CRYPTORRHYNCHINAE OF THE AUSTRAL ISLANDS

(Coleoptera, Curculionidae)

By

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INTRODUCTION

This paper is based on the collection of Cryptorrhynchinae made by me in the Austral Islands while on the Mangarevan Expedition to southeastern Polynesia in 1934.

The Austral Archipelago is a group of five scattered islands lying to the south of the Society Islands and to the southeast of the Cook Islands (21° 30′ S. to 24° 00′ S; 147° 40′ W. to 154° 55′ W.). The general trend of the group is northwest by southeast, and the islands are, in order: Maria, Rimatara, Rurutu, Tubuai, and Raivavae. The northwesternmost island, Maria, is a low coral atoll; the next island to the east, Rimatara, reaches an elevation of about 300 feet, and the following three islands reach elevations of 1,300, 1,309, and 1,434 feet respectively. The devastation of the endemic flora of the group has been extensive. Raivavae has the greatest areas of native vegetation. Tubuai and Rurutu have been so completely denuded that there now remain only small pockets of endemic forest near the summits of their highest peaks. The interior of Rimatara has yielded completely to fire and cultivation, while Maria has the typical, widespread flora of the atolls. It is only in the small vestiges of native vegetation that endemic Cryptorrhynchinae can now be found. The coleopterous fauna of the islands is yet to be recorded. The first native beetle to be described from the archipelago was *Eremonyx reticulatus* Zimmerman, 1936, from Raivavae.[3]

The subfamily Cryptorrhynchinae is represented in the Austral Islands by 15 species; 3 of them are introduced, and 12 are truly endemic and found only in restricted ecological niches.

There is no mystery shrouding the origin of the cryptorrhynchine fauna of the Austral Islands. It has, without question, been derived from the west.

The types of the nine new species described herein are stored in Bernice P. Bishop Museum.

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[1] Rhynchophora of southeastern Polynesia. Publication 4.

[2] Mangarevan Expedition Publication 10.

[3] Zimmerman, E. C., Baridinae of southeastern Polynesia (Rhynchophora of southeastern Polynesia Publication 2): B. P. Bishop Mus., Occ. Papers, Vol. XII, no. 3, 1936.

Check List

1. **Anaballus amplicollis** (Fairmaire). Southern Polynesia.
2. **Acalles samoanus** Marshall. Southeastern Polynesia.
3. **Islanderia vittata,** new genus, new species. Southern Polynesia.
4. **Microcryptorhynchus cookei,** new species. Raivavae.
5. **Microcryptorhynchus raivavaensis,** new species. Raivavae.
6. **Microcryptorhynchus tubuaiensis,** new species. Tubuai.
7. **Microcryptorhynchus hirtus,** new species. Tubuai.
8. **Microcryptorhynchus testaceus,** new species. Tubuai.
9. **Microcryptorhynchus gracilis,** new species. Tubuai.
10. **Microcryptorhynchus rurutuensis,** new species. Rurutu.
11. **Microcryptorhynchus parvus,** new species. Rurutu.
12. **Ampagia maculata** Zimmerman. Raivavae.

12a. **Ampagia maculata ingens** Zimmerman. Raivavae.

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14. **Ampagioides constrictus** Zimmerman. Rurutu.
15. **Ampagioides pulcher** Zimmerman. Rurutu.

Key to Genera

1. First and second ventrites not fused, or if partially fused (*Acalles*) the dorsum is tuberculate 2
   First and second ventrites fused, the dorsum never tuberculate ..... **Microcryptorhynchus,** page 9
2. Prothorax not greatly expanded on the sides, body elongate-oval, elytra not truncate at the apex 3
   Prothorax expanded laterally, elytra subtruncate at the apex ..... **Anaballus,** page 4
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4. Scutellum present 5
   Scutellum absent ..... **Islanderia,** page 7
5. Hind femora greatly expanded, first ventrite overhanging the second ..... **Ampagia,** page 18
   Hind femora not expanded, first ventrite not overhanging the second ..... **Ampagioides,** page 18

Genus ANABALLUS Blanchard, 1851

1. **Anaballus amplicollis** (Fairmaire) (fig. 1, *a*).

Acalles amplicollis Fairmaire: Rev. et Mag. de Zool., ser. 2, vol. 1, pp. 36, 514, 1849.

Rather densely covered with brownish or orange scales and erect setae, variegated with patches of paler and darker scales; prothorax with some dark basal patches; elytra with a dark, semicircular, basal band on the third interval

joining at the suture at about the basal third to enclose the scutellar area, a semicircle of pale patches above the declivity followed by patches of darker scales. *Rostrum* tricarinate. *Prothorax* about twice as broad as long, as broad as the elytra, strongly constricted behind the apex, the sides expanded behind the constriction, disk with a short, median, polished carina; punctures large and close. *Elytra* subquadrate, inflexed, and firmly embracing the abdomen on the sides; intervals slightly convex; strial punctures large and close. *Legs* with the femora but slightly grooved for the reception of the tibiae, each armed with a tooth on the apical third, that of the fore femora prominent and the larger, that of the hind femora minute and indistinct. *Underside:* pectoral channel terminating between the mesocoxae, squamose within; mesosternal receptacle cavernous; first ventrite as long as the following 3 together, 2 as long as 3 plus 4, 5 as long as 3 plus 4. Length, 2-5 mm; breadth, 1.5-3 mm.

