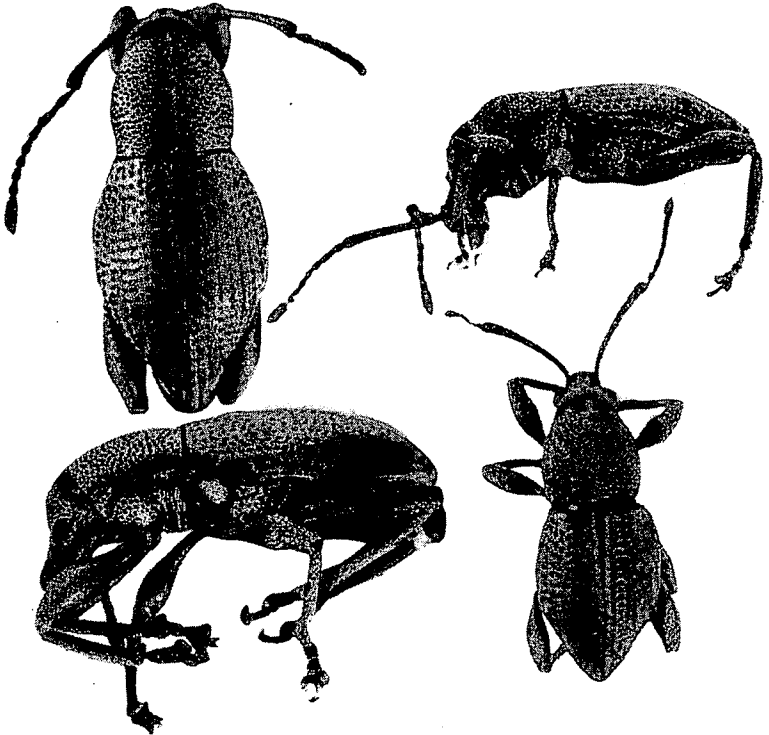


Figure 1.—Left, dorsal and lateral views of *Trigonops viridis* Zimmerman, paratype male; right, the same of the holotype male of *Trigonops angulithorax* Zimmerman. (Photographs by J. T. Yamamoto.)

Rostrum, as seen in profile, with area between basal suture and transrostral carina nearly straight, about as long as interocular breadth in holotype male, distinctly shorter in allotype female; scaling similar to that on head.

Antennae (on holotype) with scape as long as funicle plus about three-fourths of club, gradually expanded, scales numerous but not dense, the long decumbent setae dark on fore (upper) side, white on hind (lower) side; funicle with short and long setae but no scales, lengths of segments as follows: (1, 9, to base of apical sinus of scape) (2, 7.5) (3, 6) (4, 5) (5, 5) (6, 4)

(7, 4.5); club as long as preceding three and one-half funicular segments, its first segment subequal in length to its second segment and to seventh funicular segment.

Prothorax slightly transverse, broadest just behind middle, nearly evenly arcuate on sides; measurements of holotype (20 units equal 1 mm.): breadth at extreme base, 30; breadth at widest part, 33; breadth at apex, 24; length, 30; longitudinal dorsal contour as seen from side on about same plane as basal part of elytra to about middle, thence sloping at an angle of nearly 45 degrees to apex, the subapical constriction passing through the declivitous part and making it concave; closely punctuate, inter-puncture areas giving a subgranulate appearance to disc; scales rounded, slightly convex, appearing hard, not imbricated, much of derm exposed, more widely spaced laterad; setae distinct, decumbent, not rising above surface, none to be seen rising above median line in profile.

Elytra two-thirds as broad as long and twice as long as prothorax in holotype male, about five-eighths as broad as long and two and two-thirds times as long as prothorax in allotype female; base subtruncate; broadest at about middle; scales rounded, appressed, mostly appearing flatter than those on pronotal disc, not imbricated, mostly narrowly separated; striae at most broadly, shallowly, rather indefinitely impressed between punctures, punctures each bearing a small, recumbent seta; intervals each with a row of similar setae.

