CRYPTORHYNCHINAE OF RAPA

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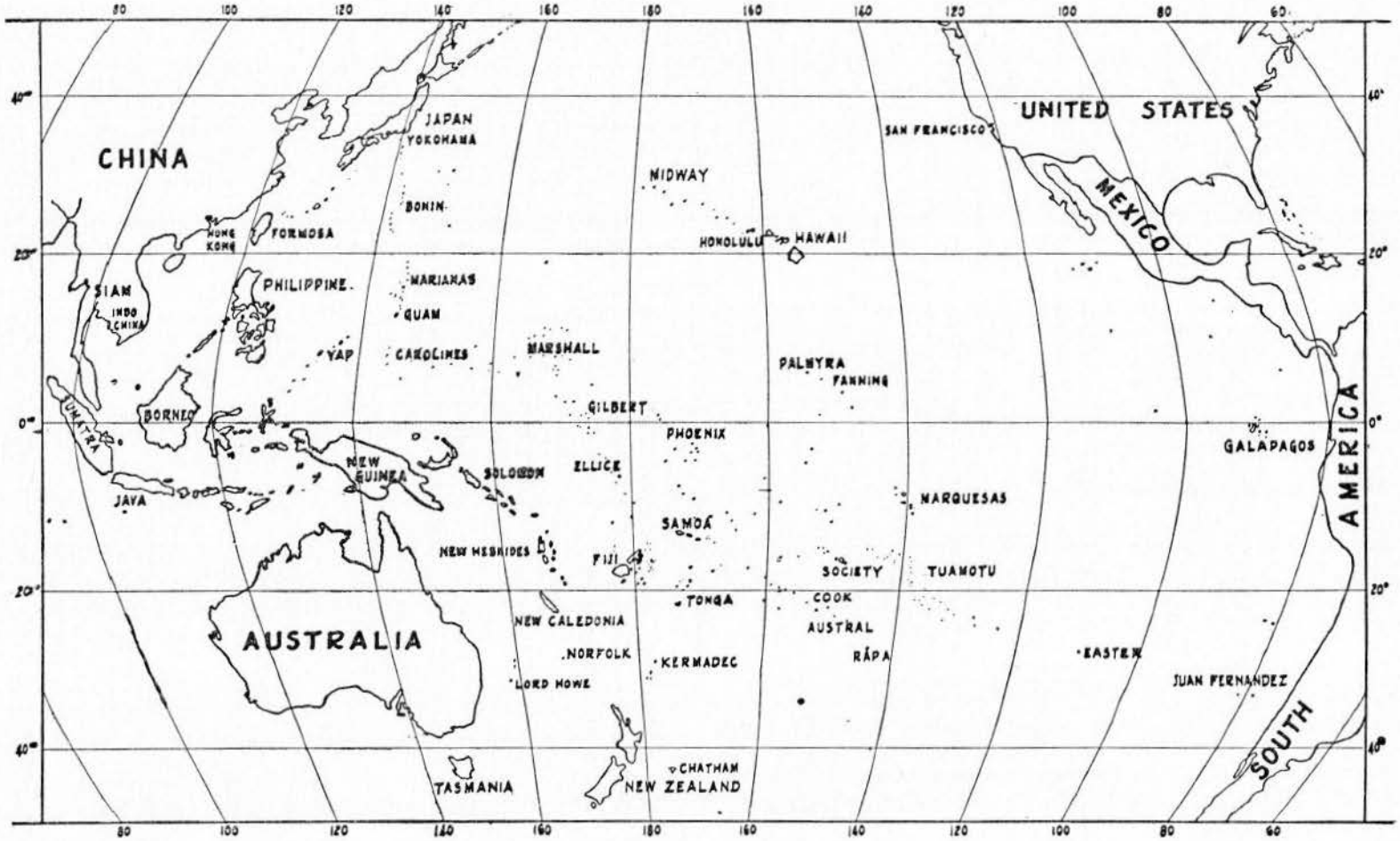
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Cryptorhynchinae of Rapa[1, 2]

(Coleoptera, Curculionidae)

By Elwood C. Zimmerman

INTRODUCTION

Scope

This paper is the result of a study of the collection of Rapan weevils of the subfamily Cryptorhynchinae collected during the course of the Mangarevan Expedition to southeastern Polynesia in 1934. It includes four genera and 47 species of which three genera and all of the species have been found to be new to science since the return of the Expedition. The types and the collection are stored in Bernice P. Bishop Museum. The drawings of the specimens were made from camera lucida outlines; all new species are illustrated.

Material Studied

Previous to exploration by the Mangarevan Expedition, only one species of the enormous family Curculionidae was known from Rapa—*Rhyncogonus gracilis* Perkins, described from a unique specimen in 1899. No Cryptorhynchinae were known to inhabit the island. The Mangarevan Expedition procured several thousand specimens of Curculionidae at Rapa. Included in this collection were almost 1,150 specimens of Cryptorhynchinae.

Field Work

Although I consider my work on Rapa the best and most thorough of any I accomplished during the course of the Mangarevan Expedition, it is at most a superficial, preliminary survey. Many months would be necessary to make a comprehensive and fairly conclusive survey of Rapa. The Expedition spent 31 days on Rapa, between June 30 and August 1, with a day's visit to the near-by rocks of Marotiri. Only 16 of these days can be counted as "full days," or days on which I was afield for 6 hours or longer. Nine days passed on which only a few hours or not more than one half day's work was possible. Six days were completely lost, as far as field work was concerned, owing principally to abominable weather conditions that made collecting impossible. It must not be assumed that collecting was possible during the entire day on those 16 days that I have counted as "full." If, for example, the weather was favorable for an outing of 8 or 9 hours, fully half or more than half of that time was often spent in going to and coming from the

[1] Rhynchophora of southeastern Polynesia Publication 9.

[2] Mangarevan Expedition Publication 20.

forested area where collecting was done. Rain and heavy wind often made collecting impossible for several hours after steep ridges had been scaled, trails cut through the dense growth, and the objective for collecting reached. It is evident, therefore, that the time spent actually collecting specimens was not great. During this time I was able to cover superficially the greater part of the island and visit most of the forested areas. There are, however, many patches of forest which I unfortunately did not have an opportunity to explore. With few exceptions, the weevils are found only in the areas of native forest.

Geographical Position

Rapa lies at 27° 36′ south latitude and 144° 17′ west longitude, being over 700 nautical miles south-southeast of Tahiti and 330 nautical miles southeast of Raivavae, the nearest island to the northwest. Rapa is some 1,600 nautical miles south of the equator, and approximately midway between South America and Australia. It is the last outpost between the mid-Pacific and the Antarctic. It is often considered as a southern extension of the Austral Islands. Owing to its isolated position and some rather distinctive elements in its flora and fauna, I have considered it a separate entity rather than one annexed to the Austral Islands.

Meteorology

No detailed accounts of the weather or climate of Rapa have been written. Owing to its location at about 250 miles south of the tropic of Capricorn, the climate is temperate. It is reported that the temperature in the lowlands varies between 58° F. in winter and 76° F. in summer. According to the United States Hydrographic Office, Rapa is situated just outside the southern limits of the southeast trade winds; the wind blows generally from the east from October to April and from the west from May to September.

July is mid-winter in Rapa, and a most unfavorable time for collecting. Most of the days of our stay were cold, wet, and windy. There was hardly a day on which we returned to our vessel with dry clothes. The cold winds howling across the mountains and down the gulches, driving sheets of stinging rain to leeward, often made collecting most uncomfortable. In Ahurei Bay our sampan at anchor would swing to all points of the compass, clockwise and counter-clockwise and back again, hour after hour. At times the bay, although protected, became so rough that the ship rolled uncomfortably. As a safety precaution, it was necessary to have three anchors out. Heavy squalls were frequent, sweeping down from the ridges, tearing across the bay churning up wakes of foam and driving rain and spray before. One of these minature cyclones would hit our boat on one side, list it over, and then another would drive us back. There is a swath of broken trees cut

through one of the forested hillsides by a cyclonic wind that reached small hurricane proportions a few years ago.

Rains were frequently torrential. There are no records of rainfall available, but the annual precipitation is comparatively great. At times, 25 or more waterfalls were visible from our anchorage.

Geology

Rapa is a volcanic, strictly oceanic island, composed chiefly of basaltic lavas, extending 2,077 feet in elevation above sea level and rising from the ocean floor from depths grading off through 9,000 feet to over 12,000 feet near by. It is about 5 miles long from north to south and about 4 miles from east to west. It is roughly C-shaped, with a very irregular coastline. The middle of the island is largely occupied by Ahurei Bay which is about half a mile broad and extends for about 2½ miles inland from the east coast to the center. The mountains surround the bay on all sides, except at its mouth, forming a huge amphitheater. Some of the ridges are thin and almost perpendicular on both sides, knife-edged across the top, and largely inaccessible. About a dozen peaks rise above 1,000 feet. The two highest, according to available charts, are Pukumaru (1,916 feet) and Mount Perahu (2,077 feet). Most of the accessible peaks and some ridges at passes and strategic places have been terraced and made into forts (pl. 3) by the ancient Rapan people, who, it is said, lived in clans in the valleys and retreated to the forts above the valleys during their frequent wars with neighboring clans. The seacoasts are largely surrounded by spectacular cliffs that rise from a few hundred feet to more than 1,500 feet and which often separate deeply embayed valleys. At the heads of most of the bays there are beaches and somewhat swampy or low-lying ground.

"Drowned valleys" indicate that some submergence has occurred since the beds of the valleys were formed. At various places about the coast there are small, elevated sea caves or undercuts, often with marine deposits on their floors. The general level of these areas, marking a raised bench, is between 3 and 6 feet above present high tide. Chubb [Quart. Jour. Geol. Soc., 88, (2), 1927] describes a limestone coating on a bluff rising about 100 feet above sea level that was unquestionably laid down beneath the sea before the island emerged to its present level. His minimum estimate of the total submergence is 274 feet of which about 100 feet have been re-elevated.

Outcroppings of lignite are found in several places at an elevation of about 600 feet, especially on the west side of the ridge between Mount Taga and Mount Vairu, in a sedimentary layer overlaid by lava flows. Specimens brought back by the Expedition have not yet been sectioned and microscopically studied. Chubb believes that this lignite bed is of marsh origin

and was probably laid down when the interior of Rapa, or the old volcanic crater, was filled by a lake. Conditions that might be favorable for the formation of peat are found on some of the high, eastern Pacific islands in bogs or marshes formed in various poorly drained areas in the wet, densely forested mountains, although lakes do not exist. Such conditions exist in some of the Hawaiian mountain swamps or bogs, and Dr. W. O. Clark, geologist of Honolulu, tells me that peat has been found on the island of Maui in comparatively recent strata. Subsequent burial of peats and long maintained pressure, requisite for the formation of any grade of coal, have evidently rarely occurred on eastern Pacific islands.

Rapa is south of the zone in which reef-building corals flourish and the shore is not protected by coral reefs. The high cliffs surrounding the island show that much marine erosion has taken place and that the island has been made considerably smaller by the cutting back and planing down of its outer slopes until now only the shell of the crater remains. There have been no careful soundings taken in the offshore waters to ascertain the extent of the submarine platform, but there is evidence to show that a rather extensive platform exists.

Forests and Flora

The lowlands, lower slopes, and many entire hillsides are predominantly covered with grass (*Paspalum* predominating) intermixed with rather low *Miscanthus japonicus*, low *Gleichinea*, and occasionally *Lycopodium*. Most of the higher peaks, high ridges, upper reaches of the major valleys and gulches, and a few hillsides are densely wooded. Many areas of undisturbed native forest remain. Through the generations of Polynesian occupation fires, and, more recently, grazing animals have caused the forests to retreat to the uplands or to die out entirely over large districts. The Rapans still burn over the land, and the forests are diminishing in area year by year. Before the advent of the Polynesians, which was less than 800 years ago, the great tracts of grassland were most certainly densely forested. Hardly a quarter of the original forest cover now exists. In some of the less accessible regions the undisturbed forest still continues from the seashore to the mountain peaks. Here and there in protected pockets in the grasslands are small, isolated patches of forest or a few endemic trees that have survived the ordeal of the agents of deforestation.

On the exposed slopes, ridges, and peaks the trees are shrubby. I recall few native trees taller than 25 feet, and those grow only in protected valleys. On the ridges the forest is not much more than head high.

The flora of Rapa, as collected by the botanists of the Expedition, consists of almost 300 species of vascular plants. The flora is typically Polynesian. Most of the genera and some of the species that occur in Rapa are found in the Society, Marquesas, and Hawaiian islands as well as on the

islands to the west. There are some elements, such as *Lautea,* however, that are not known from neighboring islands but have New Zealand affinities.

The shoreline flora consists of associations of such plants as *Pandanus* (in many forms), *Portulaca,* an occasional *Messerschmidia* (*Tournefortia*), several ferns, numerous introduced plants such as *Hibiscus tiliaceus, Ageratum conyzoides, Erigeron, Bidens,* and grasses. Coconut palms do not thrive, and, except for a few recently planted ones, they are absent. Back from the beach at the villages are groves of fine orange trees, intermixed with such plants as mango and coffee. *Aleurites moluccana,* the candlenut tree, is common and extends well up toward the heads of the valleys, as do the small coffee and banana plantations. Breadfruit does not grow on Rapa. Taro, the staff of life of the Rapans, is grown or has been grown in terraced, irrigated, well-kept gardens in most of the lower valleys and flats. Marshes occur in several places, and there a tall, triangular-stemmed *Scirpus* grows. On many of the slopes and from the heads of the valleys to the mountain peaks the native forest flourishes with such plants as *Metrosideros, Fitchia, Lautea, Weinmannia, Coprosma, Homolanthus, Sclerotheca, Bidens, Canthium, Myoporum, Acalypha, Pittosporum, Dodonaea, Kadua, Celtis, Cassia, Claoxylon, Evodia, Ixora, Pipturus, Alyxia, Piper, Pilea, Meryta* (*puru*), *Freycinetia, Cyathea,* and many others growing in profusion. The ground is clothed with a dense growth of ferns with *Pteris* and *Dryopteris* growing tall and dense. Splendid specimens of *Asplenium nidus,* or bird's nest fern, grow here and there. In the very wet forest the trees and fallen logs and limbs are densely clothed with mosses, lichens, and luxuriant epiphytes such as delicate *Hymenophyllum, Elaphoglossum,* ribbony *Ophioglossum, Sellaginela,* and a few inconspicuous orchids; *Asplenium nidus* squats in crotches between limbs and on logs. The beautiful tree fern, *Cyathea medularis,* extends its slender trunk skyward and spreads its palm-like head above its neighboring trees throughout the greater part of the forest and is often dominant. Its lower crown is usually clustered with adventitious buds that break off in the wind, roll down the slopes to lodge, and give rise to more such graceful individuals. *Freycinetia* grows erect and often forms dense, pure stands.

The forest is so dense in some places that one must cut a veritable tunnel through it for a trail. On exposed ridges, such as the top of Mount Perahu, the tough, interlaced limbs of *Metrosideros* and other trees, growing as low, contorted shrubs, make a barrier which is most difficult to pass through or over.

Analysis, Origin, and Relationships of the Fauna

The cryptorhynchine fauna of Rapa is generically simple. It has arisen from only two generic stocks and contains no elements that cannot be ex-

plained by insular isolation and precinctive segregation of the populations, local development, and specific divergence. It is quite typical of the other islands of southeastern Polynesia. There are no anomalous, mystery-shrouded components present. Although Rapa is the most southerly of all the eastern Polynesian forested islands, no reference can be made to the Antarctic for any part of this fauna. It was populated by a few ancestral individuals that arrived from islands to the west. Not all of these ancestors arrived at the same time or near the same time. Pioneers arrived through the ages; some of them established themselves, others failed; others remained distinct or set up their own descendant groups.

In the material studied there are four genera and representatives of 47 species. All of the species are endemic; none of the widespread species inhabiting most of the other eastern Polynesian islands were found. The fauna of this small island is larger than the corresponding endemic faunas of the Society Islands or Samoa as we know them today. However, this fact should not be misconstrued, because those regions have not yet been carefully collected; their faunas are much more complex and undoubtedly many times richer than that of Rapa. *Microcryptorhynchus* contains 43 of the 47 species. It is a genus that ranges widely across the Pacific from Australia in the west to remote Henderson Island in the east, and I have undescribed species before me from the Caroline and Marianas Islands at the western boundary of Micronesia. My monotypic genera *Oparua* and *Rapacis* are, I believe, local, specialized derivitives of *Microcryptorhynchus*; I doubt that they will be found elsewhere. *Ampagioides* is at present known only from southeastern Polynesia and has two representatives in Rapa. It is, however, but a recent offshoot of *Ampagia,* a genus whose distribution is continuous from the Malay Peninsula in the west to the Mangareva and Marquesas Islands in the east. It is evident, therefore, that we must treat of only two generic elements in the Rapan cryptorhynchine fauna: *Microcryptorhynchus* and *Ampagia.* Both these genera have extraordinarily wide ranges in the Pacific, and are not surpassed in distribution by many other Pacific insect genera. Their wide distribution is evidence that they are especially adept in being distributed through insular areas.

Microcryptorhynchus lacks wings, and, with the exception of four western Pacific species reported by Lea to be winged, *Ampagia* is also flightless. Since they inhabit islands separated by hundreds of miles of open sea, their distribution is obviously independent of their ability to walk. They are unable to fly, and, therefore, cannot cross channels at will. However, they have crossed, and, I believe, undoubtedly still are crossing, large bodies of sea, not because they have the wanderlust or so desire, but because of forces beyond their control, forces undoubtedly adverse to their general well-being.

The question now arises as to the actual means of this transport. How-

ever, the crux of such discussions of geographical distribution is, to me, not how the genera have been spread, but from where, to where, and in what directions they have been distributed. Perhaps we do not know absolutely how these insects are distributed between the islands, but we do know that they inhabit many insular groups over a great area, and, therefore, that they possess some special habits that fit them for selective agents of overseas distribution. These special habits may be their small or minute size, their twig-boring habit, their peculiarities of oviposition, their possible ability to thrive on several different hosts as needs arise, their hard exoskeletal armor, and their general ability to withstand shock, exposure, and other adverse conditions.

The ocean current, being dependent on the direction of the trade winds, flows generally from east to west past Rapa. It has been shown that the island has been populated from the western Pacific. It is, therefore, evident that normal ocean drift has not been responsible for its colonization. However, abnormal currents, such as those set up by hurricanes, might influence the distribution of some organisms.

Owing to the inability of these small insects to fly or walk from island to island or to be transported on waves against the ocean currents, we must refer their transportation to what I believe is the most logical mode of their distribution—cyclonic winds. Normal winds are not strong enough to carry wingless insects, even as small as these, for any significant distance. Furthermore, during the greater part of the year the winds blow from east to west. Hurricanes, however, have often swept from the west, crashed through insular forests, stripping trees of their leaves and twigs, churned across the ocean, and passed over Rapa. Small cryptorhynchine weevils such as these, inhabiting dead twigs and leaves as eggs, larvae, pupae, and adults, are admirably suited to hurricane distribution.

To illustrate the force of hurricanes and devastation wrought by them in the south Pacific, I quote from an article by A. G. Mayer (Scientific Monthly, **2**, 1916) :

> The very air becomes an entity, a thing real as the rush of water, overwhelming all in its path. A roar, unearthly in its might, rises at intervals into wild shrieks that overwhelm one's voice. The solid rain drives horizontally and buildings leak more through their sides than through their roofs. The crests of waves are blown far and away, and the sea flattens under the crushing pressure of the storm, the dark waters hidden beneath a white sheet, gray swirls scudding ghost-like over all. The wind comes, not straight, but in fearful twisting swirls and bits of seaweed strike against lighthouse windows one hundred and sixty feet above the sea. One stifles. The air, no longer a pellucid nothingness, has become an enemy against which one cannot stand; above which one cannot shout, and, in the mighty presence of which, man is an ant-like thing, his smug assumption of mastery over nature a ridiculous pretense. There is no protection anywhere, even the strongest, highest wall serves but to create a maelstrom behind it.
>
> The trunks of stately palms bend humbly to the onrush until they thrash upon the

ground, or tearing loose fly upward into the vapor of the storm. Great trees fall, but one hears no crash; houses change in shape and crumble and there is no noise from them, for all sounds of earth are as silence in the presence of the vast voice of the air. . . . After all is over the sun—the long-forgotten sun—shines out upon a land, hideous in its ruin. The forest lies in shattered skeletons and dangling here and there are blackened rag-like things that were once leaves. The houses of the village lie shapeless, strewn among the common wreckage of the palms where great waves let them lie, and strange rocks weighing tons have risen from the sea as monuments to the reality of nature's awakening in a region where once she seemed but to dream and soothe with gentle airs and flirt with all things real.

Yet tropical nature knows no mourning and laughs at death and ruin. New life seizes covetously the lost places of the old and in a few years only the trained eye of the native can detect traces of the work of the great hurricane.

The following excerpt describing a hurricane at Rarotonga, northwest of Rapa, is taken from John Williams, "A narrative of missionary enterprises in the South Sea Islands" (p. 359, 1837):

Scarcely a banana or plaintain tree was left, either on the plains, in the valleys or upon the mountains; hundreds of thousands of which, on the preceding day, covered and adorned the land with their fruit and foliage. Thousands of stately bread-fruit, together with immense chestnut and other huge trees, that had withstood the storms of ages, were laid prostrate on the ground, and thrown upon each other in the wildest confusion. Of those that were standing, many were branchless, and all leafless. So great and so general was the destruction that no spot escaped; for the gale veered gradually, round the island, and performed most effectually its devastating commission.