This species has been spread by the agencies of man through many of the islands of the south Pacific from Fiji eastward to the Marquesas Islands and is known from New Caledonia. It is quite variable as to shape. The sides of the prothorax vary from arcuate to lobate, and the elytra may be almost squarely truncate behind or broadly arcuate. This species has heretofore not been recorded from the Austral Islands. I found it on Raivavae and Rurutu, and although it undoubtedly occurs on Tubuai, and probably on Rimatara, I failed to collect it there. On Raivavae, between September 3 and 10, 1934, I collected it at Anatonu and near Unurau from sea level to 500 feet. On Rurutu I found it at Moerai, July 26. It is usually found on the fallen fruits of *Inocarpus edulis,* and its distribution may have been aided by the Polynesians at an early date while carrying the edible fruits of this tree with them during their interisland voyages.

Genus ACALLES Shoenherr, 1826

2. Acalles samoanus Marshall (fig. 2, *b*).

Acalles samoanus Marshall: Insects of Samoa, pt. 4, fasc. 5, pp. 280-281, 1931.

Derm variable, reddish-brown to black, the elytra often marked by variable paler and darker areas; scaling predominantly yellowish variegated with black scales, not dense except for an outstanding, elongate, pale patch on each side of the base of the pronotum before elytral interval 5, and a few condensed patches of pale scales on the elytra.

Head coarsely punctured, the punctuation not concealed except on the crown where the punctures are smaller and covered by yellowish scales; with scattered erect squamiform setae. *Rostrum* narrowing from base to the apical third and thence expanded to the apex which is as broad as the base, with four rows of very large angular punctures from the base to the apical third that separate three irregular median carinae; in the female the punctures are

less coarse and the apical third is more polished with smaller and sparser punctures, the punctuation is coarser throughout in the male. *Antennae* reddish; second funicular segment distinctly longer than 1, the following segments a little longer than broad; club as long as the preceding four segments together. *Prothorax* broader than long (3:2.5), broadly rounded on the sides, widest at about the middle, hardly constricted behind the apex, base slightly concave; dorsal outline gently convex longitudinally and slightly flattened in the apical half; dorsum rather closely set with deep, round punctures that are not concealed by the scaling, and with polished tubercles; each puncture bears an erect squamiform seta; the scales very small and scattered except for the two basal condensed patches. *Scutellum* invisible. *Elytra* over three fifths as broad as long (3.5:5), twice as long as the prothorax, arcuate from base to apex, apices jointly truncate, broadest at the middle and there broader than the prothorax, humeri projecting beyond the basal angles of the prothorax and there as broad as the broadest part of the prothorax; scaling sparse; intervals convex, each with a row of polished tubercles that become larger apically, alternating with erect, squamiform setae, the first interval with a few small tubercles in the basal third only; the nine deep striae with rounded, well-separated setiform punctures. *Legs* with numerous recumbent, spatulate, pale setae; femora coarsely, shallowly punctate; tibiae carinate and with a minute tooth on the inner apical angle. *Sternum* with the inner side of the mesosternal receptacle very flatly V-shaped or broadly arcuate. *Venter* not squamose, with the first two ventrites on a lower level than the others, the suture between them often obliterated in the middle; ventrite one as long as the following three ventrites together, with a few large setiferous punctures around the margins, the disk impunctate, evenly concave throughout in the male, uneven and irregularly impressed on each side of the middle of the basal half in the female; ventrite 2 steep behind, with a few large, coarse, scattered, setiferous punctures; ventrites 3 and 4 costiform, bare or with an occasional lateral seta and impunctate; ventrite 5 as long as 2, coarsely punctured. Length, 2-3 mm; breadth, 1-1.3 mm.

This description was drawn up when I believed my series distinct from *A. samoanus*. I have found, however, that the species is quite variable, and, although a cotype of *A. samoanus* now before me differs somewhat from the specimens from southeastern Polynesia, I consider them all to be the same species. The tuberculate dorsum and the two conspicuous, basal, white patches on the pronotum will serve to distinguish this species from all other Austral Island weevils.

Heretofore this species has been known only from Samoa. It is, however, widely disseminated in southeastern Polynesia. It is a man-distributed species found in areas of non-endemic vegetation and is probably established on many of the high islands from Samoa to the Marquesas. Further collecting may reveal it in Fiji.

I have the following specimens from the Austral Islands: Raivavae, one male collected by me from *Hibiscus tiliaceus* on Hatuatua Islet, elevation 25 feet, August 11, 1934 and one male collected by

A. M. Stokes; Rurutu, one male collected by A. M. Stokes. I have specimens from many other islands in southeastern Polynesia, and there is an allied species from Guam in the collection before me.

Genus ISLANDERIA, new genus

Head concealed from above by the pronotum when in repose, with the forehead narrower than the base of the rostrum. *Rostrum* compressed dorso-ventrally, with the antennae inserted at or beyond the middle. *Antennae* with the scape shorter than the funicle, the two basal segments of the 7-segmented funicle elongate. *Prothorax* with well-developed ocular lobes, the apex strongly projecting forward. *Scutellum* invisible. *Elytra* with the antero-lateral angles projecting forward and enclosing the base of the prothorax, without humeral cali, strongly inflexed on the sides, 10 striate, the tenth stria abbreviated. *Wings* absent. *Legs* with the femora edentate, sub-cylindrical and not clavate, not grooved for the reception of the tibiae, the hind pair reaching to about the posterior sixth of the elytra; tibiae sub-cylindrical, straight, not carinate, uncus on the outer apical angle strongly curved, a small denticle on the inner apical angle; tarsi with the second segment sub-moniliform and about as long as broad, the claws divaricate. *Sternum* with the pectoral channel cavernous, not squamose, terminating between the mesocoxae; metasternum between the mid- and hind-coxae about half the length of a hind coxa; metepisternal suture visible. *Venter* with the intercoxal process slightly arcuate, as broad as a coxa; ventrite 1 somewhat longer than the segments 2-4 inclusive, separated from 2 by a distinct suture, 2 longer than 3 plus 4.