Legs with hind femora reaching to apex of fifth ventrite in male, to slightly beyond apex of fourth ventrite in female, about one-tenth longer than hind tibia, narrower at base than middle of hind tibia, strongly clavate, widest part of clava at a little more than three-fifths distance from base to apex and three times as broad as base of femur, comparatively thinly clothed with scales, densest along dorsal edge, least dense on under sides of clavae and naked basad; tibiae thinly squamose and with setae straighter and more erect than those of femora.

Sternum sparsely squamose, pleura of mesosternum with scattered scales; metasternum at its narrowest point between mid-and hind coxae about as broad as breadth of a mesocoxa in allotype female, distinctly narrower in holotype male.

Venter sparsely squamose at sides of first two ventrites and with a few scattered scales on apical part of second ventrite only; second ventrite more sharply depressed on disc than in female; punctures on first two segments mostly small and shallow, bearing rather long, slanting, slender, white setae; ventrites three and four with at most a single row of rather obscure setiferous punctures at middle, numerous only at sides; ventrite five roughened by numerous setiferous punctures, slightly longer than three plus four, 2.2 broader than long in holotype male, 1.4 broader than long in female allotype.

Length (excluding head and rostrum): 5-6 mm.; breadth: 2.1-2.6 mm.

Saipan Island: Holotype male (U. S. National Museum number 58712), swept from *Aglaia* at Kannat e Edtot, June 27, 1946, Townes number 875; allotype female, in Bishop Museum, Honolulu, collected on Saipan on September 3, 1944, by D. G. Hall and without additional data.

This is the only known Mariana *Trigonops* which has a strongly convex, angulate dorsal pronotal contour, and this character alone will serve to separate it from all others. My key to the species of Guam *Trigonops* (1942) may be altered to receive this species as follows: change the 3 in dichotomy 2 to 2a and insert the following:

- 2a (2). Pronotum, as viewed from side, strongly convex and with apical part sloping downward at a conspicuous angle from basal part.....**angulithorax** Zimmerman.
 Longitudinal dorsal contour of pronotum gently convex 3

The allotype is a rubbed specimen. The elytral suture of the holotype is narrowly bare basad to form a narrow, acuminate, bare line.

Subfamily APIONINAE

Cylas formicarius (Fabricius).

Brentus formicarius Fabricius, Ent. Syst., Suppl., p. 74, 1798.
 Zimmerman, Bishop Mus. Bull. 172: 93, pl. 6, D, 1942.

Rota: seven specimens from sweet potato vines and tubers taken at Soñ Son, June 26, 1946, Oakley number 788.

Saipan: five specimens from sweet potato, June 18, Oakley number 716; twelve examples from vines and tubers of sweet potato, Marpo Valley, June 11, 1946, Oakley number 554.

Subfamily ANTHONOMINAE

Usingerius maculatus Zimmerman.

Usingerius maculatus Zimmerman, Bishop Mus. Bull. 172: 94, pl. 6, A, B, 1942.

Tinian: 33 examples from *Cynometra* foliage on Mt. Lasso, June 9, 1946, Townes number 619; 47 specimens from *Cynometra* (*bijugans*?) in Marpo Valley, June 10, 1946, Oakley number 534.

Saipan: one specimen from Kannat e Edtot, June 27, 1946, Townes number 885.

This weevil heretofore has been known only from Guam. The color pattern is variable.

Subfamily CRYPTORHYNCHINAE

Deretiosus ficæ Zimmerman.

Deretiosus ficæ Zimmerman, Bishop Mus. Bull. 172: 102, pl. 3, A, 1942.

Tinian: one example from Mt. Lasso, June 16, 1946, collected by F. C. Hadden is the first example of this species to be recorded outside of Guam.

Camptorhinus dorsalis (Boisduval).

Cryptorhynchus dorsalis Boisduval, Voy. Astrolabe 2:434, 1835.
 Zimmerman, Bishop Mus. Bull. 172: 103, pl. 2, B, 1942.

Guam: one example taken at Agaña Airport, June 13, 1946, Townes number 658.

Tinian: two specimens from Mt. Lasso, June 16, 1946, F. C. Hadden. This is a new island record.

Menectetorus setulosus (Boheman).