To my knowledge, the only previous detailed theories of the affinities and origin of the Rapan fauna were expounded by Mr. Edward Meyrick in a paper published on the results of the St. George Expedition (Ent. Soc. London, Trans., **24**: 269-278, 1926). This paper, in part, treats of 17 species of Microlepidoptera collected by two members of the expedition during their 8 days' visit to the island. The subject matter is such that it demands detailed dissection and comment. On page 270, Meyrick says:

How could this fauna have originated? These fragile little insects have no powers of independent flight, and are quite at the mercy of the wind; but supposing them capable of being carried 2000 miles over the ocean without perishing, what chance would they have of hitting an island of this size? The answer is about 1 in 3000, and moreover the individual would have to be an impregnated female, and the island would have to contain the appropriate food plant. The risk is prohibitive, even in long periods of geological time.

Meyrick's introductory question is answered in his following sentence when he states that the moths are "quite at the mercy of the wind." His ratios of chance may be even more favorable than they actually are, but, given ages of time and a few accidents, much can happen. The chances of the arrival of a fertilized female are much greater than the introduction of a male or unfertilized female. In a given population of weevils the females are fertilized rather soon after emergence. The majority of the female population is, therefore, composed of fertilized individuals. I believe that

appropriate food plants do exist on Rapa, for most of the plants there belong to genera found in the islands to the west whence the moths have come. Some of the plants are the same species or but varieties of those found on the other islands.

Meyrick then discusses the endemic fauna as regards the seven genera and their relationships. One genus, with Australasian affinities, is described as new and is, so far as known, peculiar to Rapa. Four of the genera are widely distributed in the Pacific including Australia. One was at the time known elsewhere only from Fiji. The seventh genus is discussed as follows:

> *Dichelopa* is represented by no less than 6 species; there are six others in Eastern Australia, and none elsewhere. Between these settlements of the genus lies Fiji, where there are resident entomologists from whom I received a number of species of Micro-Lepidoptera, but not a single example of *Dichelopa,* nor indeed of any genus at all allied to it. The Australian species are all very similar; the Rapa species show very much greater diversity of superficial characters (the same structural variations occur in both groups), but one [none] of them is very similar to the Australian; this should naturally be taken to indicate that the Rapa stock is the original one, and the Australian a colony from it. It should be remembered that whilst a wind-borne insect from Australia might have small chance of striking an island, an islander might have quite a fair chance of striking Australia. As the facts with regard to this genus are so unexpected, it may be well to add that it possesses an unusual combination of characters which renders it easily and certainly identifiable. I should anticipate that Rapa will be found to possess probably 20 species or more of this particular genus.

I fully acknowledge the fact that there are certain anomalies, or apparent anomalies, such as the discontinuous distribution of this genus, in the faunas of Oceania. They are, however, the exceptions and not the rule. I am inclined to believe that most of such problems will be solved by careful collecting in the future. As time goes on and more thorough collecting is done, many of the characteristic elements of the Hawaiian fauna that have been thought to be absolutely restricted to those islands are being found elsewhere. For example, the much-discussed genus of weevils, *Proterhinus,* was for years considered a unique development of Hawaii. However, species have been described from Samoa and the Phoenix Islands, recently from the Marquesas, and I collected them on the islands of several archipelagos in southeastern Polynesia and have undescribed species from Fiji. The genus is now included in the same family as the New Zealand *Aglycyderes.* Some of the peculiar Hawaiian carabid genera have also been considered as restricted to that archipelago, since the genera were described many years ago. However, I found some of these genera in the highlands of Tahiti, and at least one of these is represented by winged species in Australia.

Oceania is yet largely "terra incognita" to entomologists, and the collecting that has been done is patchy, incomplete, inconclusive, and quite insignificant when compared with the immense amount of work that remains to be done. If, for example, the Mangarevan Expedition had been sent out ten years earlier to Rapa alone, this report would have recorded 43 species of

Microcryptorhynchus from Rapa and stated that the genus was represented elsewhere only by three Australian species. Since 1928, however, 54 new species have been added to the list to show that the distribution of the genus is continuous. Although I cannot be certain, I believe that it is logical to expect that representatives of *Dichelopa* will eventually be collected in the intervening area.

In a footnote to his paper, Meyrick mentions that after studying 120 species of Microlepidoptera from Samoa no *Dichelopa* or related genus was found. In 1928 he described two new *Dichelopa* from the Society Islands and six from the Marquesas. In 1934 he described seven new Marquesan species to bring the total up to 13 for that archipelago. Subsequent collecting, therefore, shows that the genus has a much greater distribution than was supposed.

With Meyrick's statement that Australia was populated by immigrant *Dichelopa* from Rapa I in no way concur. It is more probable that the genus was developed in the Austro-Papuan region, and that it was a comparatively early introduction to the Rapan fauna. Meyrick builds "necessary" land bridges across deep seas to enable his fauna to arrive at Rapa from Fiji and westward, but he calls upon the wind to carry *Dichelopa* from Rapa to Australia, over 3,000 miles away, missing all the intervening islands en route!

Meyrick lets his imagination run free and writes (p. 271):

> I am satisfied that the extent and character of this endemic fauna postulates former conditions very different from those now existing, viz. a much larger land-area, and a greatly improved connection with the Fijian and Australian regions. A rise of 12,000 feet in the sea-bottom of the South Pacific is required to show these results, but I entertain no doubt that such an elevation must have existed since the eocene period, because it is absolutely the only explanation possible. Such a rise would (as shown by the recent "Times Survey Atlas of the World") convert Rapa into an elongate island some 400 miles in length, with a group of large islands to the northward, and a chain of smaller ones leading to the greatly enlarged Fijian land-area. In a direct line between Rapa and New Zealand deeper waters prevail, and no improved access would be given that way. Such a conformation of land and sea would be favorable for the development in Rapa of a peculiar fauna of Fijian and Australian origin such as is actually found there.

With his first sentence I entirely disagree. After studying the large collections made by the Mangarevan Expedition in Rapa, in not only the Curculionidae but in several other families and orders, I have arrived at conclusions just opposite to Meyrick's. I believe that the character of the Rapan fauna is entirely that of a small, isolated island and that all faunistic evidence precludes the possibility that the island is the remnant of a large land mass. Rapa, I believe, has never been connected with any other land mass nor is there any evidence forthcoming to suggest that it was at one time much larger than it is at present. (I exclude from the discussion the tiny rocks of Marotiri, 40 miles to the southeast. It is highly improbable that the islands

were ever connected above water, although their bases undoubtedly flow together.) There need be no better connections between Rapa and the Fijian and Australian areas than now exists to account for the Rapan fauna. Rapa is a typical oceanic island, arising as a volcanic cone from the depths of the sea. Although some subsidence of the island or rise in sea level has occurred, I believe the island was never significantly greater in area than it is now, and that it has always existed as an isolated, comparatively small island.

In the second sentence quoted above Meyrick says that he entertains no doubt that an elevation of 12,000 feet must have existed in the ocean bottom since the Eocene period, "because it is absolutely the only explanation possible." To me, such explanations are absurd. In the first place, Rapa, as an island, probably did not even exist in the Eocene epoch. It probably arose after middle Tertiary time with vulcanism continuing into the Pleistocene. The complex coast ranges of middle and southern California, it seems to me, are older than Rapa, but it is agreed, I believe, that much of their development took place in the Miocene and Pliocene, the last epochs of the Tertiary period. In fact, Pliocene sedimentary deposits many thousands of feet thick are common along the California coast. Our present knowledge leads me to believe that the ocean in the great area around Rapa has probably been a relatively stable deep since early geological time. Here and there lava "boils" have marred the crust; some of these have extended themselves as enormous mountains whose tops project as islands above the sea.

In preparing his second paper of the series "The Micro-Lepidoptera of the 'St. George' Expedition" (Ent. Soc. London, Trans., **76**: 489, 1928), Meyrick found that *Dichelopa* was more widely distributed in southeastern Polynesia than had been previously known and that a new genus, *Asymphorodes,* had a surprising development (p. 490):

> The considerable endemic development of the two peculiar genera *Dichelopa* and *Asymphorodes* . . . implies an extensive land-area not broken up by any very wide channels, and a long period of isolation to allow of the development of species. All the evidence now available therefore confirms and amplifies the conclusion expressed in the Rapa paper, and extends the limits of the presumed land-area to include the whole of this region of the Pacific, from Rapa to the Marquesas, and from Pitcairn Island to the Society and Cook groups. According to the "Times" Atlas, a rise of 12,000 feet in the sea bottom would be sufficiently effective, converting all of this area into an archipelago of large islands somewhat comparable in general form, trend, and extent with New Guinea and its surrounding groups as they exist at the present day. Its continued existence as a defined and isolated unit over a considerable period of time entitles it to a name for purposes of discussion, and if it has not previously obtained this recognition, I suggest that of Palaeonesia.

It is impossible for the ocean bottom to have risen 12,000 feet and then subsided again to its present level since Eocene time without the survival of marks of the consequent diastrophism along the margins of the oscillating

block of ocean bottom. From the level and contour of the ocean floor, it is evident that, had such a movement taken place, an area of over 2,000,000 square miles would have been affected. There is absolutely no geological evidence upon which to base such conclusions of major diastrophism. "Paleonesia" is as mythical as the lost continent of "Mu". What tremendous force would have raised such a "continental" area in this region? How could it have disappeared without leaving a trace? If such an area had existed, would it not have developed a large, complex fauna of its own? I firmly maintain that Rapa has existed as a small, isolated island since its origin, and I believe that my conclusions will be confirmed when geologists have studied the island and the surrounding ocean floor in detail. Our present knowledge of the depths of the sea shows that Rapa is surrounded by depths sloping down through 9,000 to more than 12,000 feet near by; depths of 12,000 feet exist between Rapa and Raivavae, the nearest island to the northwest; depths of 15,000 feet exist between Rapa and Samoa; and depths ranging from 21,000 to 27,000 feet are found in the Tongan trough to the east of Tonga and Fiji.

Islands such as Rapa are infinitesimal in size in comparison with the vast expanses of barren ocean that surround them. They seem as tiny oases offering food and shelter to waifs and strays of life that chance their way.

LIST OF SPECIES

1. Microcryptorhynchus impressus, new species.
2. Microcryptorhynchus crinitus, new species.
3. Microcryptorhynchus curtus, new species.
4. Microcryptorhynchus ater, new species.
5. Microcryptorhynchus mangaoae, new species.
6. Microcryptorhynchus bicolor, new species.
7. Microcryptorhynchus proximus, new species.
8. Microcryptorhynchus lucens, new species.
9. Microcryptorhynchus glaber, new species.
10. Microcryptorhynchus fitchiae, new species.
11. Microcryptorhynchus chaetectetoroides, new species.
12. Microcryptorhynchus carinatus, new species.
13. Microcryptorhynchus squamosus, new species.
14. Microcryptorhynchus fasciatus, new species.
15. Microcryptorhynchus abnormis, new species.
16. Microcryptorhynchus sternalis, new species.
17. Microcryptorhynchus niger, new species.
18. Microcryptorhynchus reticulatus, new species.
19. Microcryptorhynchus irregularis, new species.
20. Microcryptorhynchus impressicollis, new species.
21. Microcryptorhynchus obesus, new species.
22. Microcryptorhynchus morongotae, new species.
23. Microcryptorhynchus nitidus, new species.
24. Microcryptorhynchus ventralis, new species.
25. Microcryptorhynchus paenulatus, new species.

26. Microcryptorhynchus tenuis, new species.
27. Microcryptorhynchus varians, new species.
28. Microcryptorhynchus setulosus, new species.
29. Microcryptorhynchus pusillus, new species.
30. Microcryptorhynchus silvestris, new species.
31. Microcryptorhynchus sancti-johni, new species.
32. Microcryptorhynchus tumidus, new species.
33. Microcryptorhynchus andersoni, new species.
34. Microcryptorhynchus spathifer, new species.
35. Microcryptorhynchus humeralis, new species.
36. Microcryptorhynchus foveaventris, new species.
37. Microcryptorhynchus abditiceps, new species.
38. Microcryptorhynchus thoracicus, new species.
39. Microcryptorhynchus punctipennis, new species.
40. Microcryptorhynchus setifer, new species.
41. Microcryptorhynchus curvus, new species.
42. Oparua vannipes, new genus and species.
43. Rapacis nitidus, new genus and species.
44. Ampagioides discretus Zimmerman.
45. Ampagioides sulcatus Zimmerman.

DISTRIBUTION OF THE SPECIES

The distribution of each of the 45 described Cryptorhynchinae has been plotted on the maps (figs. 1-4). These distribution maps indicate only what I found and will be, of course, subject to much alteration when detailed collecting is done. It will be seen at once that few species were found at the northern end of the island between Mount Perahu, Mount Vairu, and Mount Taga. The reason for this is that most of that great area has been entirely deforested and is now grassland. Further careful collecting in the few remaining patches of forest in that region will show that many more species occur there.

In general, the species are rather widely distributed throughout the forests of the island. The more generalized species, such as *M. paenulatus, M. setulosus,* and *M. setifer,* are much more widespread than some of the specialized species. *M. setifer* and *M. paenulatus* are also the most polyphagous species on Rapa. However, many of the specialized species were found at opposite ends of the island, and no definite rules can be formulated regarding their distribution. I cannot now accurately say which species, specialized or not, are restricted to a particular valley, ridge, or mountain. Although many of them seem to be confined to one area, because I found them in only one locality, more collecting must be done to ascertain their definite distribution. Altitude evidently influences the distribution of the species only as it affects the distribution of the host plants. If a particular host plant ranges from sea level to the highest peak on the island, the weevils attached to that plant generally have about the same distribution, providing the environment is not too drastically changed or the plant too isolated from a forested area.

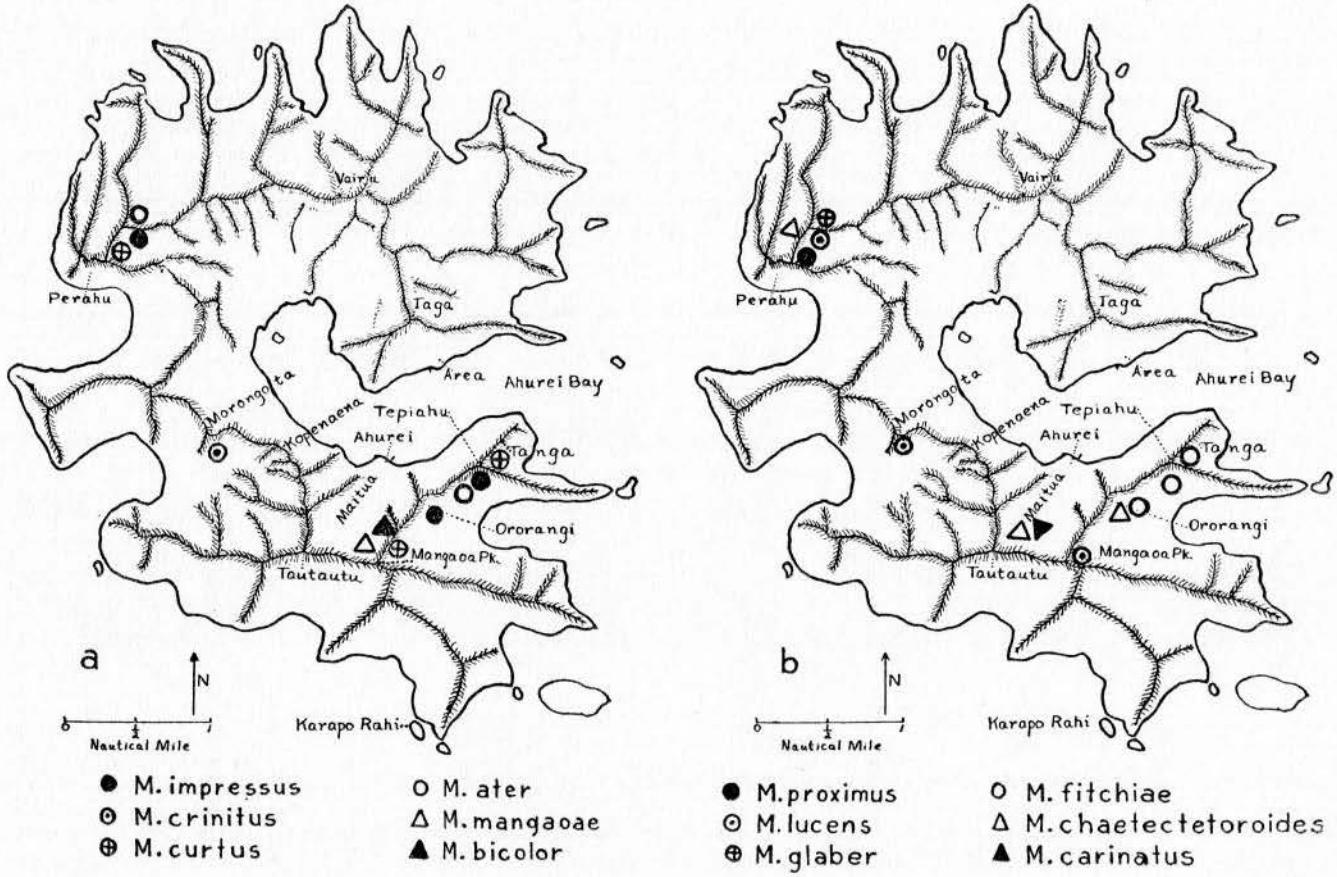


FIGURE 1.—Distribution of *Microcryptorhynchus*.

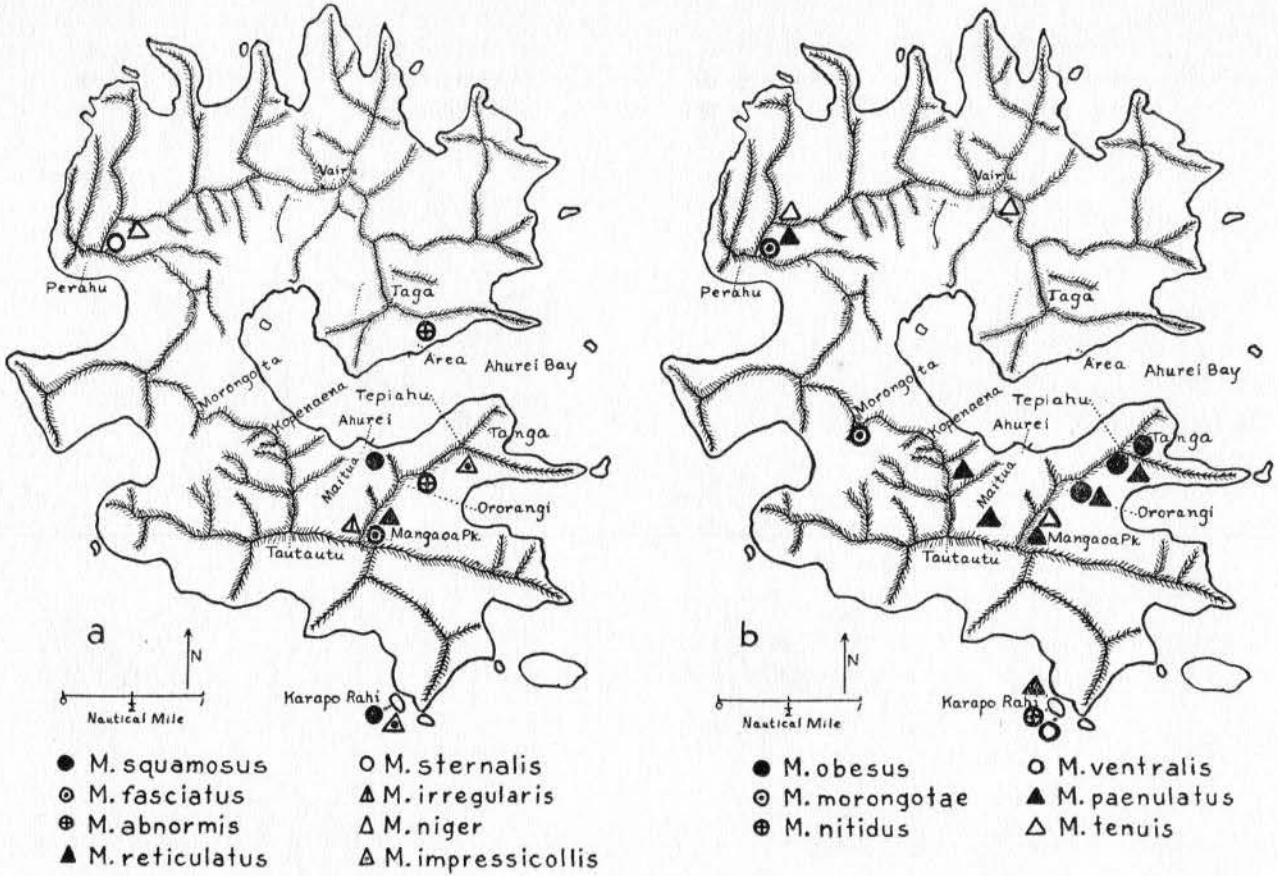


FIGURE 2.—Distribution of *Microcryptorhynchus*.