Genotype: *Islanderia vittata,* new species.

I feel rather dubious as to the correct position of this genus. It resembles a small *Descilaus,* an Australian genus, and agrees in many characters of generic value with specimens of *Descilaus squamosus* Pascoe (the genotype) in my collection. It may be distinguished from that genus by its forward projecting pronotum, its visible metepisternal suture, its non-carinate tibiae, its non-squamose pectoral channel, its much narrower intercoxal process of the venter, and its salient humeral angles.

It is with pleasant memories that I dedicate this interesting genus to the *Islander,* which carried the members of the Mangarevan Expedition through so many miles of southeastern Polynesia.

3. Islanderia vittata, new species (fig. 2, *c*).

Derm piceous, the appendages paler; densely clothed with greyish-white scales that are more condensed on the alternate elytral intervals forming distinct paler and darker vittae; the derm normally concealed by the scaling except for the scutellar area which is devoid of scales and forms a conspicuous dark macula.

Head with the derm completely concealed by the dense scaling, with a distinct interocular fovea. *Rostrum* tricarinate, narrowing to the antennae, which are inserted in the middle in the female and beyond the middle in the male, and thence expanded to the apex; in the male stouter and shorter, the dense scaling, which is interspersed with short erect setae, extends to the antennae and the punctuation is coarse to the apex; in the female it is much more slender, the base only is squamose, and it is almost impunctate except in the striae between the carinae. *Antennae* with the first two funicular segments slender and subequal in length, the following successively broader, the seventh about as broad as long; club equal in length to the preceding 5 segments together. *Prothorax* broader than long (3:3.5), broadest beyond the middle, nearly straightly, slightly divergent from the truncate base to beyond the middle where it is strongly constricted, the constriction continuing broadly and shallowly across the disk, which is closely set with rather large, rounded punctures that bear slanting setae. *Elytra* three fourths as broad as long, broader than the prothorax, broadest at about the middle, gradually expanded from the sinuate base to the middle and thence broadly arcuate to the apex, the second striae and intervals not reaching the base, the area thus formed glabrous, shining and conspicuously dark; the intervals convex, the alternate ones more densely squamose, each bearing a row of short, inclined setae; striae deep, the punctures rather large each bearing a small squamule, 7 and 8 join behind the base, 3 joins 8 before the apex enclosing 4, 5, 6, and 7; 10 not continued behind the metacoxa. *Legs* densely squamose and with inclined setae; the femora with the apical third paler; the denticle on the inner apical angle of the tibiae sharp. *Venter* with ventrites 1 and 2 densely squamose, and with large, scattered, setiferous punctures, 2 and 4 setose, with but a few scales on the sides, 5 densely squamose, with small, dense punctuation. Length, 2-3 mm; breadth, 1-1.6 mm.

Holotype a male, from Raiatea, Society Islands, described from a series of 30 specimens from the south Pacific from the Santa Cruz Islands in the west to the Mangareva Islands in the east, as follows:

Santa Cruz Islands, Anuda, one male collected by M. Willows, Jr., July 18, 1933, from the Templeton Crocker Expedition of 1933, material in the California Academy of Sciences.

Fiji, Viti Levu, one female collected at Colo-i-suva, June 21, 1924; Lau, two females and three males taken September 6, 1924 at Latei Tonga, and a male and female, September 10 at Tuvutha, all collected by E. H. Bryan, Jr.; two specimens labeled "Fiji, January 1906", and one specimen from Rewa, Viti Levu, November 1905, from the collection of the Hawaiian Sugar Planters' Association, collected by F. Muir.

Samoan islands, Tutuila, two males collected by D. T. Fullaway at Reservoir, Fagatoga Trail, March 1930.

Society Islands, Raiatea, four males and two females collected by me from under fallen limbs on Tetaro Islet, elevation 3 feet, October 4, 1934.

Austral Islands, Raivavae, three males and four females collected by D. Anderson and me from bunch grass on the southwest slope of Mount Turivao, elevation 600 feet, August 13, 1934.

Mangareva Islands, Mangareva, a male and a female taken by F. R. Fosberg and me under dead ferns and Pandanus leaves north of Rikitea, at sea level, May 20, 1934.

This interesting weevil vagabond has undoubtedly been distributed from the western Pacific eastward by the aid of man. Its habits are favorable for its stowing away among produce or luggage left on shore before being loaded aboard a vessel. I have selected as type a specimen from Raiatea only for the reason that the material before me from the western Pacific is not well preserved; the holotype is a clean, perfect specimen. The ancestral home of this species is surely far to the west of southeastern Polynesia—probably west of Fiji.

Genus MICROCRYPTORHYNCHUS Lea, 1908

This genus now contains 22 species described from localities from Australia to the Marquesas Islands. I have before me collections from southeastern Polynesia in which the multiplicity of new forms is extraordinary. In this paper I describe eight new species from the Austral Islands. The taxonomy of the genus is proving most difficult, because of the great variety of specific forms that appear superficially to belong to many distinct genera, but when critically analyzed they reduce to a common generic stock. At first I separated the following eight species into what I believed would prove to be several new genera, but after careful examination, and with specimens of the genotype of the genus (*M. pygmaeus* Lea from King Island, Bass Straights, Australia, kindly sent me by the Public Library, Museum, and Art Gallery of South Australia) before me, I have reached the conclusion that they are variables of the same genus. The structure of the mesosternal receptacle, for example, varies remarkably from open with short, incomplete side walls, to deep and cavernous with high, complete side walls. I hope that later I shall be able to classify the genus as a whole and separate within it several distinct groups.