Cryptorhynchus setulosus Boheman, Eugenies Resa, Coleoptera, p. 140, 1859.

Menectetorus setulosus (Boheman) Zimmerman, Bishop Mus. Bull. 172: 106, pl. 3, B, 1942.

Tinian: one example from Mt. Lasso, June 12, 1946, from leaves of *Melanolepis multiglandulosa*, Townes number 644. One example from same place taken by F. C. Hadden, June 16, 1946.

This species has been recorded heretofore only from Guam.

Menectetorus simplex, new species (figure 2).

Derm reddish brown to piceous; color pattern of scales as follows: head with a pale median vitta, pale above each eye and nearly or quite black between these white areas, the dark scaling may tend to form a vague V on crown; rostral scaling mixed, but mostly pale; prothorax mostly pale on sides, but with variable brown patches, pale scaling extending dorsad onto sides of pronotum and extending inward to a point opposite fourth elytral interval, disc of pronotum either almost entirely black or black with brown maculations, prescutellar point pale; elytra confusedly marked with black and pale brown, humeri nearly white, setae mixed black, pale brown and white; scutellum white; ventral surfaces with mostly pale brown and white scales; legs with femora with pale scales but with a broad median black band and a dark apical or subapical band, tibiae broadly black at base, otherwise pale.

Head with derm concealed by dense scaling, interocular area with numerous, slanting, rather narrowly subspatulate setae which extend onto base of rostrum, these setae not confined to ocular margins and obscure on crown.

Rostrum squamose to within apical third in male, only in about basal fourth in female; setose to apex in both sexes; vaguely tricarinate above insertions of antennae in male, shiny and with numerous punctures in female.

Antennae with scape as long as first four funicular segments; first funicular segment as long as two plus three, two as long as three plus four plus about one-half of five, three to seven subequal, seven broadest; club about equal in length to preceding five funicular segments.

Prothorax about as long as broad, at most slightly transverse; base strongly bisinuate; sides arcuate from base to subapical constriction; disc with four shallow depressions: two on median line, one of these near base, the other at edge of subapical constriction (this usually less developed or obsolete), and one on either side of median line at middle and centered on a line drawn from each second elytral stria; scaling more appressed than spongy; setae curved, erect, rather narrowly subspatulate.

Elytra about seven-twelfths as broad as long, about two and one-half times as long as prothorax, subparallel-sided to subapical constrictions; intervals all broader than striae, each with a row of conspicuous, slanting-erect, narrowly spatulate setae, one and two not so convex on disc as three, none of the intervals elevated; striae well marked, setae in their punctures obscure; elytra without elevations, irregularities or fascicles.

Legs with tibiae each with a small, slender denticle at apex of dorsal edge at base of line of short bristles along axis of uncus.

Sternum with metasternum densely set with mostly imbricated scales and with rather numerous setiferous punctures, the shortest distance between mid and hind coxae about one-fourth more than breadth of a mesocoxa.

Venter with dense round or ovate scales mostly slightly imbricated, less dense in middle; first ventrite slightly longer than length of metasternum between mid and hind coxae and as long as ventrite two plus half of three; ventrite two as long as three plus four which together are as long as five; setae, except on last ventrite, mostly appressed, narrow, elongate.

Length: 3-3.25 mm.; breadth: 1.6-1.75 mm.