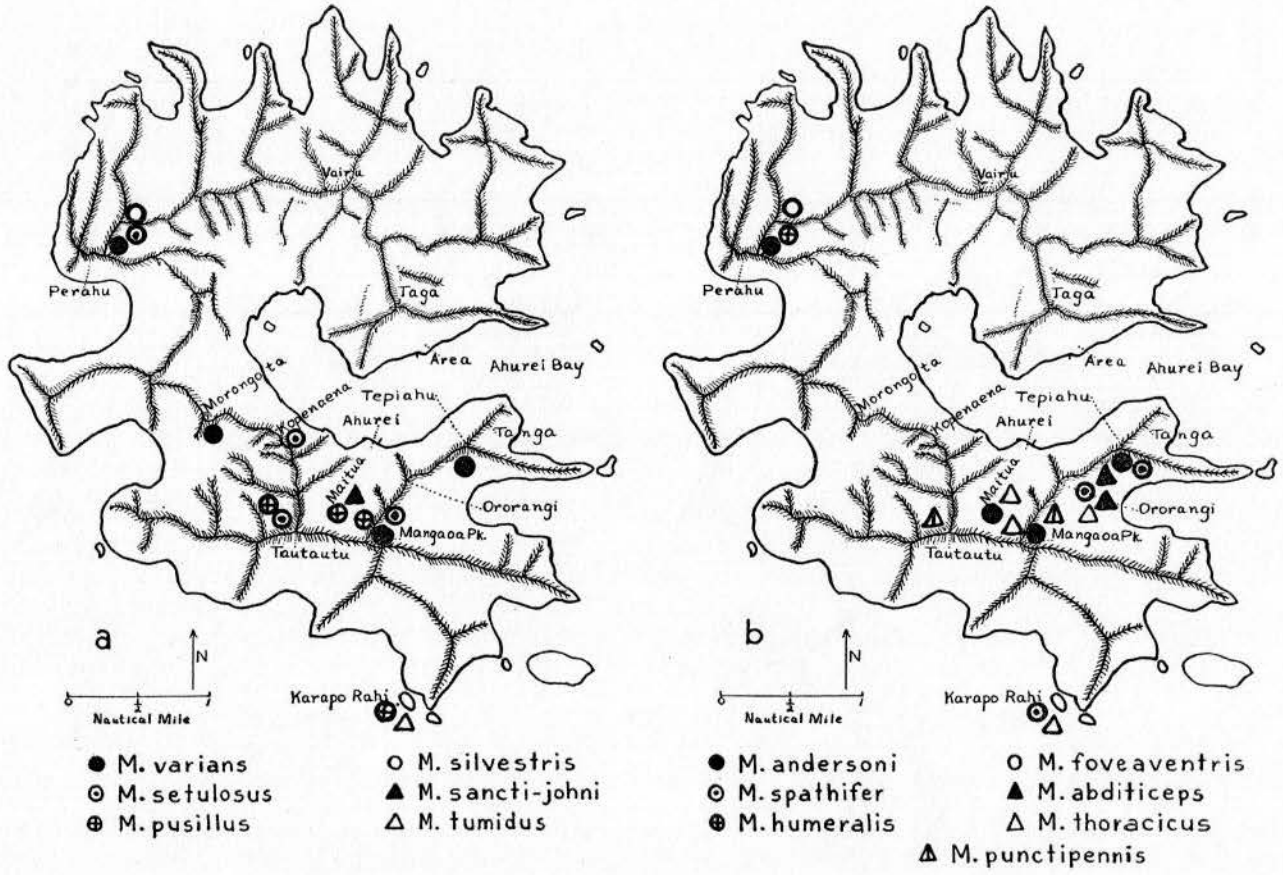


FIGURE 3.—Distribution of *Microcryptorhynchus*.

Fortunately, the predaceous ant genus *Pheidole* does not occur on Rapa, and the weevils living in the lowlands are free from this overwhelming enemy of insect life.

The species are arranged on the maps in the same order in which they occur in the list (p. 14); the allied species, therefore, appear on the same or adjacent maps.

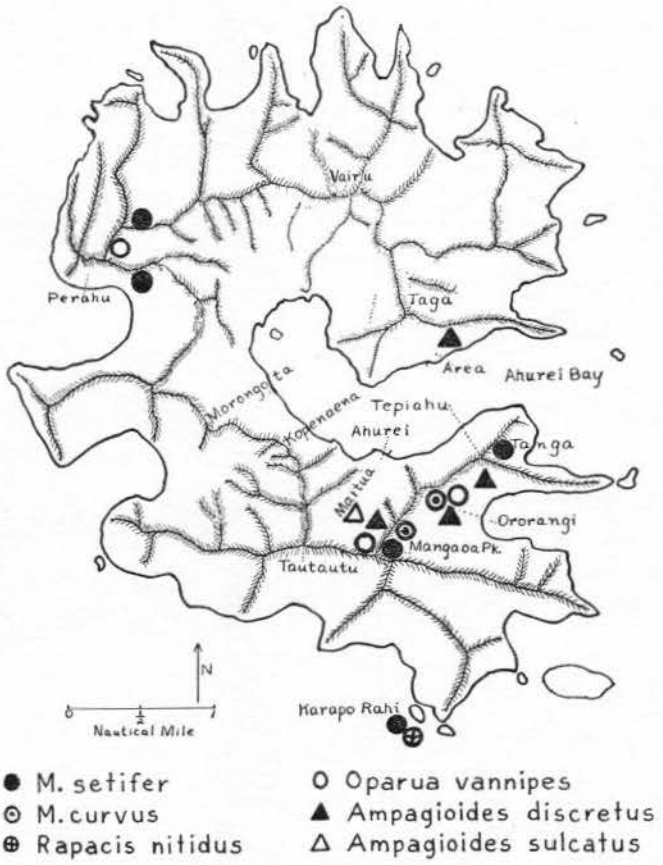


FIGURE 4.—Distribution of Cryptorhynchinae.

No accurate maps of Rapa have been made, and those that do exist are very poor and show almost nothing of the nature of the contours of the island. The map used here shows, in a rough way, the major ridges but is not to be taken as an accurate piece of work. It is incorrect in many places, but it is better for its purpose than any published map.

KEY TO THE GENERA

1. Scutellum visible; body somewhat laterally compressed, densely clothed with large scales; femora grooved for the reception of the tibia; intercoxal process of the mesosternal receptacle strongly protuberant, extending below the plane of the mesocoxae ..... **Ampagioides**, p. 72

   Scutellum invisible; femora not grooved, mesosternal receptacle not or hardly protuberant, often modified, partially or almost obsolete 2

2. Femora and tibiae thick, rather angulately expanded; tibiae with a semicircular, radiating series of large, peculiarly developed squamae near the base that almost completely conceal the tarsi (fig. 5, *e*; pl. 2, no. 15) ..... **Oparua**, p. 69

   Legs not so modified 3

3. Elytra without striae; femora rather strongly compressed and expanded (fig. 5, *a*; pl. 2, no. 11) ..... **Rapacis**, p. 71

   Elytra striate; femora normal, not compressed nor abnormally expanded (fig. 5, *b-c*) ..... **Microcryptorhynchus**, p. 21

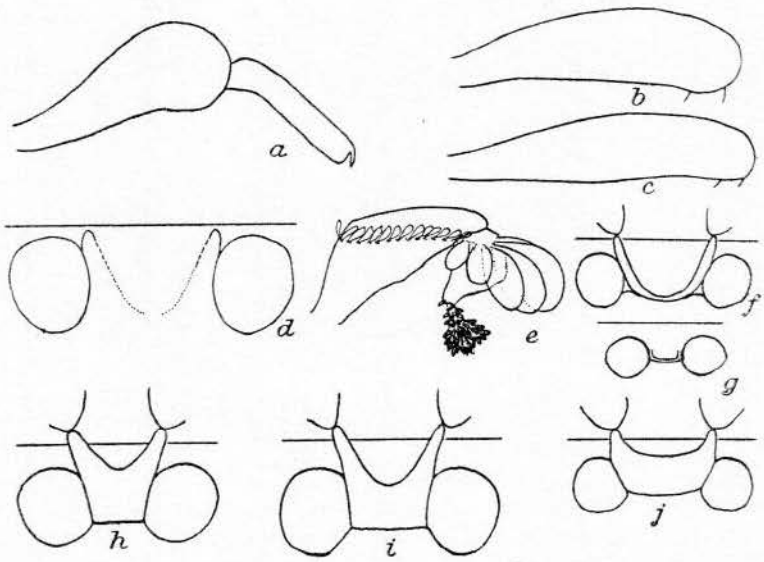


FIGURE 5.—Structural features of new Cryptorhynchinae: *a*, fore femora and tibia of *Rapacis nitidus; b, c*, fore and hind femora of *Microcryptorhynchus impressus* showing "normal" form; *d*, obsolete mesosternal receptacle of *M. impressus*, female; *e*, leg of *Oparua vannipes; f*, mesosternal receptacle of *Microcryptorhynchus varians*, female, showing "normal" form of cavernous mesosternal receptacle; *g*, mesosternal receptacle of *M. bicolor; h*, male and *i*, female mesosternal receptacles of *M. abnormis* showing abnormally thick walls of receptacle; *j*, mesosternal receptacle of *M. sternalis* showing thick walls and termination between the fore and mid coxae.

Genus MICROCRYPTORHYNCHUS Lea, 1908

Head and rostrum with their dorsal outlines continuous. *Rostrum* usually terminating between the mesocoxae, slightly arcuate and somewhat compressed dorso-ventrally. *Antennae* inserted at about the middle or somewhat beyond the middle of the rostrum; funicle seven segmented, the first two segments somewhat elongate. *Prothorax* variable, broader than long to longer than broad. *Scutellum* invisible. *Elytra* variable, usually about twice as long as the prothorax; punctate-striate; setose. *Wings* absent. *Legs* unmodified; femora simple, edentate, not grooved; tibiae slender, simple, with an uncus at the outer apical angle and no tooth on the inner apical angle. *Sternum* with the mesosternal receptacle varying from obsolete without walls, to open with incomplete walls, to very deep and cavernous with high side walls and overhanging hind wall. *Venter* with the first two ventrites fused, the suture between them often obliterated; ventrites three and four narrow and subequal in length; ventrite five about as long as three plus four. Small to minute weevils of variable form, with setose legs and dorsa, and often covered with a variable, amorphous incrustation.

Genotype: *Microcryptorhynchus pygmaeus* Lea.

Microcryptorhynchus is an assemblage of so many diverse forms that a brief characterization of it must be rather general. The very characters of the mesosternal receptacle, upon which genera are based elsewhere in the subfamily, lose their value and are here displayed as specific variations.

Discussion

In this paper, I add 41 new species to the genus to bring the total of known species up to 98. The other 57 species are distributed as follows:

Australia	3	Austral Islands	8
King Island, Bass Strait	1	Society Islands	24
New Caledonia	1	Marotiri	1
Lord Howe	5	Marquesas	3
Norfolk	3	Mangareva	1
Fiji	3	Henderson	1
Samoa	3		

I have not described two other new species represented in the Rapan collection by unique specimens for the following reasons: one very distinct species was discarded because it was fragmentary; it belonged in the group with the obsolete mesosternal receptacle. Another species is represented by a specimen which was collected in 40 percent alcohol with land shells; it has lost its color and might be misleading if placed in the key; its pectoral canal has very thin, comparatively high side and hind walls, but the mesosternal receptacle is open.

At the rate new species are coming to hand, the genus gives promise of being one of the largest of the family. Hundreds of new species await the collector on many Pacific islands.

Microcryptorhynchus has been on Rapa for a long time, and has found there conditions unusually favorable for its development. The amount of speciation and divergence that has taken place is remarkable. It is impossible to tell how many species of the genus exist on the island today, but I doubt that the 41 species described here make up more than half of the total.

The difficulties encountered in studying the complex development of the genus in Rapa are comparable to those met in studying *Proterhinus* in Hawaii. I have steered a conservative course and have not split the species into several genera, and I believe I am correct in not making more genera than I have. If, for example, I had been given only specimens of *M. impressus, M. crinitus* or other divergent species, and the genotype, I probably should have said that they belonged to different genera. However, after studying about 90 percent of the known species and many undescribed species, and describing 76 of the 98 species, I have learned the intermediate forms and intergrading characters. In the Cryptorhynchinae the structure of the mesosternal receptacle is usually of generic value and stable within the genus. In *Microcryptorhynchus* this value of the receptacle breaks down and is useful for specific separation only. Intergradation takes place from receptacles which are deep and cavernous with high side walls and overhanging (really underhanging, but one views the specimens from the ventral aspect) posterior walls through many types to the extreme in which the receptacle is obsolete and can hardly be traced. Except for the great variability of the mesosternal receptacle and pectoral canal, the species are remarkably constant in most characters of generic value such as the rostrum, antennae, head, eyes, legs, and abdomen. In body form they vary from elongate, slender, subcylindrical species to very robust, globose species. They range in length from 1 to 3.5 mm. The derm may be bare and shiny or dull and covered with a variable amorphous incrustation. The dorsum may bristle with long, conspicuous setae, or the setae may be minute and hardly discernible. Superficially, many of the species appear generically unlike, but basically they have come from the same stock (not from the same immigrant ancestor to the island, however). The fauna is a rather old insular one in the eastern Pacific, but still geologically comparatively young. Given time and opportunity, many of these species and species groups might segregate themselves into distinct genera. They have begun such segregation, but they are young and have not had an opportunity to develop sufficient distinctness to be given generic names. Similarly, subgeneric groups cannot be established, because there are intermediates that blend one group into another. There are no clear-cut, isolated divisions that may be assigned generic or subgeneric names.

In the insular faunas of the eastern Pacific that I have studied, I have found that one or a few ancestors have given rise to the present representatives of a particular genus found on a given island. The Rapan *Microcryptorhynchus* have come from several ancestral stocks. Each island in southeastern Oceania has its own distinctively developed groups. For example, in the Rapan *Microcryptorhynchus* many of the species have all of the elytral intervals setose, whereas on Tahiti none of the species has setae on all the intervals. On some of the Tahitian species the basal squamose area on the prothorax is modified to a considerable extent, but it is rather uniformly developed on all of the Rapan species. In the Society and Austral Islands there are groups in which the mesosternal receptacle is partially obsolete or obsolete. On Rapa there are similar groups. On Rapa alone are found groups of shiny black species. The squamose group represented by *M. fasciatus* and *M. squamosus* is peculiar to Rapa as is the divergent and anomalous *M. chaetectetoroides* with its unique fasciculate dorsum, and *M. carinatus* is the only species of the genus that has carinae on the prothorax.

The key, which has been developed after many days of toil, must be used with caution. The characters used are taken from both the dorsal and ventral surfaces of the animals. Before using the key all specimens being worked with must be mounted in such a way that the characters of the sternum are not obscured. Specimens imbedded in masses of glue cannot be determined. All material must be clean; dirty specimens can be cleaned by placing them in very hot water for a few minutes or by soaking them in ether or chloroform. The hot water bath is usually the most satisfactory method, however.

Many of the species are distinct and easy to separate by their general conformation, but salient characters for a sharply contrasted key are often difficult to present. Perhaps the weakest part of the key is couplet 15 in Division B where species with cavernous mesosternal receptacles are divided into groups in which all of the elytral intervals are setose and into those on which only the alternate intervals are setose. On some specimens, especially abraded ones, it is often difficult to decide which alternative to take. In general, those that have very short setae on the disk have them on all of the intervals, whereas those with any long or robust setae on the disk probably have setae only on the alternate intervals. Any specimen running to this couplet and having broad or subsquamiform setae, or bristling with long, conspicuously erect setae absolutely runs to couplet 21. In Division A, *M. bicolor* is placed in two categories because it is often difficult to ascertain whether the setae occur on all the intervals or only on the alternate intervals.

Measurements were made with the aid of an eye-piece micrometer. The breadth is taken as the greatest width across the elytra when viewing the

insect from directly above; the length is the distance from the anterior edge of the prothorax to the apex of the elytra measured when viewing the insect on its side. The length and breadth of the prothorax are taken from above.

The sexes are usually easy to distinguish, but some species are exceptions and outstanding sexual characters are difficult to define. The rostrum is usually somewhat shorter and stouter, more coarsely sculptured, and more densely setose in the male than in the female, and the antennae are inserted slightly more distally. The posterior wall of the mesosternal receptacle terminates more anteriorly in the male than in the female, owing to the shorter rostrum. The first two abdominal segments in the male are usually flattened or somewhat concave down the middle, whereas they are usually rather strongly convex in the female.

Host Ranges of Rapan Microcryptorhynchus

A comprehensive study of the host plants of *Microcryptorhynchus* on Rapa would require a long survey. An expert knowledge of the entire flora and a detailed study of each plant would be necessary. The results given here are, therefore, incomplete, but they do include some data worth recording. They show that the food requirements vary from those species that are restricted to a single plant to those that are polyphagous. A detailed study would change my results considerably, but the major conclusions drawn from my notes are probably correct.

When I arrived at Rapa the flora was largely unknown to me. If it had not been for the aid of my colleagues, Dr. Harold St. John and Mr. Raymond Fosberg, botanists of the Mangarevan Expedition, this discussion would have been impossible. Much of the Rapan flora remained unknown to me throughout my stay, and many plants from which I procured numerous specimens of *Microcryptorhynchus* are mentioned in the text by such general titles as "shrubs." The few plants listed in the tables are, for the most part, obvious or common species. I believe that every native tree and shrub and almost every fern serves as food for one or more species of *Microcryptorhynchus*. The short stay at Rapa, and the necessity of collecting as much of the entire fauna as I could, made it impossible for me to study the host plants of the species in detail.

The following tables are arranged to show the number of species of weevils found upon each plant and the number of plants fed upon by specific insects. For example, *Fitchia* heads the preference list, having 15 species of *Microcryptorhynchus* feeding upon it; *Microcryptorhynchus setifer* is the most polyphagous species, having been found to feed upon nine different plants, and is also the most widespread species. In table 1 the numbers in parentheses following the names of the plants refer to the number of species

attached to the plant in question; the numbers following the specific names of the weevils refer to the number of specimens taken on the plant. In table 2 the numbers following the specific names of the weevils refer to the number of different plants fed upon by the weevil in question; the numbers following the names of the plants refer to the number of weevils taken on each plant.

Table 1. Host Plants and Attached Microcryptorhynchus

Fitchia (15)
fitchiae (153)
impressus (10)
lucens (4)
ater (4)
obesus (4)
glaber (3)
setifer (3)
proximus (2)
varians (2)
chaetectetoroides (1)
niger (1)
tenuis (1)
setulosus (1)
andersoni (1)
abditiceps (1)

Bidens (10)
ater (16)
impressus (10)
glaber (2)
proximus (2)
humeralis (2)
setifer (2)
curtus (1)
niger (1)
paenulatus (1)
silvestris (1)

Ferns (principally Dryopteris and Pteris) (10)
obesus (105)
abditiceps (42)
thoracicus (17)
abnormis (13)
curvus (10)
paenulatus (4)
impressicollis (3)
chaetectetoroides (2)
spathifer (2)
andersoni (1)

Cyathea (10)
bicolor (17)
setulosus (5)
tenuis (4)
varians (2)
irregularis (2)
proximus (1)
mangaoae (1)
paenulatus (1)
punctipennis (1)
setifer (1)

Asplenium nidus (10)
spathifer (83)
ventralis (10)
paenulatus (6)
nitidus (4)
pusillus (2)
impressicollis (1)
setulosus (1)
tumidus (1)
foveaventris (1)
thoracicus (1)

Eurya (8)
setifer (4)
tenuis (3)
bicolor (1)
fasciatus (1)
reticulatus (1)
varians (1)
andersoni (1)
thoracicus (1)

Lautea (6)
setifer (96)
tenuis (7)
curtus (4)
humeralis (2)
glaber (1)
andersoni (1)

Metrosideros (5)
setifer (21)
varians (11)
sternalis (2)
paenulatus (1)
morongotae (1)

Coprosma (3)
humeralis (35)
curtus (24)
setifer (1)

Homolanthus (3)
chaetectetoroides (43)
sancti-johni (42)
paenulatus (1)

Sclerotheca (2)
proximus (2)
ater (1)

Freycinetia (2)
tenuis (49)
setifer (2)

Piper (2)
obesus (2)
impressus (1)

Acalypha (1)
nitidus (14)

Veronica (1)
setifer (3)

Table 2. Host ranges of Microcryptorhynchus

M. setifer (9)
Lautea .....(96)
Metrosideros .....(21)
Veronica .....(3)
Fitchia .....(3)
Bidens .....(2)
Freycinetia .....(2)
Eurya .....(1)
Coprosma .....(1)
Cyathea .....(1)

M. paenulatus (6)
Asplenium nidus .....(6)
Ferns .....(4)
Cyathea .....(1)
Bidens .....(1)
Homolanthus .....(1)
Metrosideros .....(1)