Each of the following species is restricted to its own island, and I have treated the species of each island, rather than the group as a whole, for ease in determination.

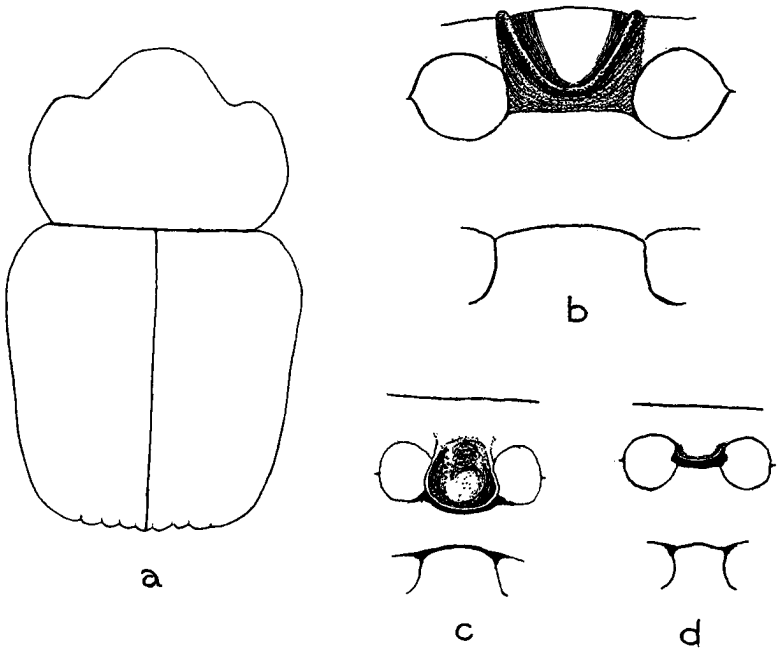

FIGURE 1.—Diagrams of *Cryptorrhynchinae: a,* outline of *Anaballus amplicollis* (Fairmaire); *b,* mesosternal receptacle of *Microcryptorhynchus cookei,* showing high, complete side walls that extend forward to the prosternum; *c,* mesosternal receptacle of *M. parvus; d,* mesosternal receptacle of *M. gracilis,* which does not have side walls.

RAIVAVAE

Key to Species

1. Alternate elytral intervals only with erect setae; strial punctures large, deep and coarse; pronotum coarsely and deeply punctured ..... **M. cookei**
2. All the elytral intervals with erect setae, those of the alternate intervals longer; strial punctures small, not well marked..... **M. raivavaensis**

4. **Microcryptorhynchus cookei,** new species (figs. 1, *b*; 2, *f*).

Elongate oval; derm reddish-brown to black; scaling white to flavous; the scales farinaceous and denser on the non-setose intervals giving the elytra a vittate appearance.

Head with small close punctures concealed by the scales, without long erect setae except a single row, that may cross the front, around the inner margins of the eyes. *Rostrum* in the male with a distinct median carina in the basal half that is expanded and evanescent at the antennae and a narrow, rather inconspicuous lateral carina; the sulcus between the margin and the lateral carina with a row of long, erect, lanceolate setae, the scaling reaching the basal third; in the female, the median carina is broad, flat and not so distinct and the scaling reaches only to about the basal sixth. *Antennae* with the scape two thirds as long as the funicle; first funicular segment as long as 2 plus 3; 2 longer than 3; 3, 4 and 5 longer than broad; 6 and 7 moniliform; 7 transverse; club about as long as the preceding four segments together. *Prothorax* almost as broad as long, broadest at the middle, constricted before the base and apex, the sub-apical constriction continuing broadly and shallowly across the dorsum; base truncate and with a continuous series of minute scales; punctuation, dense, deep and coarse, the punctures nearly or entirely concealed by the farinaceous scales they bear; the scales much condensed on the sides, the disk, therefore, appearing somewhat denuded; with a few conspicuous, scattered, erect setae on the disk and on the sides, a complete row around the apex. *Scutellum* invisible. *Elytra* about two thirds as broad as long (2.25 : 3.5), twice as long as the prothorax; base truncate; evenly arcuate from the base to the sub-apical constriction, broadest at about the middle; alternate intervals with conspicuous, long, erect, lanceolate setae; the even numbered intervals without setae and with the scales much more numerous, condensed, and forming pale vittae; strial punctures large, deep and coarse, the striae about as broad as the intervals on the disk, and broader on the sides. *Sternum* with the mesosternal receptacle cavernous, broadly U-shaped, extending to the middle of the mesocoxae, with high, complete side walls; metasternum about one third as long as the first two ventrites, squamose and finely setose. *Venter* with the first and second ventrites firmly fused, the suture usually obsolete except at the sides, evenly and rather densely and coarsely punctured, the punctures bearing fine curved setae and with some scattered scales toward the sides; the intercoxal piece truncate, about as broad as the length of the first ventrite; ventrites 3 and 4 each with a row of punctures bearing fine setae. Length, 1.4-2.1 mm; breadth, 0.5-1 mm.

Austral Islands, Raivavae, described from a series of 22 specimens collected by me as follows: holotype a male, and 15 other specimens beaten from *Pteris* (a fern), on the south slope of Mount Taraia, August 9, 1934, elevation 600 feet; four specimens from the same host at an elevation of 1200 feet on Mount Hiro, August 10; one specimen from ferns at an elevation between 500-700 feet, August 6, on the south slope of Mount Muanui; one specimen from Riaurua, August 3.