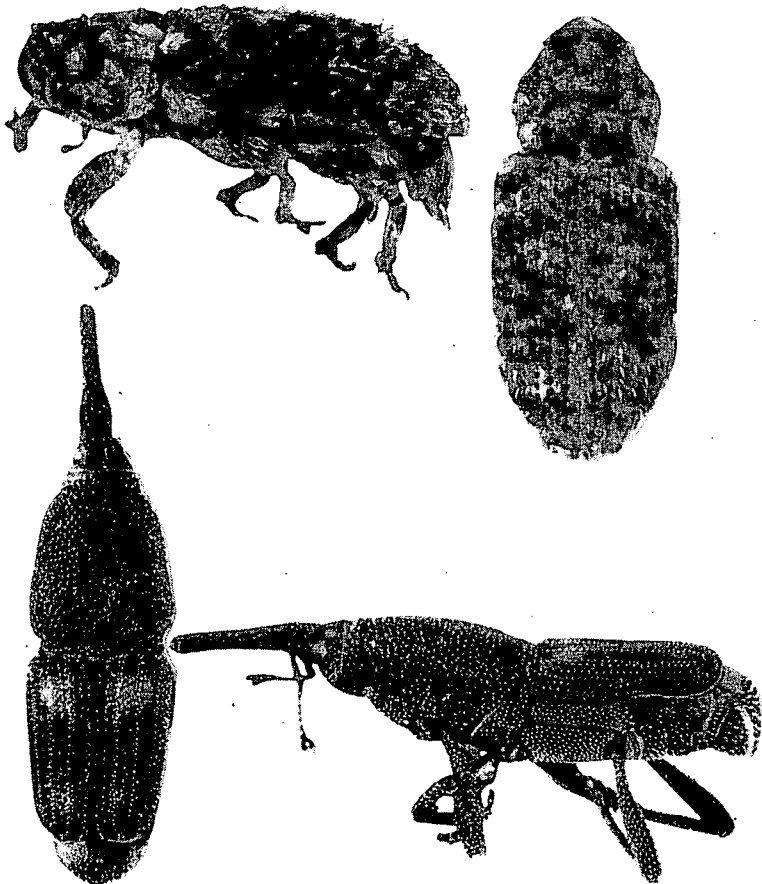


Figure 2.—Top, lateral and dorsal views of paratype female of *Menecetorus simplex* Zimmerman; bottom, the same of *Myocalandra exarata* (Boheman). (Photographs by J. T. Yamamoto.)

Guam. Holotype male (U. S. National Museum number 58713), allotype female, and one female paratype. The holotype and allotype bear the label "R. G. Oakley, Guam '37", the paratype contains

the following additional information: "Ripe papaya, Malolos, December 27, 1937".

This species may be separated easily from the only other known species of the genus known from the Marianas because of its comparatively plane pronotum on which the foveae are very shallow as compared to *setulosus*, by its not having elevated elytral intervals as does *setulosus*, as well as other characters. It is a more obscurely colored species than is *setulosus*, and the elytra may appear to be vaguely tessellated.

Anaballus amplicollis (Fairmaire).

Acalles amplicollis Fairmaire, Rev. Mag. Zool. 2, 1:36, 514, 1849.

Zimmerman, Bishop Mus. Bull. 172: 109, pl. 2, A, 1942.

Rota: 12 specimens taken at Rugi, June 27, 1946; they are labeled Oakley 909, in sweet potato.

This is a new locality record for this species which is widespread in the Pacific, and to my knowledge this is the first record of its attacking sweet potato.

Eusecepes postfasciatus (Fairmaire).

Cryptorhynchus postfasciatus Fairmaire, Rev. Mag. Zool. 2, 1: 513, 1849. Zimmerman, Bishop Mus. Bull. 172: 109, pl. 2, C, 1942.

Rota: seven specimens from sweet potato tubers, June 26, 1946, Oakley number 792.

This is a new island record for the pest.

Daealus tuberosus Zimmerman.

Daealus tuberosus Zimmerman, Bishop Mus. Bull. 172: 111, pl. 2, D, 1942.

Guam: two examples from Agaña Airport, June 13, 1946, Townes number 658.

Rota: Rugi Village, 39 examples "in sweet potato," June 27, 1946, Oakley number 909, and 9 examples from sweet potato vine on same date, Oakley number 910.

The variation in size and color in this species may cause confusion. The large series of fresh examples from sweet potato are rather uniform in size and are conspicuously brown in ground color, with the dark patches contrasting sharply. Before examining the series carefully, I thought that it possibly represented a new species. Some of the specimens from sweet potato vines are old and have very pale scaling.

This species has been known heretofore only from Guam. The sweet potato host record is new and should be investigated in detail. According to Oakley, adults and larvae were abundant in

the vines and tubers in one field, but it was not found in any other plot.

Daealus tibialis Zimmerman.

Daealus tibialis Zimmerman, Bishop Mus. Bull. 172: 113, pl. 2, E, 1942.