M. tenuis (5)
Freycinetia .....(49)
Lautea .....(7)
Cyathea .....(4)
Eurya .....(3)
Fitchia .....(1)

M. varians (5)
Metrosideros .....(11)
Bidens .....(2)
Fitchia .....(2)
Cyathea .....(2)
Eurya .....(1)

M. andersoni (4)
Fitchia .....(1)
Lautea .....(1)
Eurya .....(1)
Ferns .....(1)

M. proximus (4)
Bidens .....(2)
Fitchia .....(2)
Sclerotheca .....(2)
Cyathea .....(1)

M. impressus (3)
Bidens .....(10)
Fitchia .....(10)
Piper .....(1)

M. ater (3)
Bidens .....(16)
Fitchia .....(4)
Sclerotheca .....(1)

M. glaber (3)
Fitchia .....(3)
Bidens .....(2)
Lautea .....(1)

M. chaetectetoroides (3)
Homolanthus .....(43)
Ferns .....(2)
Fitchia .....(1)

M. obesus (3)
Ferns .....(105)
Fitchia .....(4)
Piper .....(2)

M. setulosus (3)
Cyathea .....(5)
Asplenium nidus .....(1)
Fitchia .....(1)

M. humeralis (3)
Coprosma .....(35)
Lautea .....(2)
Bidens .....(1)

M. thoracicus (3)
Ferns .....(17)
Asplenium nidus .....(1)
Eurya .....(1)

M. curtus (3)
Coprosma .....(24)
Ferns .....(10)
Lautea .....(4)

M. bicolor (2)
Cyathea .....(17)
Eurya .....(1)

M. niger (2)
Bidens .....(1)
Fitchia .....(1)

M. impressicollis (2)
Ferns .....(3)
Asplenium nidus .....(1)

M. nitidus (2)
Acalypha .....(14)
Asplenium nidus .....(4)

M. spathifer (2)
Asplenium nidus .....(83)
Ferns .....(2)

M. abditiceps (2)
Ferns .....(42)
Fitchia .....(1)

M. curtus (1)
Bidens .....(1)

M. mangaoae (1)
Cyathea .....(1)

M. lucens (1)
Fitchia .....(1)

M. fitchiae (1)
Fitchia .....(153)

M. fasciatus (1)
Eurya .....(1)

M. abnormis (1)
Ferns .....(1)

M. sternalis (1)
Metrosideros .....(2)

M. reticulatus (1)
Eurya .....(1)

M. irregularis (1)
Cyathea .....(2)

M. ventralis (1)
Asplenium nidus .....(10)

M. pusillus (1)
Asplenium nidus .....(2)

M. silvestris (1)
Bidens .....(1)

M. sancti-johni (1)
Homolanthus .....(42)

M. tumidus (1)
Asplenium nidus .....(1)

M. foveaventris (1)
Asplenium nidus.....(1)

M. punctipennis (1)
Cyathea .....(1)

M. morongotae (1)
Metrosideros .....(1)

M. squamosus (2)
Among dead leaves on ground.

M. carinatus (1)
Dead branches.

M. crinitus (1)
No host recorded.

Key to the Species of Microcryptorhynchus

I. Mesosternal receptacle entirely open, often almost obsolete, often without a delimiting, raised wall or carina between the mesocoxae, and often without distinct side walls (fig. 5, *d, g*) ..... Division A, p. 27

II. Mesosternal receptacle deep and cavernous always with well-developed side walls that separate the coxae from the pectoral canal and usually project forward to the fore margin of the mesocoxae or almost touch the fore coxae and always with a distinct delimiting, overhanging posterior wall (fig. 5, *f, h, i, j*) ..... Division B, p. 28

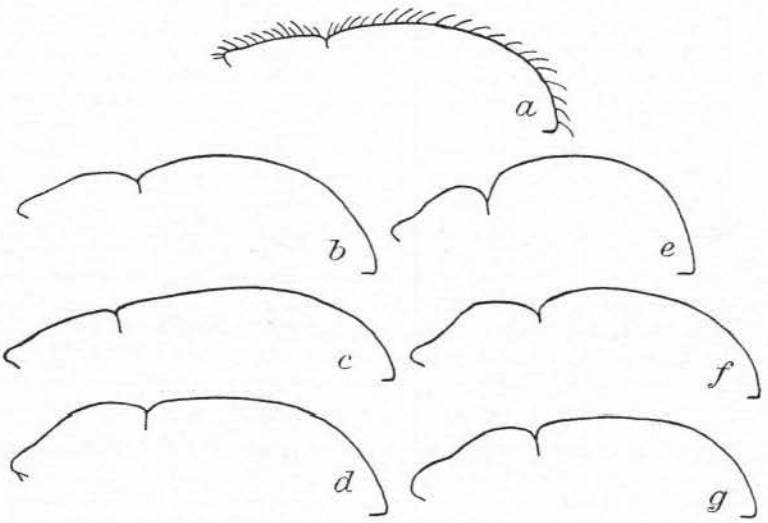


Figure 6.—Dorsal outlines of new *Microcryptorhynchus*: *a, M. setifer; b, M. curvus; c, M. obesus; d, M. abditiceps; e, M. irregularis; f, M. thoracicus; g, M. punctipennis.* (All drawn to same scale.)

Division A

Mesosternal receptacle open

1. Rather densely clothed above with coarse, prostrate or inclined yellow setae; all the elytral intervals setose and normally with several irregular rows of setae which form several condensed patches; elytra with a shallow, irregular depression on each side of the middle; striae somewhat irregular; 2-3 mm. long ..... **M. impressus**
   Without such a combination of characters 2
2. All the elytral intervals setose 3
   Only the alternate elytral intervals setose 8

All the intervals setose

3(2). Derm shiny; pronotum with a broad, bare, impunctate median vitta, the setae long, hairlike, decumbent, mostly medially inclined; elytral setae long, hairlike, posteriorly curved or decumbent, third interval with two or three irregular rows of setae behind the basal fourth; over 2.5 mm. long ..... **M. crinitus**
   Without such a combination of characters; less than 2 mm. long 4

4(3). Setae on the pronotum and elytra rather long and hairlike, prostrate or nearly so, those on the elytra reclining backward and each usually overlapping its neighbor or nearly so, none of the setae erect; a comparatively short, ovoid species ..... **M. curtus**

Setae on the elytra usually conspicuously erect, with no recumbent setae; comparatively slender, elongate species 5

5(4). Pronotum densely setose, the setae conspicuous; elytral intervals densely setose, the setae conspicuously erect, distinct and conspicuous throughout the length of the intervals ..... **M. ater**

Pronotum not densely setose, the setae inconspicuous, minute and usually hardly discernible on the disk; elytral setae minute and hardly discernible on the disk, with at most a few long setae at the apex only, intervals never with dense, conspicuous setae from base to apex 6

6(5). Mesosternal receptacle obsolete, without walls of any sort, the coxae not separated from the pectoral canal; a small (1.5 mm.), concolorous, reddish brown species ..... **M. mangaoae**

Mesosternal receptacle not entirely obsolete, with either a distinct, elevated posterior wall between the coxae or with distinct side walls that separate the coxae from the pectoral canal 7

7(6). Derm rather dull, elytra usually bicolored, predominantly reddish brown, with a large, variable, black area on each elytron; mesosternal receptacle with a posterior wall only and without side walls separating the coxae from the pectoral canal (fig. 5, *g*) ..... **M. bicolor**

Derm rather shiny, elytra concolorous, black or nearly so; mesosternal receptacle with side walls that separate most of the inner sides of the coxae from the pectoral canal ..... **M. proximus**

Alternate intervals setose

8(2). Derm dull, coarsely reticulate, bicolored, predominantly reddish brown, with a large, variable black area on each elytron ..... **M. bicolor**

Derm shiny black 9

9(8). Elytral striae distinct and rather deeply and strongly impressed throughout; the elytral setae, where not abraded, conspicuous, rather long and hairlike; fore part of head, base of rostrum and lower parts of prothorax in front of the coxae with conspicuous white scaling giving a distinct "white-faced" appearance ..... **M. lucens**

Elytral striae not or hardly impressed, usually marked by lines of punctures only, often vague; elytral setae minute, usually hardly discernible; without white scaling as in *M. lucens* 10

10(9). Strial punctures minute, vague, and inconspicuous; pronotum sparsely punctate ..... **M. glaber**

Strial punctures medium-sized, conspicuous and well developed; pronotum rather closely punctate ..... **M. fitchiae**

Division B

Mesosternal receptacle cavernous

1. Dorsum conspicuously fasciculate; pronotum with four fascicles of erect setae in the basal half; elytra with two fascicles behind the middle and with prominent humeri owing to long, horizontally protruding setae matted with incrustation (pl. 2, no. 3) ..... **M. chaetectetoroides**

Dorsum without fascicles 2

2. Pronotum with a dorsal and a lateral carina on each side (pl. 2, no. 12) ..... **M. carinatus**

Pronotum without carinae 3

3(2). Elytra with condensed squamose patches 4
Elytra usually setose only and without any densely squamose patches; if squamose, the scales are rather evenly distributed or scattered and never condensed to form conspicuous, isolated squamose areas 5

4(3). Prothorax with a bare, impunctate median line, elsewhere densely clothed with round, yellowish scales; third elytral interval somewhat expanded before the middle and there with a conspicuous, elongate patch of yellowish scales ..... **M. squamosus**
Prothorax without a smooth median line, but evenly and densely punctate across the entire disk; all the discal elytral intervals, excepting the first two at the base, with an elongate, squamose area at the base and at the middle, those at the middle, taken collectively, forming a common conspicuous fascia across the elytra ..... **M. fasciatus**

5(3). Pectoral canal terminating between the fore and mid coxae, except in the female of *M. abnormis* and then terminating but slightly behind the anterior margin of the mesocoxae (fig. 5, *i*), the posterior wall of the mesosternal receptacle very thick (fig. 5, *h, i, j*) 6
Pectoral canal terminating between, and at about the middle, or slightly behind the mesocoxae, never before them; never as in figure 5, *h, i, j,* but more as in figure 5, *f* 7

6(5). Elytra and pronotum conspicuously squamose, the elytral setae long, lanceolate and conspicuous; fifth elytral interval raised, overhanging laterally and cariniform at the base; prothorax distinctly longer than broad; length 2.4-3.4 mm ..... **M. abnormis**
Derm black, not squamose; elytral setae minute, hardly discernible, the intervals plain and not modified; prothorax about as long as broad; length 1.7 mm ..... **M. sternalis**

7(5). Derm black, never reddish, either conspicuously shiny or comparatively so, at least the elytra shiny; pronotum most often dull; never with a dense incrustation 8
Derm dull or very dull, usually coarsely reticulate, often reddish brown, never conspicuously shiny; with few exceptions, all with a dense incrustation; if the elytra are somewhat shiny there is either an incrustation present or the derm is diluted with red or is reddish brown 14

8(7). Elytral setae long and hairlike, very conspicuous; mesosternal receptacle hardly cavernous; a very shiny black, smooth species with a punctate pronotum but not at all reticulate ..... **M. niger**
Elytral setae minute, usually hardly discernible; pronotum closely or densely punctate, often coarsely or densely reticulate 9

9(8). Pronotum finely, evenly, and rather peculiarly reticulate throughout, without obvious punctures; elytral striae nearly or quite obsolete, between the punctures, marked by lines of small shallow punctures ..... **M. reticulatus**
Pronotum distinctly punctate, occasionally not reticulate; elytral striae distinct 10

10(9). Subapical constriction of the prothorax continued deeply and prominently across the dorsum (fig. 6, *e*) 11
Subapical constriction of the prothorax not or hardly impressed across the dorsum, the longitudinal dorsal outline evenly convex (fig. 6, *c*) 12

11(10). Pronotum coarsely reticulate throughout, densely punctate, the punctures close, shallow and individually rather indistinct; tibial uncus minute, nearly obsolete, situated at the inner apical angle and hardly discernible on the fore tibiae ..... **M. irregularis**

Pronotum rather finely reticulate, rather coarsely punctured, the punctures individually distinct and usually separated by interstices equal to about half their diameters; tibial uncus arising from the outer apical angle and strongly developed throughout ..... **M. impressicollis**

12(10). Pronotal punctures extraordinarily minute, very dense throughout, not obviously reticulate; prothorax usually with a thin incrustation at the sides and base made up of small scales that cap the minute punctures; elytra constricted and subcaudate behind ..... **M. obesus**

Prothorax without such a scaly incrustation, either coarsely reticulate or with moderate-sized distinctly separated punctures 13

13(12). Prothorax dull, very coarsely and peculiarly reticulate throughout, the reticulation of two types consisting of a minute reticulation overlaid by a rather large, coarse, irregular reticulation evidently made up of the interstices of obsolete punctures, not distinctly punctate ..... **M. morongotae**

Prothorax rather shiny, with moderate-sized, conspicuous, round punctures separated by interstices about equal to or slightly greater than their diameters; minutely and not conspicuously reticulate ..... **M. nitidus**

14(7). Intercoxal process of the first ventrite unusually narrow, only about as broad as a metacoxa and about three fourths as broad as the length of the metasternum between the mid and hind coxae; a small (less than 1.5 mm.), slender, yellowish, or reddish brown species with white scales on the dorsum and with an unusual, slender, sinuous rostrum ..... **M. ventralis**

Intercoxal process of the first ventrite always much broader than a metacoxa or the metasternum between the mid and hind coxae 15

15(14). All the elytral intervals setose, the setae often very small and inconspicuous, never broad 16

Only the alternate elytral intervals setose, the setae often long or broad and conspicuous 21

16(15). Dorsum extremely densely clothed with a thick, pale, amorphous incrustation that normally completely conceals the derm; elytral setae short, but stout and conspicuous, their surfaces usually farinaceous or somewhat papillary ..... **M. paenulatus**

Dorsum with the derm not entirely concealed by a conspicuous pale incrustation, usually without a distinct incrustation, but if present it is usually rather thin or greasy and not extremely dense, but if comparatively dense it is rarely pale; elytral setae most often very fine and sharp, often minute 17

17(16). Form rather elongate (pl. 1, no. 18); prothorax distinctly longer than broad; elytra distinctly more than twice as long as the prothorax, often paler along the suture on the disk ..... **M. tenuis**

Form stouter (pl. 1, nos. 20, 21, 22); prothorax as broad as long or but slightly longer than broad; elytra twice or less than twice as long as the prothorax, never distinctly more than twice as long 18

18(17). Derm free of all incrustation, reddish brown to piceous, often pale reddish brown; elytra comparatively shiny where not sculptured; prothorax comparatively coarsely reticulate, with rather deep punctures that are usually well separated from one another, often remote, the basal squamose area emarginate in the middle ..... **M. varians**

Derm with at least a thin greasy incrustation and more often with a comparatively dense amorphous incrustation; elytra dull 19

19(18). Dorsum with at most a thin, greasy, inconspicuous incrustation, never with a thick, rather loose incrustation and without squamae; setae along the inner margins of the eyes very fine and hairlike; rostrum coarsely reticulate to the antennae ..... **M. setulosus**

Dorsum normally with a rather dense incrustation, usually irregular, but at least thick and rather loose in patches; pronotum and elytra often distinctly squamose; setae along the inner margins of the eyes usually not hairlike, but broader 20

20(19). Head, prothorax, and elytra squamose, the squamae very small and often rather indistinct owing to saturation with body oils, but usually discernible; rostrum rather shiny; body form as in plate 1, no. 21; length 1.2-1.5 mm. ..... **M. pusillus**

Without such a squamose dorsum; body form broader (pl. 1, no. 22); elytra more inflated, infuscate on the sides; length 1.8 mm..... **M. silvestris**

21(15). Setae on the base of the rostrum and between the eyes long, fine, hairlike, erect and conspicuous, arranged in five or six rows between the eyes ..... **M. sancti-johni**

Setae on the base of the rostrum usually not conspicuously hairlike, most often lanceolate or spatulate and rather broad; if long and slender on the head, then there is only a single row along the inner margin of each eye and the interocular area is never bristling with several rows of hairlike setae..... 22

22(21). Third elytral interval with two irregular rows of large spatulate setae for most of its length, interval five with a cluster of setae at the base; prothorax with a dense cluster of setae on either side of the median line at the apex and one on either side of the middle of the disk; a comparatively large (2.6 mm.), robust species with ovoid elytra and very densely, coarsely, subconfluently punctate pronotum..... **M. tumidus**

Third elytral interval with a single row of setae only; otherwise without such a combination of characters..... 23

23(22). Elytral setae broad and subsquamiform on the disk, never long, slender, and bristling 24

Elytral setae often comparatively long, slender, erect and rather bristling, but if short always comparatively slender and never subsquamiform..... 25

24(23). Elytral setae inclined, broadly lanceolate; elytra and pronotum conspicuously squamose; strial punctures rather small; intervals about twice as broad as the striae; elytra appearing vittate to the unaided eye owing to the arrangement of the setae..... **M. andersoni**

Elytral setae usually erect, broadly spatulate; elytra not squamose, not vittate; pronotum inconspicuously squamose, with large, conspicuous, erect spatulate setae; strial punctures large and coarse; intervals only about as broad as the striae; body with an irregular incrustation..... **M. spathifer**

25(23). Rostrum rather conspicuously carinate, the median carina well developed, distinct at the base and between the lower part of the eyes unless concealed by an incrustation..... 26

Rostrum at most indistinctly carinate, without a well-developed median carina at the base and between the eyes..... 27

26(25). Humeri, when not abraded, usually appearing very prominent owing to their rounded contour and to their being clothed with horizontal, projecting, heavily encrusted setae, often appearing to project forward around the basal angles of the prothorax; metasternum and venter at most very finely punctate, never coarsely punctate..... **M. humeralis**

Without such a combination of characters, humeri not at all prominent; head coarsely and densely punctate; metasternum and first two ventrites with large, coarse, conspicuous punctures..... **M. foveaventris**

27(25). Subapical constriction of the pronotum either deeply impressed across the dorsum or the apex of the pronotum is on a distinctly lower plane than the base, or both (fig. 6, *d, f, g*); prothorax usually much longer than broad, often conspicuously so..... 28

Subapical constriction of the pronotum broadly and shallowly impressed across the dorsum which is almost evenly and slightly longitudinally convex, the apex on almost the same plane as the base, never distinctly lower (fig. 6, *a-b*), prothorax but little longer than broad, never conspicuously elongate 30

28(27). Prothorax conspicuously elongate, one fourth longer than broad and about two thirds as long as the elytra, densely and conspicuously squamose, the scales whitish or yellow, capping the dense punctures.... ..... **M. abditiceps**

Without such a combination of characters; prothorax never so conspicuously squamose 29

29(28). Elytral intervals even, not elevated; derm finely reticulate..... **M. thoracicus**

Striae very coarse, their punctures large, coarse and deep; intervals very narrow, at least the setose ones distinctly elevated, cariniform; a small (1.4-1.7 mm.), very coarsely punctate, coarsely reticulate species..... ..... **M. punctipennis**

30(27). Elytra and prothorax conspicuously bristling with very long, erect, straight-sided setae, those on the elytra about as long as the distance between the rows on the disk, longer at the apex; a very "spiny" species ..... **M. setifer**

Elytral setae comparatively short, at least those in the first two rows on the disk short and sublanceolate, hardly as broad as the intervals and never as long as the distance between the rows..... **M. curvus**

Descriptions of New Species

1. **Microcryptorhynchus impressus,** new species (fig. 5, *b-d*; pl. 2, no. 1).

Derm reddish brown to piceous, with an incrustation, irregularly clothed with coarse, often subsquamiform, inclined and prostrate yellow setae that usually form a condensed patch at about the middle of the third interval, one near its apex, one at the base, and one behind the middle of the fifth interval.

Head coarsely reticulate, with a small variable interocular fovea, thinly clothed with yellow setae. *Rostrum* in the female with three rows of long, fine, erect setae at the sides near the base, but no long ones near the antennae, with scattered punctures on the sides to the apex, shiny and impunctate along the median line; in the male shorter, more coarsely punctured, with long setae to the antennae and on the sides to the apex. *Prothorax* longer than broad (3:2.75), almost equally constricted before and behind the middle on the sides, the subapical constriction continuing broadly and deeply across the dorsum; very densely and comparatively coarsely punctured, the punctures separated by interstices narrower than their diameters, the interstices finely sculptured, usually with a variable, impunctate, median line, each puncture bearing a coarse, mesially inclined or prostrate seta; base truncate, with little scaling. *Elytra* subtruncate at the base, broadly arcuate on the sides, with a distinct subapical constriction, three fourths as broad as long, twice as long as the prothorax; with a shallow, variable impression on the disk of each elytron before the middle between the third and sixth intervals; intervals irregular, the third slightly broader near the middle and apex to hold elongate patches of setae, the fifth similarly broadened near the base and middle; coarsely reticulate and with rather small, dense punctures bearing coarse yellow setae; striae narrower than the intervals, coarse and irregular, the punctures indistinct except near the base. *Legs* densely punctured, the punctures bearing long, fine erect setae. *Sternum* with scattered scales capping the punctures on the sides of the mesosternum and metasternum; mesosternal receptacle a simple, smooth, shallow impression in the mesosternum, bounded by a line of fine erect setae and without raised side walls, although often with a slightly raised margin at the sides, terminating at about the middle of the mesocoxae in the

female, slightly more anteriorly in the male; metasternum densely set with setigerous punctures, three fourths as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex in the female, flattened or slightly concave in the male; the intercoxal process two fifths broader than a metacoxa; the ventrites rather closely set with setigerous punctures, the fifth most densely punctured. Length, 2.3-3.4 mm.; breadth, 1-1.6 mm.

Holotype male, allotype female, and 19 paratypes collected by me as follows: holotype, allotype, and eight paratypes beaten from *Bidens* on the east ridge of Mount Perahu, 1,500-1,800 feet, July 28, 1934; seven paratypes beaten from *Fitchia* on the east slope of Mount Perahu, 1,000-1,500 feet, July 21; three paratypes taken on *Fitchia* on the south slope of Mount Tepiahu, 400-600 feet, July 20; one paratype beaten from *Piper* in the southeast valley of Mount Ororangi, July 3; and one paratype collected by D. Anderson at the same time and place, 600-700 feet.

This is a peculiarly divergent species. The mesosternal receptacle is almost obsolete, but a vague indication of side walls can usually be distinguished at the anterior margin of the mesocoxae. Its coarse yellow setae, together with its large size, elytral impressions, and the coarsely sculptured, irregular elytral intervals, and the structure of the mesosternal receptacle readily distinguish this species from all other described species. In size and superficial appearance it might be confused with *M. abnormis,* but these two species are not at all closely allied.