It is with pleasure that I dedicate this species to my good friend Dr. C. Montague Cooke, Jr., authority on Pacific malacology, in recognition of the many days we spent together in profitable research on the Mangarevan Expedition.

5. Microcryptorhynchus raivavaensis, new species (fig. 2, *e*).

Derm reddish-brown to piceous; upper surface often covered with an amorphous incrustation; scaling whitish, the scales farinaceous.

Head rather finely and densely punctate; the interocular area flattened and coarsely punctured, the punctures normally concealed by the scaling; with a few erect setae. *Rostrum* rather indistinctly tricarinate in the basal half, the median carina wide and flattened; with four rows of erect fine and spatulate setae in the striae that reach to the antennae in the male but occur only near the base in the female. *Antennae* with the scape about three fourths as long as the funicle; first funicular segment heavy, about as long as 2 plus 3, 2 about as long as 3 plus 4, 3-5 longer than broad, 6 and 7 moniliform, 7 transverse; club as long as the preceding 4 segements together. *Prothorax* almost as broad as long, broadest at the middle and convergent toward base and apex; sub-apical constriction not strongly marked; punctures close, rather shallow and not coarse, each normally concealed by a scale; base truncate; disk with scattered, erect, clavate setae. *Scutellum* invisible. *Elytra* ovate, evenly arcuate from base to the sub-apical constriction, almost four fifths as broad as long (3.5 : 5), twice as long as the prothorax, broadest at about the middle; base slightly emarginate; intervals much broader than the striae on the disk with small scales and each with a row of erect setae, the even numbered rows each with shorter, often inconspicuous setae; the strial punctures moderate, not coarse, the outer striae deeper. *Legs* bristling with long, scattered, erect setae. *Sternum* with the mesosternal receptacle with high, complete side walls, very broadly V-shaped and extending to slightly behind the posterior margin of the mesocoxae in the male; somewhat narrower V-shaped and extending behind the posterior margin of the mesocoxae in the female; the mesosternum behind the mesosternal receptacle about one fourth as long as ventrites 1 plus 2 in the male, somewhat shorter in the female. *Venter* minutely punctate and almost bare, with the intercoxal process as broad as the length of the first ventrite. Length, 1-1.5 mm; breadth, 0.5-0.7 mm.

Austral Islands, Raivavae, described from a series of 33 specimens collected by me as follows: holotype a female, and two other specimens beaten from *Hernandia,* south slope of Mount Araua, elevation 1,000 feet, August 14, 1934; 9 specimens beaten from *Myoporum* and 5 from a species of Celastraceae on the south slope of Mount Taraia, elevation 700 feet, August 9; 9 specimens beaten from *Metrosideros,* southwest slope of Mount Hiro, at elevations between 1200 and 1300 feet, August 10; 2 specimens beaten from a species of Celastraceae and two beaten from ferns, south slope of Mount Muanui, at elevations between 600 and 700 feet, August 6; one specimen beaten from *Myoporum,* southeast slope of Mount Turivao, elevation 500 feet, August 13; one specimen beaten from *Alyxia,* Pic Rouge, elevation 200-400 feet, August 5; one specimen beaten from *Pteris* on Mount Hiro, elevation 1200 feet, August 10.

TUBUAI

Key to Species

1. Upper surface with a distinct amorphous covering, the mesosternal receptacle very deep and cavernous, the sides elevated above the coxae and extending forward to the fore coxae.....2
   Without an amorphous covering above, the mesosternal receptacle not very deep and cavernous, the sides not elevated above the coxae and not reaching the fore coxae.....3
2. Elytra elongate-oval .....**M. tubuaiensis**
   Elytra sub-rotund .....**M. hirtus**
3. Elytra elongate-cordate, with short, conspicuous setae on all the intervals, mesosternal receptacle with distinct side walls projecting forward beyond the mesocoxae.....**M. testaceus**
   Elytra sub-cylindrical, the setae very inconspicuous, mesosternal receptacle without side walls projecting forward beyond the mesocoxae .....**M. gracilis**

6. **Microcryptorhynchus tubuaiensis,** new species (fig. 2, *g*).

Derm yellowish-brown to reddish-brown, usually covered above with an amorphous incrustation of varying density.

Head finely punctured, interocular area not coarsely punctured, a number of stout erect setae on the front and a row along the inner margins of the eyes. *Rostrum* shorter and stouter in the male, with the antennae inserted beyond the middle; longer, more slender and depressed with antennae inserted at the middle in the female; four striate, the striae with long, fine, medianly curved setae behind the antennae. *Antennae* with the scape about as long as the first four funicular segments, first funicular segment about as long as 2, robust, about one half as broad as long, 2 about as long as 3 and 4, 5 longer than broad, 6 and 7 transverse; club as long as the preceding four segments. *Prothorax* slightly longer than broad, rather rapidly expanded from the truncate base to the rounded middle where it is broadest; sub-apical constriction rather strong and continued conspicuously across the dorsum which is set with small punctures normally concealed by farinaceous scales and with scattered, erect setae most numerous at the apex, the scaling denser on the sides. *Elytra* more than one half as broad as long (1.75:3), about twice as long as the prothorax, rounded at the base, subparallel in the middle two thirds, thence rather narrowly rounded to the apex; the intervals flat, broader than the striae, the alternate ones each with a row of long, sharp, erect setae; strial punctures rectangular. *Legs* encrusted and with long, sharp, erect setae. *Sternum* with the mesosternal receptacle U-shaped, terminating behind the middle of the mesocoxae, cavernous, the sides complete and elevated; metasternum with scattered punctures, one third as long as the first two ventrites. *Venter* with the intercoxal process not as broad as the length of the first ventrite; ventrites 1 and 2 with the suture evident at the sides only, alutaceous, with scattered punctures bearing fine curved setae. Length, 1.2-1.8 mm; breadth, 0.5-0.8 mm.