Guam: 14 examples taken at Talofoto on *Morinda citrifolia*, June 16, 1946, Townes number 661.

Rota: two examples taken at Rota Village on the same host, June 20, 1946, Townes number 802.

This species has been known only from Guam.

Microcryptorhynchus guamae Zimmerman.

Microcryptorhynchus guamae Zimmerman, Bishop Mus. Bull. 172: 115, pl. 3, E, 1942.

Tinian: three examples taken on *Anona muricata* foliage at Lake Hagoya, June 10, 1946, Townes number 622.

Saipan: three specimens taken by Townes at Kannat e Edtot, June 27, 1946, two of these swept from *Aglaia* (number 875), the other swept from *Acacia confusa* (number 876).

These locality and host records are new. The species has been known from the type series from Guam where it was collected from *Cestrum* and *Premna*.

Subfamily COSSONINAE

Cylindrotrypetes suffusus Zimmerman.

Cylindrotrypetes suffusus Zimmerman, Bishop Mus. Bull. 172: 119, pl. 4, H, 1942.

Rota: 13 specimens taken on *Pandanus tectorius*, near Sabana, June 23, 1946, Townes number 837.

This species has been known only from Guam.

Phloeophagosoma sulcirostre Zimmerman.

Phloeophagosoma sulcirostre Zimmerman, Bishop Mus. Bull. 172: 142, pl. 5, E, 1942.

An example bearing the identical field data as the holotype of this species has been sent to me with the Townes-Oakley collection. It is darker in color than the holotype, and it indicates that the holotype is teneral.

Pholidoforus setolineatus Zimmerman.

Pholidoforus setolineatus Zimmerman, Proc. Hawaiian Ent. Soc. 11(3): 342, fig. 1, c, f, h, 1943.

Guam: one rubbed example was collected from decaying wood at the Root Agricultural Farm, October 11, 1937, by Oakley. This

is the second known specimen to be recorded. I collected the holotype on Tutuila, Samoa. Perhaps the species has been carried by man to a number of Pacific islands.

Subfamily RHYNCHOPHORINAE

Rhabdoscelus obscurus (Boisduval).

Calandra obscura Boisduval, Voyage de l'Astrolabe, Ent. 2: 448, 1835. Zimmerman, Bishop Mus. Bull. 172: 144, pl. 7, A, 1942.

Tinian: one example from Mt. Lasso, on sugar cane, June 10, 1946, Oakley number 595.

This is a widespread pest of sugar cane.

Cosmopolites sordidus (Germar).

Calandra sordida Germar, Ins. Spec. Nov. p. 299, 1824.

Zimmerman, Bishop Mus. Bull. 172: 144, pl. 6, G, 1942.

Saipan: five examples were taken from banana roots, June 18, 1946, Oakley number 713.

This banana pest is known elsewhere in the Marianas from Guam, but it is probable that it is widespread in the archipelago. The predaceous histerid beetle *Plaesius javanus* Erichson has been introduced recently (1947) from Fiji to Guam to aid in the control of the beetle. When the histerid becomes established on Guam it will be worthwhile to forward colonies to the other Marianas Islands where the weevil is a pest.

Polytus mellerborgi (Boheman).

Sitophilus mellerborgi Boheman, in Schoenherr's Gen. Spec.

Curc. 4(2): 976, 1838. Zimmerman, Bishop Mus. Bull. 172: 144, pl. 6, I, 1942.

Saipan: two examples were taken from banana roots on June 18, 1946, Oakley number 714. This is a new island record.

Myocalandra exarata (Boheman) (figure 2).

Sitophilus exaratus Boheman, in Schoenherr's Genera et Species Curculionidum 4(2): 970, 1838.

Calandra porcata Pascoe, Ann. Mus. Civico Genova 2, 2: 306, 1885.

Myocalandra discors Faust, Ann. Mus. Civico Genova 34: 355, 1894.

Saipan: a series of specimens was collected by W. H. Lange damaging bamboo, October 15, 1947. This is a widespread species known from Madagascar, Mauritius, Seychelles, India, Malay Peninsula, Malay Archipelago, Philippines and New Caledonia.