2. Microcryptorhynchus crinitus, new species (pl. 2, no. 2).

Male. Derm shiny black with apices of the thorax, abdomen, and appendages reddish, without an incrustation, scaling and setae white.

Head minutely punctate, interocular area with numerous erect or slanting rather long, fine, hairlike setae. *Rostrum* comparatively heavy, indistinctly carinate, with numerous setae at the base, the setae forming two or three rows on the sides to the antennae and thence scattered on the sides to the apex; the median line almost impunctate, the punctures small and scattered elsewhere. *Prothorax* slightly broader than long (2.4:2.1), almost evenly expanded on the sides from the base to the rounded middle and thence rather strongly constricted; the subapical constriction sharply defined on the sides, but not impressed across the feebly convex dorsum; disk with a broad, bare, smooth, impunctate median band, elsewhere with minute punctures usually separated by distances greater than their diameters and bearing rather long, conspicuous, sharp, hairlike, medianly inclined setae; base subtruncate, the squamose area well defined and evenly continued along the entire base. *Elytra* over three fifths as broad as long (3.5:5), about two and one half times as long as the prothorax, base truncate, its margin elevated, broadly arcuate from base to apex on the sides but with a distinct subapical constriction; striae well defined, deep and rather coarse, the punctures rather irregular; the intervals about twice as broad as the striae, convex, the outer ones more convex than those on the disk, all with setae, the third with two irregular rows at least at the middle, the setae rather long, sharp, hairlike and distally inclined, arising from punctures that give the surface of the intervals an irregular appearance; the outer interval squamose from the base to the third ventrite. *Legs* not squamose, with the femora and tibiae minutely punctate, finely wrinkled, and with rather long, hairlike setae. *Sternum* with the mesosternal receptacle terminating at the middle of the mesocoxae, entirely open, the

side walls incomplete, hardly elevated, but separating the coxae from the pectoral canal, not extending in front of the mesocoxae, rather densely setose on the sides and posterior margins; metasternum shallowly concave, finely and rather densely punctate and finely setose, two thirds as broad as a hind coxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites finely punctate and setose throughout, the first ventrite shallowly impressed down the middle in the basal three fourths, the intercoxal process slightly angulate or arcuate in front, but slightly broader than a metacoxa; third and fourth ventrites with a row of setae along the middle and a patch on each side; fifth ventrite minutely punctate and finely setose throughout. Length, 2.8 mm.; breadth, 1.4 mm.

Holotype male collected by me at Morongota, July 20, 1934 (probably by beating shrubs).

This is a distinct species not closely allied to any other. In size and shape it somewhat resembles *M. impressus,* but the two species have little in common.

3. Microcryptorhynchus curtus, new species (pl. 1, no. 1).

Derm shiny black, without an incrustation, the appendages reddish, setae white; with white scaling at the base and sides of the prothorax, and lateral margin of the elytra.

Head reticulate and with scattered punctures, coarser between the eyes; the setae hairlike, scattered between the eyes. *Rostrum* with scattered punctures on the sides to the apex and with erect, hairlike setae only at the base in the female; shorter in the male, the coarse basal punctuation continued nearer to the antennae and with hairlike setae to the antennae; not carinate or striate. *Prothorax* as broad as long or just perceptibly broader than long, slightly more constricted beyond than behind the middle, rounded on the sides, the subapical constriction not very strong, not continued across the dorsum which is feebly longitudinally convex; not reticulate, rather closely set with small punctures, usually separated by distances equal to or less than their diameters on the disk, but variable, closer anteriorly; each puncture bearing a comparatively long decumbent, hairlike seta; base subtruncate, the squamose area narrow and subtruncate above. *Elytra* over three fourths as broad as long (7:9), broadly inflated on the sides, slightly subcaudate behind; intervals usually broader than the striae but somewhat variable, each bearing a single row of recumbent hairlike setae; striae variable, deeply impressed, the punctures often rather large and almost as broad as the intervals. *Legs* with the femora finely strigate, with scattered hairlike setae. *Sternum* with the mesosternal receptacle open, very steep in front, with a distinctly raised side margin but without side walls, terminating slightly before the middle of the mesocoxae in the female, slightly behind the fore margin in the male; metasternum at its narrowest point between the mid and hind coxae almost as long as a metacoxa, with comparatively large, scattered, setigerous punctures. *Venter* with the first two ventrites flattened in the male, convex in the female; with scattered irregular setigerous punctures, the fifth ventrite finely punctate; the intercoxal process somewhat less than three times as broad as a metacoxa. Length, 1.3-1.7 mm.; breadth, 0.6-0.8 mm.

Holotype male, allotype female, and 28 paratypes collected by me as follows: holotype, allotype, and 22 paratypes beaten from *Coprosma* on the east slope of Mount Perahu, 1,200-1,500 feet, July 21, 1934; three paratypes beaten from *Lautea,* at the same date and locality, 800-1,000 feet; one paratype beaten from *Bidens,* 1,500-1,800 feet, same locality, July 28; one paratype beaten from shrubs on the northeast ridge of Mangaoa Peak, 1,000-

1,200 feet, July 25; and one paratype beaten from *Lautea* on Mount Tanga, 700-800 feet, July 23.

This small species is allied to *M. ater* and can be distinguished from that species by its stouter form and recumbent instead of conspicuously erect elytral setae.

4. Microcryptorhynchus ater, new species (pl. 1, no. 2).

Derm black, not very shiny, antennae and tarsi reddish, without an incrustation; setae white.

Head reticulate, evidently impunctate; with few setae, those about the eyes fine and inconspicuous. *Rostrum* coarsely reticulate and indistinctly sculptured throughout in the male, shiny and not coarsely reticulate in the apical half in the female; with two or three rows of fine, erect, hairlike setae behind the antennae and a scattering of setae beyond the antennae, more numerous in the male. *Prothorax* about as broad as long, somewhat more constricted before than behind the middle, the subapical constriction but shallowly impressed across the dorsum; longitudinal dorsal outline somewhat flattened and but feebly convex; coarsely reticulate, densely set with small punctures, each puncture bearing a short fine seta; base subtruncate, the squamose area narrow and almost straight across. *Elytra* elongate-oval, about three fourths as broad as long; base very shallowly and broadly emarginate; intervals broader than the striae, the second often bearing two rows, the others normally with but one row of short, fine, erect setae; striae variable, comparatively fine to rather coarse, their punctures subconfluent or distinct. *Legs* densely but finely sculptured and with numerous fine erect setae; fore tibiae somewhat latterally compressed and bent inward at the apex. *Sternum* with mesosternal receptacle an impression in the mesosternum, steep and deep in front, but open and with only a raised margin at the sides instead of side walls, terminating just behind the fore margin of the mesocoxae in both sexes; metasternum slightly more than three fourths as long as a metacoxa at its narrowest point between the mid and hind coxae, rather closely set with setigerous punctures, broadly concave in the male, flattened in the female. *Venter* with the first two ventrites broadly and continuously concave with the metasternum in the male; but slightly concave in the middle in the female, with the first ventrite impressed toward the base; the ventrites rather closely set with punctures bearing short, fine setae; the intercoxal process twice as broad as a hind coxa. Length, 1.4-1.8 mm.; breadth, 0.6-0.8 mm.

Holotype male, allotype female, and 19 paratypes collected by me as follows: holotype, allotype, and 14 paratypes beaten from *Bidens* on the east slope of Mount Perahu, 1,500-1,800 feet, July 28, 1934; one paratype beaten from dead branches of *Sclerotheca* on the same date and locality, 1,400-1,500 feet; two paratypes beaten from *Fitchia,* at the same locality, 1,200-1,500 feet, July 21; and two paratypes beaten from *Fitchia* on the south slope of Mount Tepiahu, 400-600 feet, July 20.

This species is closely allied to *M. proximus,* but the conspicuous, erect, elytral setae distinguish it from that species.

5. Microcryptorhynchus mangaoae, new species (pl. 1, no. 3).

Derm pale to dark reddish brown, setae and scaling whitish, with an irregular, greasy incrustation.

Head not completely concealed from above by the pronotum; minutely but rather coarsely reticulate, not obviously punctate, with small, scattered setae; interocular area with an indistinct fovea, setae along the inner margins of the eyes inconspicuous, forming two rows. *Rostrum* indistinctly striate, coarsely reticulate to the antennae and thence rather shiny, sparsely setose and punctate; setae behind the antennae inconspicuous. *Prothorax* slightly longer than broad, almost evenly rounded on the sides but with a slightly impressed subapical constriction which is distinctly impressed across the dorsum, the outline of which it distinctly interrupts; densely punctate throughout, the punctures rather small and close, not separated by more than their diameters, the interstices reticulate or with a secondary minute punctuation; setae very small and inconspicuous; basal squamose area not very prominent. *Elytra* about three fourths as broad as long, somewhat more than twice as long as the prothorax; ovoid, base very slightly and broadly emarginate; striae rather shallow, their punctures shallow, subconfluent and individually rather indistinct; intervals broader than the striae, rather coarsely sculptured, all setose; the setae, except a few at the apex, minute but distinct. *Legs* finely and rather sparsely setose; tibial uncus well developed throughout. *Sternum* with the mesosternal receptacle obsolete, entirely without walls, the inner sides of the mesocoxae forming the lateral limits of the pectoral canal, the posterior margin of which is marked by an arcuate line between the middle of the mesocoxae; metasternum with medium-sized setigerous punctures arranged in three lines, one at the base, one at the middle and one at the apex, as long as a metacoxa at its norrowest point between the mid and hind coxae. *Venter* with the intercoxal process slightly arcuate in front, about twice as broad as a metacoxa; the first two ventrites rather shiny, sparsely set with small setigerous punctures; ventrite five coarsely reticulate, not obviously punctate, finely setose. Length, 1.5 mm.; breadth, 0.7 mm.

Holotype male (?) collected by me from dead *Cyathea* fronds on the northeast ridge of Mangaoa Peak, 800-1,000 feet, July 4, 1934.

This species resembles *M. varians* but cannot be placed in the same group as that species owing to its obsolete mesosternal receptacle. The color, shape, and arrangement of the elytral setae is quite similar, however. It belongs in the *bicolor-proximus* complex and is distinguished from those species by the fact that it has no lateral or posterior walls to the mesosternal receptacle.

6. Microcryptorhynchus bicolor, new species (fig. 5, *g*; pl. 1, no. 4).

Derm without an incrustation, rather dull, predominantly reddish, with a black area at the middle of each elytron that varies greatly in size, but usually covers the middle half from the second interval outward; prothorax usually black at the base or sides, often black nearly to the apical fourth.

Head coarsely reticulate and with a few inconspicuous setae. *Rostrum* with a few inconspicuous setae, coarsely reticulate, almost impunctate, not sulcate nor carinate above. *Prothorax* slightly longer than broad (3:2.75), slightly more constricted before than behind the middle, the subapical constriction distinct but not strong, broadly and distinctly continued across the dorsum which is consequently sinuous in longitudinal dorsal outline; base truncate, the squamose area very narrow, almost hidden; coarsely reticulate, densely punctate, the punctures small and almost contiguous or subconfluent. *Elytra* coarsely reticulate, three fourths as broad as long, twice as long as the prothorax, roundly narrowing on the sides; striae narrower than the intervals, rather strongly impressed, the punctures small and close; intervals each with a row of setae, those on the disk minute and often hardly discernible, those on the alternate intervals long and sharp in the apical third. *Sternum* with the mesosternal receptacle open, without side walls but with an arcuate, distinctly raised hind margin that terminates at about the middle

of the mesocoxae; metasternum set with small setigerous punctures, distinctly longer than a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex, with few punctures except on or near the intercoxal process which is truncate and one fourth broader than a hind coxa in the female. Length, 1.6-1.8 mm.; breadth, 0.6-0.7 mm.

Holotype female and 25 paratypes collected by me as follows: holotype and 15 paratypes beaten from dead *Cyathea* fronds and one paratype found in a dead *Cyathea* frond, on the northeast slope of Mangaoa Peak, 900-1,200 feet, July 4, 1934; one paratype beaten from *Eurya* at the same locality, 1,000-1,200 feet, July 6; and seven paratypes beaten from shrubs at the same locality and elevation, July 25.

The bicolored body of this species readily distinguishes it from all the other Rapan species with open pectoral canals. It is closely allied to *M. gracilis* Zimmerman from Tubuai, Austral Islands, and has the same type of mesosternal receptacle.

A superficial examination may lead to the conclusion that only the alternate elytral intervals are setose. For this reason I have placed the species in two different sections of the key. The intervals do have minute setae on the disk, however, and I believe it best that the species be placed near *M. ater* and *M. curtus* in the Rapan series. It is distinct from both those species and cannot be easily mistaken. The color varies considerably; on some specimens the elytra may be almost concolorous, while on others it is very distinctly bicolored and has a large black area on each elytron.

7. Microcryptorhynchus proximus, new species (pl. 1, no. 5).

Female. Derm reddish brown to black, somewhat shiny, without an incrustation, scaling and setae white.

Head not concealed from above by the pronotum; minutely reticulate, evidently impunctate; without scaling; setae minute and hardly discernible, with about three rows of very fine, erect setae along the inner margins of the eyes; interocular area with a distinct median fovea. *Rostrum* not distinctly carinate, rather shiny, finely punctate, with four rows of inconspicuous setae borne from shallow striae behind the antennae. *Prothorax* somewhat longer than broad (3.25:3), base truncate, almost evenly rounded on the sides from the base to about the apical third and thence distinctly constricted; the subapical constriction not impressed across the dorsum which is almost straight, but slightly convex; very densely punctate throughout, the punctures rather small and subconfluent, the interstices reticulate; the setae very fine, short, and inconspicuous; the basal squamose area comparatively broad, almost straight and continuous from side to side. *Elytra* two thirds as broad as long, twice as long as the prothorax; elongate-oval, broadest before the middle, the subapical constriction indistinct, base subtruncate; striae well impressed throughout, their punctures medium-sized, rather shallow and irregular; intervals as broad or distinctly broader than the striae, all setose, the setae, with the exception of a few long ones at the apex, extraordinarily minute, hardly discernible, visible only when the light comes from in front of the insect. *Legs* clothed with slender, erect conspicuous setae; the tibial uncus strongly developed throughout. *Sternum* with the mesosternal receptacle open, terminating behind the middle of the mesocoxae, the hind wall low and cariniform, the side walls distinct but low, especially in front, separat-

ing the coxae from the pectoral canal but not distinctly continuing beyond their anterior margins; metasternum finely punctate and finely setose, about three fourths as long at its narrowest point between the mid and hind coxae as a metacoxa. *Venter* finely punctate, sparsely setose; the first two ventrites conspicuously convex in the female; intercoxal process somewhat more than one and one half times as broad as a metacoxa, subtruncate in front; ventrite five finely reticulate, evidently impunctate and finely setose. Length, 1.9 mm.; breadth, 0.8 mm.

Holotype female and one paratype, from dead branches of *Sclerotheca* taken on the east ridge of Mount Perahu, 1,400-1,500 feet, July 28, 1934; two paratypes beaten from *Bidens,* 1,500-1,800 feet, same locality and date; one paratype beaten from dead *Cyathea* fronds, 1,500-1,600 feet, same locality and date; and two paratypes beaten from *Fitchia* from the same locality, 1,200-1,500 feet, July 21. The seven specimens were collected by me.

This species is allied to *M. Mangaoae* and *M. bicolor* and can be distinguished from those species by the color of its derm and by the structure of mesosternal receptacle which has rather distinct side walls separating the coxae from the pectoral canal. In both *M. mangaoae* and *M. bicolor,* side walls are lacking in the mesosternal receptacle and the inner sides of the mesocoxae are freely exposed to the pectoral canal. It may easily be confused with *M. ater* to which it is very closely allied, but the setae on that species are very conspicuous, especially on the elytra, and the shape is somewhat different. The two species occur together, and it is possible that further collecting and study will show that this species is a variety of *M. ater,* but I doubt it.

8. Microcryptorhynchus lucens, new species (pl. 1, no. 6).

Male. Derm shiny black with the appendages and apical ventrite partially or entirely yellowish or reddish, without an incrustation; setae and scaling white, with conspicuous white scaling on the sides of the prothorax before the coxae, between the eyes, on the base of the rostrum, and on the lateral margins of the elytra, giving a characteristic "white-faced" appearance.

Head coarsely reticulate, densely squamose on the front, the crown bare, with numerous fine erect setae along the inner margins of the eyes, and with a few scattered, inclined setae elsewhere on the front. *Rostrum* densely squamose at the base and on the sides nearly to the antennae, with numerous long setae on the sides from the base to the antennae, and with shorter, curved setae distad of the antennae; finely punctate, not carinate nor sulcate. *Prothorax* longer than broad (3.5:3), almost equally constricted before and behind the middle, the subapical constriction feeble and not impressed across the dorsum which is gently, longitudinally convex; base truncate, the scaly area straight across; punctures medium-sized, round, separated by distances about equal to or sometimes greater than their diameters in the basal half, denser distally, the median line almost impunctate. *Elytra* about two thirds as broad as long, rather narrowly arcuate on the sides, base truncate; striae comparatively coarse, deeply impressed throughout, about as broad as the intervals, the punctures subquadrate, often subconfluent on the disk; alternate intervals each with a single row of moderately long, slightly curved, erect, hairlike setae. *Legs* with the femora minutely strigate, femora and tibiae with scattered, erect hairlike setae; the uncus on the outer apical angle of the hind tibiae unusually long and passing distinctly beyond the inner margin of the tibia at a con-

siderable distance from the inner apical angle. *Sternum* with the mesosternal receptacle a broadly concave area between the coxae, entirely open, with distinctly raised lateral margins, terminating at about the middle of the mesocoxae in the male; metasternum concave in the male, densely punctate, squamose on the sides, about three fourths as broad as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the two basal segments shallowly, longitudinally concave in the male, coarsely punctate, the intercoxal process of the first ventrite arcuate in front, about one fourth broader than a metacoxa; fifth ventrite shallowly impressed in the middle, coarsely reticulate and finely punctate. Length, 1.8-2 mm.; breadth, 0.7-0.8 mm.

Holotype male and four male paratypes collected by me as follows: holotype and one paratype taken from *Fitchia* on the northeast ridge of Mangaoa Peak, 1,000-1,100 feet, July 27, 1934; two paratypes beaten from *Fitchia* on the east ridge of Mount Perahu, 1,200-1,500 feet, July 21; and one paratype from Morongota, 700-800 feet, July 11.

This species is perhaps most closely allied to *M. fitchiae* but can readily be distinguished from that species by its coarse elytral striae, long setae, more slender form, and the conspicuous white scaling on the sides of the prothorax and on the head and rostrum. The white scaling gives this species a distinctive "white-faced" appearance.

9. Microcryptorhynchus glaber, new species (pl. 1, no. 7).

Derm black, shiny, with the antennae, apex of the rostrum, tibiae, and tarsi reddish; without an incrustation.

Head finely reticulate, with a distinct interocular fovea, the setae minute. *Rostrum* almost impunctate, neither sulcate nor carinate above; the setae minute and inconspicuous. *Prothorax* slightly longer than broad (2:1.75), somewhat more strongly narrowed behind than before the middle, the subapical constriction rather feeble, not very distinctly impressed across the dorsum which is feebly, longitudinally convex and almost flat except for the rounded base and apex; base slightly rounder, the squamose area narrow and almost straight across; derm dull, rather coarsely reticulate, finely punctate, the punctures small and normally separated by distances greater than their diameters. *Elytra* slightly less than two thirds as broad as long (2:3.5), not twice as long as the prothorax in the same proportions, roundly narrowed on the sides from base to apex; base broadly and shallowly emarginate, the basal margin slightly raised; striae very fine, often nearly obsolete on the disk, the punctures variable, often minute, rather widely separated, never coarse and distinct on the disk; the intervals at least twice as broad as the striae; setae minute or obsolete on the disk, on the alternate intervals only, often with a few inconspicuous setae at the apex only. *Sternum* with the mesosternal receptacle a broad, shallow impression in the mesosternum, with a feebly raised arcuate hind margin but without side walls; metasternum at its narrowest point between the mid and hind coxae over three fourths as long as a metacoxa, coarsely reticulate and set with a number of coarse punctures. *Venter* coarsely reticulate and with scattered punctures, the first two ventrites convex but variably impressed in the female, distinctly concave together with the metasternum in the male; the intercoxal process of the first ventrite about a third broader than a metacoxa in the male, twice as broad in the female. Length, average specimens, 1.6-1.8 mm.; breadth, 0.6-0.8 mm. Large individual, length, 2.2; breadth, 0.9 mm.

Holotype male, allotype female, and five paratypes collected by me on the east ridge of Mount Perahu as follows: holotype beaten from *Lautea,* allotype

and three paratypes beaten from *Fitchia,* 1,200-1,500 feet, July 21, 1934; and two paratypes beaten from *Bidens,* 1,500-1,800 feet, July 28.

This species is allied to both *M. lucens* and *M. fitchiae* and can be distinguished from both by its duller derm and feebly punctate elytra. It is perhaps most closely allied to *M. fitchiae,* but its minute strial punctures readily distinguish it.

The large paratype (female) has the elytral striae almost obsolete and has the derm less shiny than the rest of the series. In addition to these characteristics and larger size, I find few other differences and none that warrants its separation as a distinct species.

10. Microcryptorhynchus fitchiae, new species (pl. 1, no. 8).

Derm shiny black, with the appendages and apex of the venter reddish, setae white, without an incrustation.