Austral Islands, Tubuai, described from a series of 20 specimens collected by me as follows: holotype a male, and 13 other specimens

collected August 23, 1934, and 6 specimens collected August 20, on the southwest ridge of Mount Taita, elevation 1,000 feet; all were beaten from ferns.

This species is related to *M. cookei* from Raivavae not only in form but in host and habitat. It may be distinguished from that species by its non-vittate elytra and less coarsely punctate pronotum and elytral striae.

7. Microcryptorhynchus hirtus, new species (fig. 2, *h*).

Derm reddish-brown to piceous, densely covered above with a brownish, amorphous incrustation.

Head finely reticulate, with a dense incrustation; a few irregular punctures between the eyes, elsewhere hardly punctate. *Rostrum* encrusted on the basal third, finely tricarinate behind the antennae, the striae bearing erect setae. *Antennae* with the scape about as long as the first three funicular segments; first funicular segment stout, about twice as broad as the second, 2 about as long as 1, one and one half times as long as 3, 3 and 4 subequal in length, 5 longer than broad, 6 and 7 transverse; club almost as long as the preceding 5 segments together. *Prothorax* as broad as long, sub-apical constriction conspicuously continued across the dorsum which is closely punctate and with long, scattered, erect setae that form two irregular rows at the apex. *Elytra* sub-rotund, seven tenths as broad as long (1.75 : 2.5), more than twice as long as the prothorax, base truncate; intervals broader than the striae, the alternate ones each with a row of long, erect, slender, sharp setae; the strial punctures oval, the septa between them distinct. *Legs* encrusted and bristling with long, scattered sharp setae. *Sternum* with the mesosternal receptable deep and cavernous, U-shaped, the sides complete and elevated, terminating at about the posterior margin of the mesocoxae; metasternum one fourth as long as the first two ventrites, reticulate, with some fine, scattered, erect, curved setae. *Venter* with the intercoxal process distinctly broader than half the length of the first two ventrites; the suture between the first two ventrites obliterated except for a trace at the sides, reticulate and with scattered curved setae. Length, 1.4 mm; breadth, 0.7 mm.

Austral Islands, Tubuai, holotype a male, and one other specimen collected by me while beating ferns on the southwest ridge of Mount Taita, elevation 1200 feet, August 20, 1934.

This species can readily be distinguished from all the other Austral Island species by its short, broad, sub-rotund form which is somewhat suggestive of *M. glomus* Marshall, from Samoa, although not closely allied to that species.

8. Microcryptorhynchus testaceus, new species (fig. 2, *a*).

Derm pale to dark testaceous, the elytra clouded on the sides at the middle, without an incrustation, eyes black, with a band of scales at the basal margin of the pronotum, otherwise without scaling.

Head minutely punctate, with rather numerous, small scales and setae, interocular area impressed. *Rostrum* in the female with a few suberect setae near the base only, smooth and with but a few scattered punctures; in the male with two divergent rows of punctures from the base to the antennae. *Antennae* with the scape as long as the first four funicular segments; first funicular segment long and slender, as long as 2 plus 3, 2 but slightly longer than 3, 3 and 4 subequal, 5-7 moniliform, 7 strongly transverse. *Prothorax* longer than broad (2: 1.75), tumid and broadly rounded on the sides, broadest about the middle; the sub-apical constriction continued rather broadly and prominently across the dorsum which is very finely punctate, and bears rather short, scattered erect, yellow setae. *Elytra* elongate-cordate, more than one half as broad as long (2.5:4), broadest at about the basal third; twice as long as the prothorax; the basal margin and the basal portion of the first interval somewhat elevated; intervals at least twice as broad as the striae and each bearing a row of rather stout, erect, yellow setae; striae not deeply impressed, the punctures small, rounded, each bearing a minute seta, the tenth stria obsolete behind the metacoxa. *Legs* with rather short erect setae and without other covering. *Sternum* with the mesosternal receptacle terminating at about the middle of the mesocoxae, hemispherical in outline, cavernous, the side walls incomplete and hardly extending forward beyond the anterior margins of the mesocoxae; metasternum three eighths as long as the first two ventrites, with a few scattered punctures bearing very fine setae. *Venter* sparsely punctate, the punctures bearing setae; the intercoxal process as broad as one half the length of the first two ventrites; the suture between ventrites one and two visible at the sides only. Length, 2.2-2.8 mm; breadth, 1 mm.

Austral Islands, Tubuai, holotype a female, a male and another female collected by me while beating ferns on the southwest ridge of Mount Taita, elevation 1200 feet, August 20-21, 1934.

This species is rather distinct and can be easily separated from the other species by its lack of incrustation, the shape of its elytra and mesosternal receptacle.

9. **Microcryptorhynchus gracilis,** new species (fig. 1, *d*; fig. 2, *h*).

Derm reddish-brown, without an incrustation or scales, the setae small, very fine, sparse, and not easily discernible.

Head impunctate, with very few setae. *Rostrum* smooth and not carinate, with some scattered punctures on the sides. *Antennae* with the scape about as long as the first four funicular segments, funicular segment 1 as long as 2-4 inclusive, 2 and 3 subequal, 4 shorter, 5-7 moniliform, 7 transverse; club as long as the preceding 5 segments. *Prothorax* longer than broad (2.25:2), broadest somewhat behind the middle, the sub-apical constriction continued broadly and shallowly across the dorsum which is densely and rather finely punctate and evidently devoid of setae except for a few around the anterior margin. *Elytra* subcylindrical, but broadly arcuate from base to apex, twice as long as broad, more than twice as long as the prothorax (5:2.5); the intervals wider than the striae, flat and practically devoid of setae; the striae hardly impressed on the disk, their punctures, small and rather distant. *Legs* with a few inconspicuous, short, erect, pale setae. *Sternum* with the mesosternal receptacle terminating at the middle of the mesocoxae, cariniform, slightly

arcuate, incomplete, with no distinct side walls separating the anterior edges of the mesocoxae from the pectoral channel; metasternum three sevenths as long as the first two ventrites, almost impunctate, and with several minute setae. *Venter* impunctate, with the intercoxal process about one third as broad as the length of the first two ventrites. Length, 1.4 mm; breadth, 0.5 mm.

Austral Islands, Tubuai, holotype and one paratype (presumably females) collected by me while beating ferns on the southwest ridge of Mount Taita, elevation 1200 feet, August 23, 1934.

Owing to the structure of the mesosternal receptacle this small species stands apart from the other species. Its nearly naked derm, elongate, sub-cylindrical body and the structure of its mesosternum will serve to distinguish it from the other Austral Islands species.

Rurutu

Key to Species

1. Alternate intervals only with setae; mesosternal receptacle with complete side walls that project forward above and beyond the mesocoxae ..... **M. rurutuensis**
2. All the elytral intervals with setae (the alternate rows have shorter setae that may be partially abraded in worn specimens); mesosternal receptacle without complete side walls projecting forward beyond the anterior margins of the mesocoxae..... **M. parvus**

10. **Microcryptorhynchus rurutuensis,** new species.

Derm reddish brown; clothed above with a pale or brownish amorphous incrustation; scales and setae white or yellowish.

Head reticulate, closely and finely punctate, the punctures concealed by farinaceous scales, with a few scattered, stout setae across the front and two rows of erect, conspicuous setae around the eyes. *Rostrum* with four striae from base to antennae, in the male confusedly punctate beyond the antennae and with numerous fine setae, the striae bristling with setae throughout their lengths; in the female minutely punctate beyond the antennae except for four rows of punctures continued from the basal striae, the setae conspicuous only near the base. *Antennae* with the scape as long as the first four funicular segments; funicular segment 1 longer than 2, 2 not as long as 3 plus 4, 3 longer than 4, 5 and 6 subequal, 7 transverse; club as long as the preceding 4 segments. *Prothorax* slightly longer than broad, the sub-apical constriction strong and continued deeply and prominently across the dorsum which is densely punctate except for a vague, irregular, impunctate, median line, the punctures concealed by the farinaceous scales they bear; the scaling more condensed at the sides, the disk appearing somewhat denuded; the setae most numerous near and at the apex. *Elytra* two thirds as broad as long, slightly more than twice as long as the prothorax (11:5), broadly arcuate from base to apex, the intervals broader than the striae, the alternate intervals each bearing a row of erect, conspicuous setae and very

slightly more elevated than the non-setose intervals; striae rather deep, the punctures rounded; the scaling farinaceous, often denser on the alternate intervals. *Legs* encrusted, squamose, and with scattered erect setae. *Sternum* with the mesosternal receptacle deeply cavernous, U-shaped, extending to slightly behind the middle of the mesocoxae in both male and female, the side walls complete, extending forward beyond the mesocoxae; metasternum about two fifths as long as the first two ventrites, with scattered punctures bearing fine setae or farinaceous scales. *Venter* with the intercoxal process as broad as one half the length of the first two ventrites, which are flattened in the male and slightly convex in the female, with scattered punctures and conspicuous setae. Length, 1.6-2.0 mm; breadth, 0.7-0.9 mm.

Austral Islands, Rurutu, described from 13 specimens collected by me as follows: holotype a male, and 8 other specimens beaten from *Dryopteris* (a fern) on the south slope of Mount Teape, elevation 1,000 feet, September 2, 1934; four specimens from the same host taken on the southwest slope of Mount Manureva, elevation 1,000 feet, August 25.

This species is very closely related to *M. tubuaiensis* and can be distinguished from that species by its proportionately shorter and broader elytra, its shorter and less conspicuous elytral setae and the paler coloration of its vestiture.

11. Microcryptorhynchus parvus, new species (fig. 1, *c*).

Derm pale reddish-brown to piceous, often clouded, scaling white, without a very dense, amorphous incrustation.

Head with scattered punctures capped with the scales they bear; a row of erect setae around the inner margins of the eyes. *Rostrum* with four striae from the base to the antennae; in the male with the setae bristling to the antennae, fine and scattered beyond where it is confusedly punctate; in the female smooth, shining and almost impunctate beyond the antennae, the setae conspicuous only near the base. *Antennae* with the scape as long as the first funicular segments, first funicular segment about as long as 2 plus 3, 2 shorter than 3 plus 4, 3 longer than 4, 4 and 5 subequal, 6 and 7 transverse; club as long as the preceding 4 segments. *Prothorax* about as broad as long; the sub-apical constriction continued broadly and conspicuously across the dorsum which is close set with small punctures; the scaling condensed on the sides, especially on the basal angles. *Elytra* three fifths as broad as long, twice as long as the prothorax; intervals about as broad as the striae on the disk, narrower on the sides at the base, each bearing a row of erect setae interspersed with farinaceous and somewhat stellate scales; striae well marked, the punctures rounded, becomiing progressively larger and coarser on the sides near the base; the setae between the punctures each bearing a scale. *Legs* sparsely squamose and with scattered, erect setae. *Sternum* with the mesosternal receptacle hemispherical, incomplete, the side walls not developed and not projecting forward beyond the anterior margin of the mesocoxae; terminating slightly behind the middle of the mesocoxae in the male and distinctly behind their posterior margins in the female; metasternum coarsely and sparsely punctured, one fifth as long as the first two