Head shiny, finely reticulate, with a distinct interocular fovea; without scales and with a few, scattered hairlike setae above the eyes, and with two or three rows of slender setae along the inner margins of the eyes, hairlike in the female but comparatively thick and flattened in the male. *Rostrum* not carinate nor sulcate, almost impunctate, with setae on the sides to the antennae in the male, those at the base much thicker than the others which are hairlike, with numerous, scattered, hairlike, curved setae beyond the antennae; the female with the setae much less conspicuous. *Prothorax* about as long as broad, almost equally narrowed before and behind the middle, the subapical constriction feebly, just perceptibly impressed across the dorsum which is otherwise slightly convex; base truncate, squamose area narrow and slightly convex; rather evenly set with medium-sized punctures separated by distances about equal to their diameters but with some variation. *Elytra* two thirds as broad as long and twice as long as the prothorax, roundly narrowed on the sides, base truncate; striae variable, not or but hardly impressed between the punctures, the punctures medium-sized, variable, rounded and well impressed, larger near the base; the intervals broader than the striae, the alternate ones each bearing a single row of very small, hairlike setae that are often absent owing to abrasion. *Legs* with a few hairlike setae; femora rather coarsely striate. *Sternum* with the mesosternal receptacle an open impression without side walls, the posterior margin truncate and somewhat raised, terminating at about the middle of the mesocoxae in the female, slightly before the middle in the male; metasternum at its narrowest point between the mid and hind coxae somewhat more than three fourths as long as a metacoxa, coarsely punctate. *Venter* with the first two ventrites for the most part convex in the female, but with the first ventrite transversely depressed at the base and shallowly concave in the male; the first two ventrites closely punctate, the fifth but finely punctate; the intercoxal process not quite twice as broad as a metacoxa. Length, 1.6-2 mm.; breadth, 0.7-0.9 mm.

Holotype male, allotype female, and 151 paratypes collected by me as follows: holotype, allotype, and 110 paratypes found feeding on the lower sides of *Fitchia* leaves on the south slope of Mount Tepiahu, 400-600 feet, July 20, 1934; one paratype with the same data but beaten from ferns; 34 paratypes beaten from *Piper* (?) in the southeast valley of Mount Ororangi, July 3; two paratypes, beaten from ferns, same locality and date, 600-700 feet; and four paratypes beaten from *Fitchia* on Mount Tanga, 700-800 feet, July 23.

I am positive that I made an error in my field notes when recording the host plant for the series from the southeast valley of Mount Ororangi. I believe that I collected them from the normal host, *Fitchia,* not from *Piper.* The individuals of this species cling to the under sides of the *Fitchia* leaves and are often difficult to dislodge.

This species is allied to *M. lucens,* but it is comparatively shorter and stouter and does not have the striae coarsely impressed nor the setae long and conspicuous, nor does it have the conspicuous "white-face" of that species. Its somewhat coarser punctuation and less slender form distinguish it from *M. glaber* with which it might be confused.

11. Microcryptorhynchus chaetectetoroides, new species (pl. 2, no. 3).

Derm reddish brown, densely clothed with a heavy, irregular, brownish gray, amorphous incrustation which often distorts the true body outlines; with several fascicles of erect setae, the setae in the anterior part of the post median fascicle on the third elytral interval pale and appearing as a pale spot to the unaided eye, the setae in the posterior part often forming a dark patch.

Head coarsely reticulate, somewhat flattened between the eyes and there more coarsely sculptured; the derm entirely concealed by dense scaling and heavily incrusted, with two or three dense rows of long, heavy, erect, spatulate setae on either side of the median line between the eyes. *Rostrum* striate to the antennae and thence with scattered punctures; with the scaling and setae at the base only in the female, extending to the middle in the male and thence irregularly sculptured and with short, scattered setae. *Prothorax* distinctly longer than broad (2.75:2, but often appearing somewhat broader owing to the incrustation), rounded on the sides in the basal half and strongly constricted just beyond the middle, the constriction continuing deeply and conspicuously across the dorsum; densely and rather coarsely punctured, the punctures round and separated from each other by distances equal to less than their own diameters in the basal half and but slightly less dense in the apical half; with four distinct fascicles of stout, erect, spatulate setae behind the middle, one on either side of the median line and one at the lateral margin, with several irregular rows of setae at the apex. *Elytra* slightly sinuate at the base, about three fourths as broad as long, with a compressed fringe of long horizontal setae at the sides at the base, some of which curve forward and, when densely incrusted, make the humeri appear very prominent, seeming to embrace the base of the prothorax, the humeri actually but slightly prominent; the third, fifth, and seventh intervals more elevated than the others; the sides of the elytra inflexed beyond the seventh interval; striae coarse, their punctures rather uneven, often as broad or broader than the plain intervals; alternate intervals only with setae; the first interval with short, stout setae from the base to about the apical fourth and thence with long, slender sharp setae; interval three with a double row of short, stout setae near the base, thence with a gap almost free of setae; thence a comparatively large, irregular fascicle at the middle, thence with a single row of long, slender, sharp setae to the apex; interval five with a double row of short setae near the base and thence with a single row of longer setae to the apex; interval seven bearing the flattened fascicle at the humerus and with another feeble fascicle slightly beyond the middle and thence with a single row of longer setae to the apex. *Legs* with numerous erect setae, the femora densely incrusted. *Sternum* incrusted, the mesosternal receptacle deep and cavernous, terminating slightly before the hind margin of the mesocoxae in the male and at the hind margin in the female, the side walls well developed and projecting slightly beyond the mesocoxae; metasternum at its narrowest point between the mid and hind coxae about three fourths as long as a metacoxa. *Venter* with the first two ventrites flattened in the

male, convex in the female; the intercoxal process of the first ventrite twice as broad as a metacoxa. Length, 1.6-2.6 mm.; breadth, 0.8-1.3 mm.

Holotype male, allotype female, 43 paratypes, and one specimen for dissection collected by me as follows: holotype, allotype, and 41 paratypes beaten from dead branches of *Homolanthus* at Maitua, 700-800 feet, July 2, 1934; two paratypes beaten from ferns in the southeast valley of Mount Ororangi, 600-700 feet, July 3. The specimen dissected was beaten from *Fitchia* on the east ridge of Mount Perahu, 1,200-1,500 feet, July 21.

This is one of the most distinct and peculiar species of the genus. It much resembles a small *Chaetectetorus* and superficially does not seem to belong to *Microcryptorhynchus*. Its fasciculate, densely incrusted derm distorts the body and makes the shape misleading. The fringe of long setae at the shoulders is densely incrusted and the humeri appear large and prominent.

This species is not closely allied to any of the other Rapan species and may be distinguished offhand by its fasciculate dorsum and apparently prominent humeri.

12. Microcryptorhynchus carinatus, new species (pl. 2, no. 12).

Female. Derm reddish to piceous, with a light, variable incrustation; scaling white, setae brownish yellow; pronotum with white scaling on the sides between the carinae.

Head with the small punctures capped with small scales, without setae except for a row of long, comparatively heavy, erect, spatulate setae on either side of the middle between the eyes. *Rostrum* with scaling at the base only, with a few large setae, like those between the eyes, at the base, these giving way to a single row of short, fine setae to the antennae; finely tricarinate behind the antennae above, the median carina distinct near the base only; finely punctate beyond the antennae. *Prothorax* almost as broad as long, almost straightly expanded on the sides from the base to the apical fourth and then abruptly constricted, the constriction caused by the termination of the strong lateral carinae, the subapical constriction indistinct and not interrupting the convex, longitudinal, dorsal outline; with two longitudinal dorsal carinae at either side of the disk that terminate at about the apical fourth, the carinae bearing two or three rows of erect, spatulate setae; with the setae otherwise as on the lateral carinae, scattered near the apex on the disk, and forming a row around the apical margin; the disk between the dorsal carinae evidently impunctate; base truncate, the squamose area slightly convex, inconspicuous. *Elytra* three fourths as broad as long, twice as long as the prothorax, broadest at about the basal third, and thence narrowly rounded to the apex; the striae but slightly impressed, their punctures rather small and not very deep or conspicuous; intervals broader than the striae, the alternate ones each bearing a row of erect setae, those near the base on the disk spatulate, becoming longer and sharper distad. *Legs* with the femora and tibiae coarsely reticulate and with slanting or erect, sharp setae. *Sternum* with the mesosternal receptacle deep and cavernous, U-shaped, the side walls strongly developed and continued forward almost to the fore coxae, terminating slightly behind the middle of the mesocoxae in the female; metasternum set with small, setigerous punctures, almost as long at its narrowest point between the mid and hind coxae as a metacoxa in the female. *Venter* with the first two ventrites convex in the female, closely set with small punctures bearing short, fine setae; the intercoxal process arcuate in front, distinctly less than twice as broad as a metacoxa. Length, 2 mm.; breadth, 0.8 mm.

Holotype female collected by me while beating dead branches at Maitua, 700-800 feet, July 2, 1934.

Owing to the carinae on the prothorax, this species is distinct from all the others known to me. This character alone distinguishes it from all Rapan species, and there is none with which it might easily be confused.

13. Microcryptorhynchus squamosus, new species (pl. 1, no. 9).

Female. Derm reddish brown to piceous, squamose above, the squamae yellowish and forming a vitta on the third interval at the middle and along the suture near the base and from the middle to the apex.

Head densely squamose, with short, scattered, erect setae. *Rostrum* dorsally tricarinate behind the antennae; the sulci between the carinae squamose and each with a row of short, erect setae; coarsely reticulate beyond the antennae and with minute setae. *Prothorax* distinctly broader than long (3.5:3), rounded on the sides, subequally narrowed before and behind the middle, the subapical constriction not very strong and continued shallowly across the dorsum which is otherwise evenly, longitudinally convex; densely squamose except for a bare impunctate median line, the squamae very dense on the sides of the disk, each scale capping a small, indistinct puncture; setae scattered, very small, fine, and inconspicuous; base truncate, the squamose area narrow and inconspicuous. *Elytra* about five sixths as broad as long, not quite twice as long as the prothorax, broadly rounded on the sides from base to apex and without a subapical constriction; base truncate, the margin slightly raised; striae not coarse, the punctures medium-sized, round and distinct; intervals normally about twice as broad as the striae, the first one slightly elevated near the base, the third expanded in the middle and there densely squamose, the first interval most densely squamose at the base and behind the middle, intervals five, six, and seven more densely squamose than four, each interval with one or two irregular rows of short, inclined setae. *Legs* densely clothed with elongate oval, concave scales and numerous short, fine, inclined setae. *Sternum* with the mesosternal receptacle very slightly cavernous terminating almost at the first ventrite, the metasternum, therefore, almost obsolete in the middle, the side walls terminating in the anterior half of the mesocoxae and not at all extended beyond their anterior margins; metasternum between the mid and hind coxae about half the length of a metacoxa. *Venter* with the first two ventrites convex, with numerous setigerous punctures, the third, fourth, and fifth ventrites almost impunctate; intercoxal process of the first ventrite truncate in front, about two and one half times as broad as a metacoxa. Length, 1.7 mm.; breadth, 0.9 mm.

Holotype female, collected by Donald Anderson "on dead leaves under logs and stones" with land shells, Karapo Rahi Islet, 50-300 feet, July 18, 1934; one female paratype collected by W. G. Anderson, with land shells under dead leaves near Ahurei, July 28.

Owing to the arrangement of the scales, this species is distinct and rather easily recognized. Because of its squamose dorsum it might be considered a close ally of *M. fasciatus*, but on this species the mesosternal receptacle has abbreviated side walls that do not extend beyond the anterior margins of the fore coxae; the cavity is just perceptibly cavernous and the metasternum is almost obliterated in the middle.

14. Microcryptorhynchus fasciatus, new species (pl. 1, no. 10).

Female. Derm reddish to black, with the thorax and legs reddish, the elytra piceous at the base and becoming blacker distally; dorsum squamose, with the scales pale yellowish and arranged in a slightly anteriorly oblique fascia on each elytron at about the middle, and with squamae near the base of the intervals outward from, but including, interval three; scales on the prothorax irregularly placed owing to abrasion, but evidently normally rather dense.

Head very coarsely reticulate and with small, round, concave squamae; with a row of inconspicuous short, hairlike, erect setae along the inner margins of the eyes and a few scattered setae. *Rostrum* not carinate, with a fine sulcus bearing a row of short, fine, hairlike, erect setae from the base to the antennae, otherwise finely punctate and shiny. *Prothorax* as long as broad, round at the middle and subequally narrowed before and behind the apex; with the subapical constriction distinct on the sides and very shallowly continued across the convex dorsum; very coarsely reticulate, the punctures small, very dense, shallow, confluent, and indistinct throughout; the scales round and evidently easily abraded, probably normally almost continuous over the dorsum; base truncate, the squamose area broadly arcuate. *Elytra* over three fourths as broad as long (4.5:6), twice as long as the prothorax; base truncate, the margin raised at the middle, impressed behind the margin between intervals one and four, somewhat inflated on the sides, rounded from the base to the apical fourth and thence narrowed to the apex, subapical constriction feeble, but distinct; striae well impressed, the punctures close and deep; intervals about one and one half or twice as broad as the striae, the alternate intervals with single rows of short, fine inconspicuous setae; scaling arranged in short vittae on the intervals, taken together forming a slightly oblique, submedian fascia, the first two intervals not squamose at the base. *Legs* with the femora rather densely squamose and with numerous fine, erect setae. *Sternum* with the mesosternal receptacle deep and cavernous, terminating at the hind margin of the mesocoxae in the female, the side walls high and extending beyond the mesocoxae, reaching the fore coxae; metasternum coarsely reticulate, about three fourths as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites strongly convex, rather densely and irregularly punctate, the punctures bearing fine setae, the fifth ventrite minutely punctate and with fine setae; the inner coxal process of the first ventrite truncate in front, about three times as broad as a metacoxa. Length, 1.8 mm.; breadth, 0.9 mm.

Holotype female beaten by me from *Eurya* on the northeast ridge of Mangaoa Peak, 1,000-1,200 feet, July 6, 1934.

This species is not easily confused with any other Rapan species. The squamose, fasciate dorsum readily distinguishes it from all others except *M. squamosus,* but it cannot be associated with that species owing to the structure of its sternum.

15. Microcryptorhynchus abnormis, new species (fig. 5, *h-i*; pl. 2, no. 5).

Derm reddish brown to black, rather densely squamose, squamae and setae yellowish, without an incrustation.

Head almost entirely hidden from above by the pronotum; densely squamose, finely reticulate, minutely punctate; interocular area distinctly depressed, with a single row of conspicuous, slender, erect, spatulate setae along the inner margins of the eyes. *Rostrum* with a deep sulcus on either side above the scrobe from the base to the antennae filled with a dense spongy material, with a feeble stria between the lateral groove and the median line, somewhat coarser in the male than in the female, and often filled with an incrustation; without carinae; setae erect, short, and fine, in four rows, borne from the

sulci and scattered at the apex; longitudinally strigulate. *Prothorax* distinctly longer than broad (3:2.5), almost straightly and slightly expanded from the base to about the middle, then rounded to the strong subapical constriction which is slightly and broadly impressed across the otherwise strongly convex dorsum; minutely reticulate, minutely punctate, the punctures shallow, dense and often hardly discernible; densely squamose except on the bare median line, the squamae much more dense at the sides than on the disk; the setae scattered on the disk, broad, spatulate, and anteriorly inclined on the disk, with a single row of medianly inclined, thin, spatulate setae along the apical margin; base slightly arcuate, the squamose area narrow, incomplete, and inconspicuous. *Elytra* narrowly elongate-oval, about three fifths as broad as long, narrowly arcuate on the sides from the base to about the apical fourth, the subapical constriction not very distinct; striae very coarse at the base, but rapidly diminishing distad and almost obsolete in the apical third, as broad or broader than the intervals at the base, but only about half as broad at the middle, the punctures rounded, deep, and coarse at the base, diminishing in size and depth posteriorly; the intervals slightly convex on the disk, the fifth interval raised, overhanging and cariniform at the base, the sixth to ninth intervals depressed beneath it at the base, the basal margin there costiform; densely squamose throughout, the squamae oval, depressed; the alternate intervals each bearing a row of long, conspicuous, erect, slender, sharp, spatulate or lanceolate setae. *Legs* with the femora and tibiae densely squamose, and with short, scattered setae; the tibial uncus very strong and broad, arcuate, arising from about the middle of the apex. *Sternum* with the mesosternal receptacle deep and cavernous, terminating at about the fore margin of the mesocoxae in the male, slightly behind in the female, the side walls protuberant, extending to a level ventral to the coxae and reaching the fore coxae, the hind wall very thick, slanting ventro-anteriorly from about the middle of the mesocoxae; metasternum concave in the male, flattened in the female, densely punctate and squamose, about three fourths as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* squamose, with the first two ventrites feebly convex in both sexes, the intercoxal process more strongly concave in the male than in the female, densely punctate, the punctures round and separated by distances not greater than their diameters and bearing short fine setae; the intercoxal process slightly arcuate in front, only about one fourth broader than a metacoxa; ventrite five minutely punctate, finely setose. Length, 2.4-3.4 mm.; breadth, 1-1.4 mm.

Holotype male, allotype female, taken in copula, and nine paratypes collected by me while beating ferns in the southeast valley of Mount Ororangi, 600-700 feet, July 3, 1934; two paratypes from *Pteris* fern, collected by C. M. Cooke, Jr., on the west slope of Mount Ororangi, 100 feet, July 28; and one paratype collected by D. Anderson at Area, 400 feet, July 30.

This is a distinct species allied to, but very distinct from, *M. andersoni*. Its large size, elongate form, and squamose derm readily distinguish it. From *M. andersoni* it can be distinguished by its form, coarser elytral sculpture, more coarsely sculptured rostrum, and by the unusual structure of the mesosternal receptacle. It might be confused with some of the more elongate specimens of *M. impressus* but the two species are not allied, and even a superficial examination distinguishes the species.

16. Microcryptorhynchus sternalis, new species (fig. 5, *j*; pl. 1, no. 11).

Derm coal black, the appendages reddish; with a thin, greasy incrustation.

Head coarsely reticulate, without obvious punctuation on the crown, depressed between the prominent eyes; with one or two rows of minute setae along the inner

margins of the eyes. *Rostrum* short and stout, not reaching the mesocoxae, coarsely reticulate, not distinctly striate nor carinate, indistinctly punctate; with four to six rows of minute, hardly discernible setae behind the antennae; very dull throughout in the male, more shiny in the distal half in the female. *Prothorax* about as long as broad, rounded on the sides at the middle and subequally narrowed toward the base and apex; the subapical constriction distinct on the sides, but not very deep, hardly impressed across the dorsum which is almost evenly convex from base to apex; coarsely reticulate, densely, rather shallowly punctate, the punctures not separated by interstices broader than their diameters, coarser and closer at the base and sides; with few, minute, hardly discernible setae; base truncate, the squamose area narrow and comparatively indistinct. *Elytra* elongate oval, rather flatly arcuate on the sides with a distinct subapical constriction, two thirds as broad as long, slightly more than twice as long as the prothorax; striae rather shallow, the punctures moderately large, rounded and shallow; intervals slightly convex or almost flat, as broad as or slightly broader than the striae, each bearing a row of minute, hardly discernible setae. *Legs* very coarsely reticulate, with minute or very short, fine setae; the tibial uncus strongly developed throughout, arising on the outer apical angle, projecting outward to about the middle and thence abruptly bent inward, the apex of the tibia rounded off beneath it. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls complete and extending forward to the fore coxae, the hind wall unusually thick and broad, flattened and almost as broad as the metasternum between the mid and hind coxae along its median line, the cavity terminating, therefore, at or slightly before the anterior margins of the mesocoxae; metasternum coarsely reticulate, densely punctate, about as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* coarsely reticulate, the first two ventrites rather densely punctate, the punctures on the first coarser than on the second; the first ventrite convex in the female and but slightly flattened in the male, the intercoxal process truncate in front and much broader than a hind coxa; fifth ventrite with at most a few short, fine setae. Length, 1.7 mm.; breadth, 0.8 mm.

Holotype male and allotype female collected by me while beating *Metrosideros* on the east ridge of Mount Perahu, 1,800 feet, July 28, 1934.

The unusual structure of the mesosternal receptacle readily separates this species from all its congeners except *M. abnormis*. It bears no resemblance to that species, however. The pectoral canal terminates between the fore and mid coxae instead of between the mid coxae as is the more normal form. The elytral setae are very minute and might easily be overlooked. The greasy exudation is difficult to remove and obscures the sculpture of the dorsum.

17. Microcryptorhynchus niger, new species (pl. 2, no. 9).

Female. Derm shiny black, with the appendages reddish at least toward the apices; without an incrustation; setae white.

Head finely reticulate, almost impunctate, with some very fine, erect setae on the front and a row along the inner margin of each eye. *Rostrum* not carinate, for the most part polished and shiny, with a single row of very fine, erect setae from the base to the antennae and scattered setae on the sides to the apex; punctate on the sides only. *Prothorax* distinctly longer than broad (2.2:1.8), almost evenly and rather straightly narrowed from the rounded middle to the base and apex; the subapical constriction indistinct, the dorsum evenly convex and not impressed; minutely punctate, the median line impunctate, the punctures usually separated by distances greater than their diameters; with scattered, rather short, very fine erect setae; base truncate, the squamose area narrow and inconspicuous. *Elytra* five eighths as broad as long, about twice as

long as the prothorax, elongate oval, base truncate, its margin slightly elevated; striae rather shallowly impressed on the disk, but well defined, the punctures rounded, medium-sized, rather regular, close and deeply impressed; intervals somewhat broader than the striae, the alternate intervals each bearing a single row of rather long, fine, sharp, arcuate, erect setae. *Legs* not squamose, shiny, with the femora and tibiae minutely punctate, finely wrinkled and with long, fine, scattered setae. *Sternum* with the mesosternal receptacle just perceptibly cavernous, terminating slightly behind the middle of the mesocoxae in the female, the side walls distinct, raised and projecting distinctly beyond the anterior edge of the mesocoxae, hind margin slightly elevated, hemispherical; metasternum rather densely punctate, with short setae as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites slightly convex, finely punctate, the punctures bearing short, fine setae; the intercoxal process truncate in front, about one and three fourths as broad as a metacoxa; ventrites three and four evidently impunctate and without setae; ventrite five sparsely punctate and setose. Length, 2.2 mm.; breadth, 1 mm.

Holotype female and a female paratype collected by me on the east ridge of Mount Perahu, the holotype beaten from *Bidens,* 1,500-1,800 feet, July 28, 1934; the paratype beaten from *Fitchia,* 1,200-1,500 feet, July 21.

This species might easily be confused with *M. lucens* if it were not for the structure of its mesosternal receptacle and absence of scales on the head and rostrum. The two species have quite similar dorsa. The mesosternal receptacle is very slightly cavernous, but the side walls project beyond the fore margins of the mesocoxae.

18. Microcryptorhynchus reticulatus, new species (pl. 1, no. 12).

Female. Derm rather dull black, the appendages diluted with red; without an incrustation; scaling and setae yellowish white.

Head concealed from above by the prothorax, coarsely reticulate; the setae minute and inconspicuous. *Rostrum* minutely punctate, with two fine striae bearing minute, hardly discernible setae on each side; not coarsely reticulate except at the base. *Prothorax* as long as broad, rounded and broadest at the middle and subequally narrowed toward the base and apex; the subapical constriction indistinct, hardly impressed across the strongly convex dorsum; impunctate, coarsely and evenly reticulate throughout; setae minute and scattered; base truncate, the squamose area comparatively broad and conspicuous, emarginate in the middle, appearing as though made up of two broad A-shaped patches of scales. *Elytra* ovoid, four fifths as broad as long, twice as long as the prothorax; striae obsolete, marked by minute, well separated punctures only; intervals four or five times as broad as the strial punctures, flat, even, and plain, each bearing a row of short, fine, erect setae. *Legs* with the femora and tibiae coarsely reticulate and with short, scattered, inclined setae; tibial uncus minute but distinct. *Sternum* with the mesosternal receptacle deeply cavernous, terminating between the middle and hind margin of the mesocoxae, the side walls high and projecting to the anterior edge of the mesosternum, the hind wall protuberant; metasternum coarsely reticulate, finely setose; about three fourths as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex, coarsely reticulate, like the metasternum and prothorax; impunctate and with very few, short, fine setae; the intercoxal process truncate in front, almost three times as broad as a metacoxa; third, fourth, and fifth ventrites somewhat less coarsely reticulate, the fifth almost devoid of setae. Length, 1.6 mm.; breadth, 0.8 mm.

Holotype female collected by me while beating *Eurya* on the northeast ridge of Mangaoa Peak, 1,000-1,200 feet, July 6, 1934.

This small species is closely allied to *M. irregularis* and can be distinguished from that species by the following characters: prothorax impunctate, conspicuously and coarsely reticulate, without a strong subapical constriction; basal squamose area comparatively broad and emarginate in the middle; elytral striae obsolete and the intervals flat.

19. Microcryptorhynchus irregularis, new species (fig. 6, *e*; pl. 1, no. 13).

Derm black, the appendages diluted with red, elytra shiny; with a thin, greasy incrustation.

Head concealed from above by the pronotum, densely and coarsely reticulate; the setae minute and hardly discernible, a single row along the inner margins of the eyes. *Rostrum* coarsely reticulate, shallowly sulcate and feebly and indistinctly tricarinate to the antennae, stouter and densely punctate beyond the antennae in the male, more slender and very finely punctate beyond the antennae in the female; setae minute, forming two rows on each side of the middle. *Prothorax* as long as broad, rounded on the sides from the base to beyond the middle and thence with a strong subapical constriction which is continued deeply across the dorsum, making the longitudinal dorsal contour conspicuously sinuous; coarsely reticulate, densely and finely punctate throughout, the punctures individually rather indistinct, separated by distances not greater than their diameters on the disk; setae scattered, minute, and hardly discernible; base subtruncate, the squamose area very narrow and inconspicuous. *Elytra* ovoid, four fifths as broad as long, twice as long as the prothorax, the subapical constriction indistinct; striae rather coarse and deeply impressed, somewhat less so on the disk, the punctures rather close and deep; intervals about one and one half times as broad as the striae, convex, the third slightly more elevated at the base, the second somewhat depressed and not quite reaching the base, all the intervals with a row of minute setae. *Legs* coarsely reticulate, and with short scattered setae; the tibiae with the unci minute, situated at the inner apical angle and hardly discernible on the fore tibiae, first tarsal segment about three fourths as long as the third segment. *Sternum* with the mesosternal receptacle deep and cavernous, terminating at about the hind margin of the mesocoxae in the male, slightly behind the margin in the female; the side walls high and projecting beyond the mesocoxae to the anterior margin of the mesosternum, the posterior wall thin and strongly protuberant; metasternum coarsely reticulate, minutely punctate, sparsely and finely setose, slightly less than three fourths as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* without any conspicuous differences between the sexes; the first two ventrites convex, coarsely and densely punctate throughout; the intercoxal process slightly more than twice as broad as a metacoxa, truncate in front; fifth ventrite sparsely setose, with an arcuate, impressed, median emargination in the anterior margin. Length, 1.5 mm.; breadth, 0.8 mm.

Holotype male and allotype female found by me in a dead *Cyathea* frond on the northeast ridge of Mangaoa Peak, 1,000-1,100 feet, July 29, 1934.

This small species is closely allied to *M. morongotae, M. reticulatus, M. nitidus,* and *M. impressicollis.* It can be distinguished from all of these except *M. impressicollis* by its much deeper, subapical, dorsal, pronotal impression, and from *M. impressicollis* by its nearly obsolete tibial unci and coarsely reticulate pronotum. It differs particularly from *M. morongotae* and *M. nitidus* in having the tibial uncus minute, from *M. nitidus* in having

the pronotum much more coarsely reticulate and less distinctly punctate, and from *M. reticulatus* in having the striae deeply impressed and the intervals convex.

The elevation of the third intervals at the base is subject to variation. On the allotype those intervals are conspicuously elevated above the others, whereas on the holotype they are but slightly more elevated.

20. Microcryptorhynchus impressicollis, new species (pl. 1, no. 14).

Derm rather shiny, dark reddish brown to piceous, setae and scaling yellowish, with at most a greasy incrustation.

Head with the crown finely reticulate, minutely punctate, the punctures bearing concave squamae; interocular area more coarsely punctate; with a median carina and a row of short, erect, lanceolate setae along the inner margins of the eyes. *Rostrum* with three median carinae behind the antennae, the middle one heavier and expanding distally, the striae between the carinae well punctate, bearing short, erect setae; smoother, less coarsely punctate, more shiny and slender in the female than in the male. *Prothorax* slightly broader than long, tumid and strongly rounded in the basal two thirds and thence strongly and rather sharply constricted, the constriction continuing deeply across the dorsum which is strongly and evenly convex from the base to the middle of the constriction; base truncate, the squamose area nearly straight and continued from side to side; coarsely and densely punctate throughout, the punctures comparatively large on the disk, separated by interstices equal to about half their diameters, the median line often impunctate, most punctures normally capped by squamae or giving rise to short, lanceolate, erect setae which are scattered on either side of the median line on the disk, the setae around the apical margin not longer than the discal ones. *Elytra* about four fifths as broad as long, only two fifths longer than the prothorax, ovoid, strongly rounded in the basal half but rather sharply narrowed to the apex, without a distinct subapical constriction; striae coarse, the punctures rounded or quadrate and coarse on the disk; intervals somewhat variable in breadth, the first usually narrower than the first two striae in the basal half, the outer striae more convex, more elevated, and broader, as broad as or broader than the striae; each interval bearing a row of short, narrow, lanceolate setae, those on the even numbered intervals usually smaller than the others. *Legs* with the femora and tibiae coarsely reticulate, with short scattered setae; the tibial uncus distinct and well developed on all the tibiae arising from the outer apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls complete and extending to the fore margin of the mesosternum, the hind wall narrow and slightly protuberant, terminating slightly before the hind margin of the mesocoxae in the male and slightly behind the margin in the female; metasternum coarsely and densely punctate throughout, the punctures giving rise to fine setae, three fourths as long as a metacoxa at its narrowest point between the mid and hind coxae and there as long as the median line between the mesosternal receptacle and the first ventrite in the female, dsitinctly shorter in the male. *Venter* with the first two ventrites convex in the female, the first broadly and distinctly concave in the male, with scattered setae and coarsely and densely punctured throughout; the intercoxal process slightly arcuate in front, about one fourth broader than a hind coxae; ventrite five minutely punctate and almost devoid of setae. Length, 1.4-1.5 mm.; breadth, 0.7-0.8 mm.

Holotype male, allotype female, and one broken specimen beaten by me from ferns on the south slope of Mount Tepiahu, 400-600 feet, July 20, 1934; one paratype collected by me from *Asplenium nidus* fern on Karapo Rahi Islet, 100-300 feet, July 18.

This species is very closely allied to *M. irregularis* but can be separated from that species by the following characters: pronotum shiny with distinct punctures instead of being coarsely reticulate and dull with indistinct punctures; coarser, more strongly punctate elytral striae and less even intervals; tibial uncus distinct and not nearly obsolete, as in *M. irregularis*.

21. Microcryptorhynchus obesus, new species (fig. 6, *c*; pl. 2, no. 10).

Derm black, somewhat shiny, with the appendages diluted with red, without a dense incrustation; scaling and setae white.

Head not completely concealed from above by the pronotum, coarsely reticulate, minutely and densely punctate, with short, scattered, fine, hairlike, erect setae between the eyes. *Rostrum* with a broad, lateral sulcus on each side from base to antennae filled with a yellowish, more or less squamose incrustation with fine, erect setae showing through, indistinctly carinate on the inner edges of the sulci in the male and with a fine punctate line bearing short, fine, erect setae on each side of the median line; minutely punctate throughout and with scattered larger punctures. *Prothorax* almost as long as broad (1.5:1.4), rounded and broadest at the middle and thence subequally narrowed to the base and apex; the subapical constriction indistinct, not impressed across the evenly convex dorsum; not or hardly reticulate, very densely, minutely, and evenly punctate throughout, the punctures separated by distances about equal to their diameters; setae small, fine, inconspicuous, arcuate, anteriorly inclined; normally with thin, dense squamae capping the punctures on the sides and forming a thin, easily abraded incrustation that is most dense near the posterior angles; base truncate, the squamose area narrow and entire. *Elytra* about five sixths as broad as long in the female, slightly narrower in the male, the breadth somewhat variable; base truncate, the margin somewhat elevated; strongly inflated on the sides, most conspicuously so in the female, with the subapical constriction well developed; the striae not or hardly impressed between the punctures on the disk, the punctures rather small, round, and distinctly separated; the intervals two to four times as broad as the striae, flat, each with a row of short, fine, erect setae. *Legs* with the femora and tibiae coarsely reticulate, sparsely and finely setose; the tibial uncus very strongly developed, arising from the outer apical angle, bent almost at a right angle and almost reaching the inner apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, terminating at the middle of the mesocoxae in the female, slightly before the middle in the male, the side walls high and reaching the fore coxae, the posterior wall very thick; metasternum finely punctate and transversely wrinkled, about half the length of a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex in both sexes, somewhat impressed in the middle in the male, finely, variably, and unevenly punctate; the intercoxal process truncate in front and about twice as broad as a hind coxa; ventrites three to five often retracted in the female; the fifth ventrite rather deeply impressed in the apical half in the female, hardly so in the male, finely punctate and with a few hairlike setae. Length, 1.6-1.9 mm.; breadth, 0.8-1 mm.

Holotype male, allotype female, and 111 paratypes collected by me as follows: holotype, allotype, and 34 paratypes beaten from ferns in the southeast valley of Mount Ororangi, 600-700 feet, July 3, 1934, and two paratypes taken at the same place and date beaten from *Piper;* 71 paratypes beaten from ferns on the southeast slope of Mount Tepiahu, 400-600 feet, July 20; four paratypes beaten from *Fitchia* on Mount Tanga, 700-800 feet, July 23.

This is a rather variable species, easily recognized by its inflated elytra. It is rather closely allied to *M. nitidus* but may be readily distinguished from that species by its more inflated elytra which are distinctly constricted before the apex and by the pronotum which is proportionately larger and much more finely and densely punctured in this species.

22. **Microcryptorhynchus morongotae,** new species (pl. 1, no. 16).

Derm black, the prothorax and appendages diluted with red, elytra somewhat shiny; with a thin, greasy incrustation.

Head very coarsely reticulate, obsoletely punctate, almost devoid of setae. *Rostrum* obsoletely sulcate at the base, not carinate, for the most part shiny and with scattered punctures; with a row of minute setae in the lateral sulcus and a few near the apex only. *Prothorax* as broad as long, rounded on the sides from base to beyond the middle, the subapical constriction rather sharply defined on the sides but not or just perceptibly impressed across the dorsum which is gently, longitudinally convex; with two types of reticulation, consisting of a minute reticulation overlaid by a rather large, irregular, coarse reticulation made up of the interstices of obsolete punctures; setae minute and hardly discernible; base subtruncate, the squamose area very narrow and inconspicuous. *Elytra* ovoid, pointed behind, only about one sixth longer than broad, twice as long as the prothorax; striae rather coarse and deeply impressed, the punctures rather large, close, and deep; intervals convex, about one and one half times as broad as the striae, alternate ones each with a row of very short setae. *Legs* with the femora with scattered squamae, the femora and tibiae with fine, scattered setae; the uncus strong and well developed on all the tibiae and distinctly arising from the outer apical angle; the first segment of the tarsi as long as the third. *Sternum* with the mesosternal receptacle deep and cavernous, terminating at about the middle of the mesocoxae, the side walls high and extending to the fore coxae, the posterior wall moderately thick and distinctly protuberant; metasternum reticulate, minutely and irregularly punctate, about five eighths as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex, closely set with setigerous punctures, the intercoxal process subtruncate in front, almost three times as broad as a metacoxa; the fifth ventrite minutely punctate and with a few minute setae at the apex. Length, 1.8 mm.; breadth, 0.9 mm.

Holotype, sex uncertain, collected by me at Morongota, 700-800 feet, July 11, 1934; one badly abraded paratype beaten by me from *Metrosideros* on the east ridge of Mount Perahu, 1,800 feet, July 28.

This species might easily be confused with *M. irregularis,* but the dorsum of the prothorax is not subapically impressed and dorsally sinuate, and the uncus is well developed on all of the tibiae and evidently only the alternate intervals are setose.

23. **Microcryptorhynchus nitidus,** new species (pl. 1, no. 15).

Derm black with the appendages diluted with red, somewhat shiny, without an incrustation; scaling white or yellowish.

Head almost completely hidden from above by the prothorax; coarsely reticulate, with a small interocular fovea; setae minute and inconspicuous, with two interocular rows on each side. *Rostrum* not carinate, finely and obsoletely sulcate, coarsely reticulate from base to apex in the male, at the base only in the female, more slender and for the most part shiny; setae minute and hardly discernible, forming four loose rows behind

the antennae. *Prothorax* as long as broad, broadest slightly behind the middle, somewhat more strongly narrowed beyond the middle than behind; the subapical constriction inconspicuous and but feebly developed, hardly impressed across the evenly convex dorsum; finely reticulate and rather evenly set with small, round punctures separated from one another by distances about equal to or slightly greater than their diameters on the disk, base truncate, the squamose area narrow but conspicuous and continuous. *Elytra* ovoid, four fifths as broad as long, twice as long as the prothorax; striae narrow, shallow but sharply defined, the punctures small and separated; the intervals four or five times as broad as the striae, flat or very slightly convex, each bearing a row of minute, hardly discernible, erect setae. *Legs* with the femora and tibiae finely reticulate and almost devoid of setae; the tibial uncus strongly developed and arising from the outer edge. *Sternum* with the mesosternal receptacle deeply cavernous, terminating slightly beyond the middle of the mesocoxae in both sexes, the side walls high and projecting forward almost to the fore coxae, the hind wall distinctly, although not strongly, protuberant; metasternum finely punctate, about five sixths as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex in both sexes, finely punctate, the punctures usually separated by distances equal to about twice their diameters; the intercoxal process truncate in front, almost three times as broad as a hind coxa; fifth ventrite impunctate and almost devoid of setae. Length, 1.4-1.6 mm.; breadth, 0.7-0.9 mm.

Holotype male, allotype female, and 16 paratypes collected by me on Karapo Rahi Islet, 100-300 feet, July 18, 1934. The holotype and three paratypes were collected from *Asplenium nidus*, and the allotype and 13 paratypes were picked from the leaves of *Acalypha*.

This species is closely allied to *M. irregularis* but can be distinguished by its smoother, minutely reticulate, somewhat shiny, evenly punctate, unimpressed prothorax.

24. Microcryptorhynchus ventralis, new species (pl. 1, no. 17).

Derm yellowish to reddish brown, without an incrustation; squamose above, scales and setae white.

Head concealed from above by the pronotum, finely reticulate, minutely punctate, with large, round, scattered squamae to the base of the rostrum; interocular area with a row of suberect, oval, squamiform setae along the inner margin of each eye. *Rostrum* very slender, longitudinally sinuous, shiny, minutely punctate, not sulcate nor carinate in either sex, with a few short, erect setae in a single row on either side at the base only. *Prothorax* distinctly longer than broad (12:9), rounded at the middle, somewhat more strongly narrowed to the base than apex, the subapical constriction distinct but not very strong on the sides, continued broadly and distinctly across the otherwise gently convex dorsum, the apex strongly rounded, as broad as the base; coarsely reticulate, densely, often subconfluently, shallowly, and finely punctate, the punctures capped by comparatively large round scales; with a few scattered setae on the disk and a row along the apical margin, the setae erect subspatulate; base truncate, the squamose area rather high, emarginate at the middle. *Elytra* narrow, elongate-oval, twice as long as broad, twice as long as the prothorax, narrowly arcuate on the sides, the subapical constriction indistinct; striae well marked, as broad or broader than the intervals, the punctures close and deep, each capped with a round scale; intervals slightly convex, the alternate ones bearing a row of conspicuous, erect setae, oval on the disk, becoming slender and sharp behind. *Legs* with the femora and tibiae with scattered scales and erect setae; tibial uncus well developed, slender, arising from near the outer apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls high and almost

reaching the fore coxae, the hind walls thin and slightly protuberant, terminating slightly behind the middle of the mesocoxae in both sexes; metasternum with scattered punctures, almost one fourth longer than a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first and second ventrites convex, but slightly less so in the male than in the female, with small, scattered setigerous punctures; intercoxal process narrow, arcuate in front, only about as broad as a hind coxa and only about three fourths as broad as the length of the metasternum between the mid and hind coxae; ventrite five minutely punctate, sparsely and finely setose. Length, 1.2-1.4 mm.; breadth, 0.4-0.5 mm.

Holotype male, allotype female, and eight paratypes collected by me from *Asplenium nidus* on Karapo Rahi Islet, 100-300 feet, July 18, 1934.

This is the smallest of the Rapan weevils known to me. It may be recognized by its small size, slender form, its slender, sinuous rostrum, and by its very narrow intercoxal process of the first ventrite which alone distinguishes it from all of the other Rapan species. It is an isolated species and is out of place in the key.

25. Microcryptorhynchus paenulatus, new species (pl. 1, no. 19).

Derm reddish brown, covered with a dense whitish or yellowish incrustation; setae and scaling white or yellowish.

Head almost or entirely concealed from above by the pronotum; coarsely reticulate, minutely and indistinctly punctate; rather densely squamose and without conspicuous setae on the crown; with a single row of short, narrowly spatulate, erect setae along the inner margin of each eye. *Rostrum* with four rows of short setae behind the antennae, the inner rows often abraded, indistinctly striate, rather vaguely, shortly tricarinate behind the antennae; the median carina most distinct, all often nearly obsolete or obscured by incrustation; minutely punctate and setose beyond the antennae. *Prothorax* usually longer than broad (3.5:3), but often fully as broad as long, rounded on the sides to beyond the middle and thence distinctly constricted, the constriction continued broadly, but rather deeply across the dorsum; very densely and rather coarsely punctate throughout, the punctures subconfluent; with numerous, short, erect, subspatulate setae scattered over the dorsum, those around the apical margin not longer; base truncate, the squamose area broadly arcuate. *Elytra* ovoid, with a slight subapical constriction, usually concealed by the incrustation, three fourths as broad as long, twice as long as the prothorax; striae broader than the intervals, the punctures coarse and close throughout; intervals narrow and somewhat raised, often appearing above the incrusted striae as longitudinal costae, each with a row of short but conspicuous setae. *Legs* with scattered, erect setae; the tibial uncus strongly developed and arising from the outer apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls complete and extending to the anterior margin of the mesosternum, the hind wall narrow, distinctly protuberant, terminating at the posterior margin of the mesocoxae in the female; metasternum closely set with setigerous punctures, not quite as long as a metacoxa at its narrowest point between the mid and hind coxae and there distinctly shorter than the median line between the mesosternal receptacle and the first ventrite. *Venter* with the first two ventrites convex in the female, densely set with setigerous punctures, the intercoxal process slightly arcuate in front, about twice as broad as a metacoxa; ventrite five minutely punctate and with short, fine setae. Length, 1.3-1.8 mm.; breadth, 0.5-0.8 mm.