ventrites in the female, about one fourth as long in the male. *Venter* with the intercoxal process about as broad as one half the length of the first two ventrites which are sparsely set with large punctures and scattered setae, convex in the female, somewhat flattened in the male; ventrites 3, 4 and 5 paler in color and impunctate. Length, 1.25-1.5 mm; breadth, 0.5-0.7 mm.

Austral Islands, Rurutu, described from a series of 52 specimens collected by me as follows: holotype a female, and 41 other specimens beaten from *Dryopteris* on the southwest slope of Mount Manureva, elevation 1,000 feet, August 25-30, 1934; 10 specimens beaten from the same host on the south slope of Mount Teape, elevation 1,000 feet, September 2.

Owing to the setae on all the elytral intervals, this species bears a superficial resemblance to *M. raivavaensis,* but it is most distinct from that species in having the side walls of the mesosternal receptacle incomplete and somewhat suggestive of *M. gracilis.*

Genus AMPAGIA Pascoe, 1870

In the Austral Islands this genus is found only on Raivavae where it is represented by the following species and subspecies. A detailed account of this and the following genus may be found in part 3 of this work.[4]

12. Ampagia maculata Zimmerman.

12a. Ampagia maculata ingens Zimmerman.

This species, and its large subspecies, may be taken by beating dead branches of *Alyxia, Myoporum,* and a species of *Celastraceae* in the highlands.

Genus AMPAGIOIDES Zimmerman, 1936

13. Ampagioides guttatus Zimmerman.

Tubuai.

This species is easy to recognize by its chunky form and the conspicious white patches at the bases of the elytra.

14. Ampagioides constrictus Zimmerman.

Rurutu.

[4] Zimmerman, E. C., Ampagioid Weevils of southeastern Polynesia (Rhynchophora of southeastern Polynesia Publication 3): B. P. Bishop Mus., Occ. Papers, vol. XII, no. 10, 1936.

15. Ampagioides pulcher Zimmerman.

Rurutu.

Ampagioides constrictus has the prothorax strongly and conspicuously constricted near the apex. *A. pulcher* has the constriction but feebly formed and has a complete row of scales on the fourth ventrite. The dark vase-shaped area on the prothorax and the black patches on the posterior half of the elytra will distinguish this pretty species. Both species are very rare and may be taken only in the highlands.

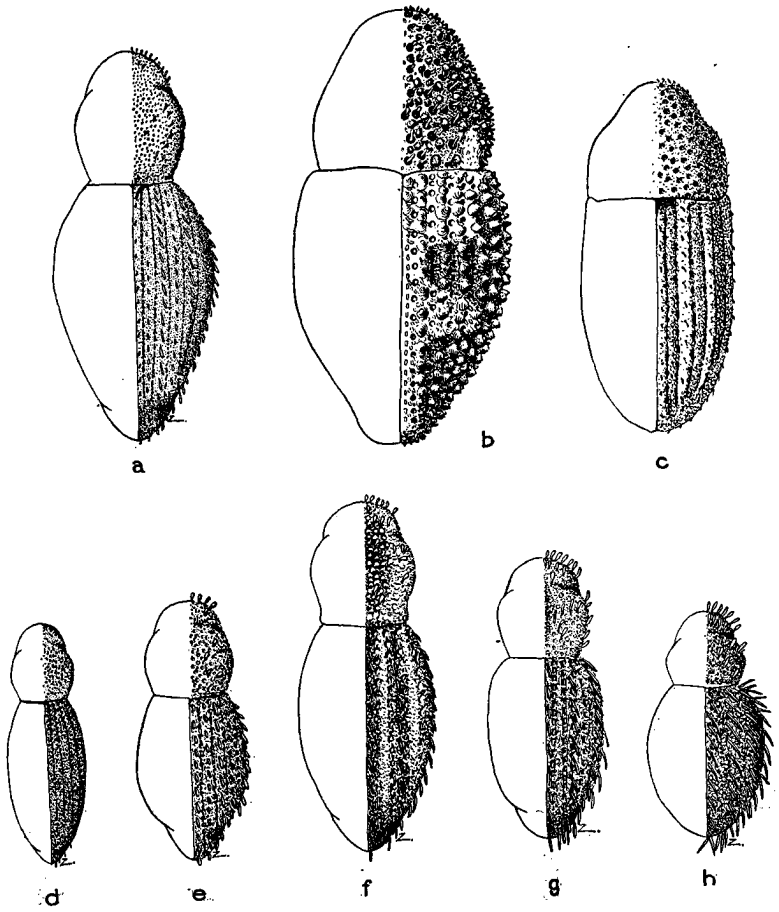

FIGURE 2.—*a, Microcryptorhynchus testaceus; b, Acalles samoanus* Marshall; *c, Islanderia vittata; d, Microcryptorhynchus gracilis; e, M. raivavaiensis; f, M. cookei; g, M. tubuaiensis; h, M. hirtus. a, d-h* are drawn to the same scale; *b* and *c* to different scales.