Holotype female and three paratypes beaten from ferns and one from *Asplenium nidus* on the south slope of Mount Tepiahu, 400-600 feet, July 20, 1934; five paratypes found on *Asplenium nidus* on Karapo Rahi Islet,

100-300 feet, July 18; two paratypes beaten from ferns in the southeast valley of Mount Ororangi, 600-700 feet, July 3; one paratype from the northeast slope of Mount Tevaitahu, 700-800 feet, July 8; one paratype beaten from *Bidens* on the east ridge of Mount Perahu, 1,500-1,800 feet, July 28; two paratypes, one from dead *Cyathea* fronds, the other beaten from shrubs, taken on the northeast ridge of Mangaoa Peak, 900-1,200 feet, July 4; one paratype beaten from *Metrosideros* at the same locality, 1,000-1,200 feet, July 6; one broken specimen beaten from dead *Homolanthus* branches at Maitua, 700-800 feet, July 2. The 17 specimens were all collected by me.

Although the series probably includes both sexes, I have failed to find outstanding external characters to separate the males from the females.

This species may be distinguished from its congeners by its narrow elytral intervals, each of which bears a row of short, stout setae in combination with the conspicuous, pale incrustation which is usually very dense and normally completely conceals the derm.

26. Microcryptorhynchus tenuis, new species (pl. 1, no. 18).

Derm reddish brown to piceous, the elytra often, but not always, pale along the suture and infuscate on the sides, the appendages often, but not always, paler; without a dense incrustation above, with at most a narrow band of pale incrustation along the epipleural margin of the elytra and on the pleurae, or with a few scattered patches of thin incrustation; scaling and setae yellowish.

Head coarsely reticulate, evidently impunctate and without conspicuous setae or squamae on the crown; interocular area sculptured as the crown and not more coarsely so, with one or two rows of short, very fine, erect setae along the inner margins of the eyes, the inner row most often indistinct or abraded. *Rostrum* indistinctly striate behind the antennae and at most with a vague median carina; with four rows of minute setae behind the antennae; more slender and shiny in the female than in the male. *Prothorax* longer than broad (2.8:2.3), broadest at slightly before the middle and subequally narrowed toward the base and apex; the subapical constriction broadly and shallowly impressed on the sides and across the dorsum; rather coarsely reticulate, densely punctate, the punctures small but rather deep and close; with small, scattered, fine, anteriorly inclined setae; base truncate, the squamose area rather broad and conspicuous, very slightly emarginate in the middle or entire and continued from side to side. *Elytra* somewhat more than half as broad as long (3:5.5), more than twice as long as the prothorax, elongate-oval, narrowly rounded from base to apex, somewhat sharply tapered from behind the middle to the narrow apex, the subapical constriction vague; striae rather coarse, the punctures deep and close; the intervals as broad and usually broader than the striae, slightly convex and each bearing a row of minute setae. *Legs* with small, fine, scattered setae; the tibial uncus smaller on the mid and hind tibiae, very small on the hind tibiae. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls complete and projecting distinctly beyond the anterior margin of the mesosternum, the hind wall narrow and protuberant, terminating at about the middle of the mesocoxae in the male and almost at their hind margins in the female; metasternum about one fourth longer than a metacoxa at its narrowest point between the mid and hind coxae, rather sparsely punctate. *Venter* with the first two ventrites rather closely set with small, setigerous punctures, without any conspicuous external sexual differences; the intercoxal process slightly arcuate in front, not quite twice as broad as a metacoxa; ventrites three, four, and five evidently impunctate, the fifth with a few short, fine, scattered setae. Length, 1.4-1.6 mm.; breadth, 0.5-0.7 mm.

Holotype male, allotype female, and 49 paratypes beaten from *Freycinetia* on the east ridge of Mount Perahu, 1,200-1,500 feet, July 21, 1934; one paratype beaten from *Fitchia,* same locality and date; seven paratypes beaten from *Lautea,* same locality and date; one paratype collected by D. Anderson, same locality and date but no host record; one paratype collected by D. Anderson on the east slope of Mount Vairu, 700-800 feet, July 21; four paratypes beaten from *Cyathea* fronds on the northeast ridge of Mangaoa Peak, 900-1,200 feet, July 4; three paratypes beaten from *Eurya* at the same locality, 1,000-1,200 feet, July 6. Two specimens were collected by D. Anderson, 66 specimens were collected by me.

This species is almost identical with *M. bicolor* from the dorsal aspect and may be easily confused with that species. The mesosternal receptacle is of entirely different form, however, and the two species cannot be placed in the same group.

27. Microcryptorhynchus varians, new species (fig. 5, *f*; pl. 2, no. 6).

Derm variable, rather pale reddish brown or dark reddish brown to piceous; without an incrustation; scaling and setae white or yellowish.

Head not quite entirely concealed from above by the pronotum; coarsely reticulate, at most minutely and indistinctly punctate on the crown; crown without scaling, with a few short, scattered, hairlike setae; interocular area depressed and usually with a small fovea, with two rows of very fine, erect setae along the inner margins of the eyes, the inner row often partially abraded and indistinct. *Rostrum* with a shallow, rather vague stria on either side of the median line but not conspicuously carinate, usually with but one row of very fine setae borne from the lateral groove, but often with a short, second, inner row at the base, elsewhere finely punctate and sparsely setose, more shiny and slender in the female than in the male. *Prothorax* about as broad as long, rounded and broadest slightly before the middle and subequally constricted before and behind the middle, the subapical constriction broadly impressed on the sides and continued broadly and flatly across the dorsum which is otherwise slightly convex from base to apex; rather coarsely reticulate and densely punctate, the punctures variable, not very large, usually separated by distances not greater than their diameters, often more remote or closer; with short, scattered, very fine setae seen most easily in profile, not conspicuous from above; base truncate, the squamose area broadly emarginate in the middle. *Elytra* elongate-oval, rather tumid on the sides, without a very conspicuous subapical constriction, about five sevenths as broad as long, twice as long as the prothorax; striae rather coarse, the punctures moderately large and deep; intervals slightly convex, about as broad or slightly broader than the striae, each bearing a single row of short, fine, erect setae. *Legs* with fine, scattered, erect setae; the tibial uncus well developed throughout, arising from the outer apical angle, strongly curved. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls complete, extending forward almost to the fore coxae, the hind walls narrowly protuberant, terminating slightly behind the middle of the mesocoxae in the male and almost at the posterior margins in the female; metasternum with medium-sized, setigerous punctures, as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex and with little or no obvious external sexual differences, rather closely set with medium-sized punctures; ventrites three, four, and five evidently impunctate, the fifth with a few short, fine setae at the apex. Length, 1.7-2.2 mm.; breadth, 0.7-0.9 mm.

Holotype male, allotype female, and eight paratypes beaten from *Metrosideros* on the northeast ridge of Mangaoa Peak, 1,000-1,200 feet, July 6,

1934; one paratype beaten from *Eurya,* same locality and date; five paratypes beaten from shrubs at the same locality, 900-1,200 feet, July 4; two paratypes taken from dead *Cyathea* fronds, same locality and date; five paratypes beaten from shrubs at the same locality, 1,000-1,200 feet, July 25; two paratypes beaten from *Fitchia* on the south slope of Mount Tepiahu, 400-600 feet, July 20; two paratypes beaten from *Bidens* on the east ridge of Mount Perahu, 1,500-1,800 feet, July 28; one paratype beaten from *Metrosideros* at 1,800 feet, same locality and date; two paratypes beaten from shrubs on the northeast ridge of Mount Perahu, July 15, one from 1,200-1,400 feet, the other from 1,500-1,600 feet; one paratype from Morongota, 700-800 feet, July 11. All the specimens were collected by me.

This species shows a considerable range of color from pale reddish brown to piceous black; there is no incrustation and the elytral setae are small and fine but readily seen.

Owing to its color, lack of incrustation, and its setose intervals, this species is comparatively distinct and easily recognized. It cannot be confused with any of its allies, such as *M. tenuis* and *M. setulosus,* because of its size, shape, color, and the clean condition of its derm.

28. Microcryptorhynchus setulosus, new species (pl. 1, no. 20).

Derm dull, dark reddish brown to piceous, with a thin, greasy incrustation.

Head not completely concealed from above by the pronotum, not obviously punctate, with very small, fine, inconspicuous setae; interocular area somewhat depressed, with two rows of fine, hairlike, erect, rather inconspicuous setae along the inner margins of the eyes. *Rostrum* not distinctly carinate, with four shallow sulci behind the antennae giving rise to four rows of rather short, fine, erect setae; coarsely reticulate to the antennae and thence polished and shiny to the apex, indistinctly punctate. *Prothorax* but slightly longer than broad, almost evenly rounded on the sides but with a slightly impressed subapical constriction that extends shallowly across the dorsum; coarsely reticulate and densely punctate throughout, the punctures usually separated by interstices equal to about half or slightly more than half of their diameters; discal setae small and inconspicuous, with a row of somewhat longer, fine, erect setae around the apical margin; basal squamose area narrow and inconspicuous. *Elytra* coarsely reticulate; ovoid, almost evenly arcuate on the sides and without a distinct subapical constriction, about three fourths as broad as long, almost twice as long as the prothorax; striae rather deep, usually making the intervals appear slightly convex, their punctures shallow and not very distinct; intervals broader than the striae, all setose; and setae small and fine, often difficult to see on the disk. *Legs* coarsely reticulate and with short, fine, scattered setae; tibial uncus arising from the outer apical angle and well developed throughout. *Sternum* with the mesosternal receptacle deep and cavernous, with high, complete side walls that extend forward to the fore coxae, the hind wall distinctly protuberent, terminating at about the middle of the mesocoxae in the male and slightly before the hind margin in the female; metasternum with scattered punctures, about as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the intercoxal process but slightly arcuate in front, about twice as broad as a metacoxa; the first two ventrites convex in the female, the first slightly flattened down the middle in the male, with small, scattered punctures; ventrite five coarsely reticulate and finely setose. Length, 1.5-1.8 mm.; breadth, 0.6-0.8 mm.

Holotype male, allotype female found in dead *Cyathea* fronds on the northeast ridge of Mangaoa Peak, 800-1,000 feet, July 4, 1934. Six paratypes collected as follows: one in dead *Cyathea* fronds on the northwest slope of Mount Tautautu, 600-700 feet, July 9; two from dead *Cyathea* fronds at Kopenaena, 400-500 feet, July 24; two from the east ridge of Mount Perahu, 1,200-1,500 feet, July 21, one from *Asplenium nidus*, the other beaten from *Fitchia;* and one specimen beaten from shrubs at the same locality, 1,500-1,600 feet, July 15. All the specimens were collected by me.

This is a rather obscure species, intermediate between *M. varians* and *M. tenuis*, but closely allied to *M. pusillus*. It may be distinguished from that species as follows: lacks squamae on the dorsum; does not have such a distinct, loose incrustation; is larger and has the interocular setae very fine and less conspicuous.

29. Microcryptorhynchus pusillus, new species (pl. 1, no. 21).

Derm reddish brown to black, the elytra usually darkest, normally covered with a variable, rather loose amorphous incrustation that often almost entirely conceals the derm; scaling and setae whitish.

Head narrowly exposed from above; finely reticulate, not distinctly punctate; with scattered, rounded, farinaceous scales; interocular area with a single row of erect, narrowly sublanceolate setae along the inner margins of the eyes, although two rows may be present near the base of the rostrum, the setae not hairlike, but broader. *Rostrum* indistinctly carinate, finely sulcate, with four rows of short setae from the base to near the antennae, the inner rows often indistinct, shiny from near the base to the apex in the female and but finely sculptured; shorter, stouter, and more coarsely sculptured and with the setae more distinct in the male. *Prothorax* about as broad as long, broadest at slightly behind the middle and subequally narrowed toward the base and apex; but with the subapical constriction distinctly marked on the sides and continuing narrowly and rather shallowly, but distinctly, across the dorsum; minutely and very densely punctate throughout, the punctures usually not very distinct individually, the entire surface coarsely reticulate, the punctures normally capped by farinaceous scales; setae small, fine, and inconspicuous; the basal squamose area convex, nearly vertical. *Elytra* ovoid, about three fourths as broad as long, about twice as long as the prothorax, almost evenly rounded on the sides and with at most a feeble subapical constriction; striae rather deep, the punctures deep and close; intervals broader than the striae, rather coarsely reticulate, normally rather densely squamose, the scales small, thin, and farinaceous, often indistinct owing to absorption of body oils; all the intervals with short, narrow, sharp setae that are normally distinct from the base to the apex, the discal ones all about the same size, those at the apex not much longer; the incrustation usually patchy. *Legs* lightly incrusted, with scattered scales and erect setae, those on the tibiae stouter; tibial uncus distinct and well developed throughout. *Sternum* with the mesosternal receptacle deep and cavernous, with complete, high side walls to the fore margin of the mesosternum, the hind wall but slightly protuberant, terminating at about the middle of the mesocoxae in the male and at slightly before the hind margin in the female; metasternum with small, setigerous punctures and not quite as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the intercoxal process subtruncate in front, not quite twice as broad as a metacoxa; the first two ventrites rather broadly flattened in the male, convex in the female, rather closely set with small setigerous punctures; ventrite five coarsely reticulate and finely setose. Length, 1.2-1.5 mm.; breadth, 0.6-0.7 mm.

Holotype male, allotype female, and nine paratypes collected by me as follows: holotype and one paratype from *Asplenium nidus* on Karapo Rahi Islet, 100-300 feet, July 18, 1934; allotype and one paratype beaten from dead branches at Maitua, 700-800 feet, July 2; one paratype beaten from shrubs on the northeast ridge of Mangaoa Peak, 900-1,200 feet, July 4; and six paratypes beaten from shrubs on the northwest slope of Mount Tautautu, 700-800 feet, July 9.

Some specimens of this species are quite as small as *M. ventralis,* one of the smallest of the Rapan weevils. *M. pusillus* is quite closely allied to *M. setulosus* and may be confused with that species, but it has distinct squamae on the dorsum, its interocular and rostral setae are heavier than on *M. setulosus* and are not hairlike; it is smaller and has a different facies.

30. Microcryptorhynchus silvestris, new species (pl. 1, no. 22).

Male. Derm reddish brown, body infuscate on the sides; scaling and setae yellowish; with a comparatively thin but dense, irregular incrustation.

Head not entirely concealed from above by the pronotum, finely reticulate, minutely punctate, the punctures bearing small scales; interocular area depressed, with a single complete row in addition to an incomplete row of sharp, slender, erect setae along the inner margins of the eyes. *Rostrum* with three fine median carinae behind the antennae, the middle one broader and expanding distally, the striae between the carinae bearing four rows of fine erect setae; with scattered punctures and setae beyond the antennae. *Prothorax* as broad as long, rounded on the sides at the middle, subequally narrowed toward the base and apex, the subapical constriction feebly impressed on the sides, shallowly but distinctly continued across the dorsum which is very slightly convex behind the constriction; densely and finely punctate throughout excepting a vague, impunctate median line, the punctures separated by distances equal to less than their diameters; the setae short and fine, those at the apex not larger than the discal ones; base subtruncate, the squamose area convex and dorsally impressed in the middle. *Elytra* ovoid, without a distinct subapical constriction, broadly arcuate on the sides, more than two thirds as broad as long (2.25:3), twice as long as the prothorax; striae comparatively coarse, the punctures close, round, and deep; intervals hardly as broad as the striae at the base, but becoming broader caudad and distinctly broader than the striae behind the basal third, each interval bearing a row of conspicuous, erect, narrow, sharp setae. *Legs* with numerous fine, erect setae; the tibial uncus well developed throughout, arising from the outer apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls complete, extending forward almost to the fore coxae, the hind wall narrow and slightly protuberant, terminating at slightly behind the middle of the mesocoxae in the male; metasternum closely set with setigerous punctures, slightly narrower than a metacoxa at its narrowest point between the mid and hind coxae and distinctly narrower than the median line between the mesosternal receptacle and the first ventrite. *Venter* with the first two ventrites with rather small, round, setigerous punctures separated by distances about equal to their diameters; the first ventrite broadly flattened in the male; the intercoxal process subtruncate in front and broader than a metacoxa; fifth ventrite finely roughened and with fine setae. Length, 1.8 mm.; breadth, 0.9 mm.

Holotype male beaten from *Bidens* by me on the east ridge of Mount Perahu, 1,500-1,800 feet, July 28, 1934.

This species bears a slight superficial resemblance to an abraded specimen of *M. humeralis* but that species does not have setae on all of the elytral inter-

vals. Although of different facies, it falls in with *M. setulosus* and *M. pusillus* but is larger and broader than those two species.

31. **Microcryptorhynchus sancti-johni,** new species (pl. 1, no. 23).

Derm piceous to black, with the appendages diluted with red, with a thick, variable grayish or yellowish incrustation, setae white or yellowish.

Head concealed from above by pronotum, finely reticulate, minutely punctate, except for a few coarse punctures between the eyes; with round scattered squamae; the interocular area with four to six rows of rather long, erect, slender or hairlike setae. *Rostrum* shiny, indistinctly carinate, shallowly striate-punctate, with six rows of erect, hairlike setae at the base and thence with four rows to the antennae; the punctures confluent and forming shallow striae beyond the antennae, bearing minute setae. *Prothorax* as broad as long, broadest and rounded at the middle and subequally narrowed toward the base and apex, the subapical constriction distinct but rather shallow on the sides, broadly and shallowly continued across the dorsum; densely punctate throughout, the punctures round, usually separated by distances equal to less than their diameters; with rather short, stout, erect setae along the middle of the disk, a few on the sides at the middle and a row around the apical margin; base subtruncate, the squamose area narrow, convex. *Elytra* ovoid, about four fifths as broad as long, about two fifths longer than the prothorax, rather broadly inflated on the sides, the subapical constriction distinct; striae well impressed but not coarse, the punctures rather small behind the base; intervals convex, about one and one half or two times as broad as the striae, the alternate ones each bearing a row of rather long, conspicuous, erect, subcylindrical setae. *Legs* with the femora and tibiae with scattered squamae, and with scattered erect or inclined setae, the tibiae with two rows of stouter, erect setae along the dorsal edge; the tibial uncus strongly developed throughout, slender and arcuate. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls high, thick, and projecting forward almost to the fore coxa, the hind wall broad and not or hardly protuberant, terminating at about the middle of the mesocoxae in both sexes; metasternum closely punctate, not quite as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites densely and finely punctate, finely setose, convex in the female, the first shallowly concave down the middle in the male; the intercoxal process slightly arcuate in front, almost three times as broad as a metacoxa; ventrites three to five usually retracted in the female, the fifth pale, minutely punctate and finely setose. Length, 1.5-1.8 mm.; breadth, 0.7-0.9 mm.

Holotype male, allotype female, 42 paratypes, and three broken specimens collected by me while beating dead branches of *Homolanthus* at Maitua, 700-800 feet, July 2, 1934.

This species is closely allied to *M. spathifer* and *M. setifer* but is readily distinguished by its more rounded, stouter form, by the numerous hairlike setae at the base of the rostrum, by the shape of the elytral setae, and numerous other characters.

I take pleasure in dedicating this interesting species to my friend, Dr. Harold St. John, botanist on the Mangarevan Expedition, in recognition of his expert assistance in the determination of host plants in the field. Without his help it would have been impossible for me to record the host plants of the many thousands of insects collected during the course of the Expedition.

32. Microcryptorhynchus tumidus, new species (pl. 2, no. 4).

Male. Derm black, somewhat shiny, the appendages diluted with red; with a variable amorphous incrustation, the setae for the most part brown.

Head not entirely concealed from above by the pronotum, coarsely reticulate, finely punctate, normally with dense, round, concave, yellowish squamae; with a single row of rather long, erect, clavate setae along the inner margins of each eye and continuing across the front above the eyes. *Rostrum* with coarse punctures at the base, the median line minutely punctate, almost impunctate, elsewhere finely and densely punctate; with two narrow dorsal sulci in addition to the lateral sulcus, feebly tricarinate at the base, the median carina not distinct beyond the base, the carinae on either side of the median line extending to the antennae; with a few stout setae at the base only, thence shorter and hairlike to the antennae. *Prothorax* as broad as long, rounded on the sides to beyond the middle, thence with a rather strong subapical constriction that is rather deeply and broadly continued across the otherwise strongly convex dorsum; very densely, coarsely, and subconfluently punctate throughout; the punctures large, deep and irregular; the setae rather long and conspicuous, erect, spatulate, condensed near the apex and forming an elongate patch on each side of the median line behind the subapical constriction, and a small patch on each side slightly beyond the middle at the base of the subapical constriction; base truncate, the squamose area convex. *Elytra* ovoid, the subapical constriction distinct, base truncate, about three fourths as broad as long (3.25:4.25), broadest at about the middle; striae not deeply impressed, but well defined, with the punctures deep and close; intervals flat or very slightly convex, one and one half to two times as broad as the striae, only the alternate intervals setose, the setae large and spatulate, erect and conspicuous, the third interval for the most part with two irregular rows, the fifth interval very slightly elevated at the base and there with several scattered setae, otherwise with a single row. *Legs* with the femora and tibiae with scattered squamae and slanting setae; the tibial uncus strongly developed, arising from about the middle of the apex, arcuate and not angulately bent. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls high and reaching the fore coxae, the hind wall thick and slightly protuberant, terminating between the middle and the posterior margin of the mesocoxae in the male; metasternum shallowly concave in the male, rather densely punctate, sparsely setose, almost as long as a metacoxa at its narrowest point, between the mid and hind coxae. *Venter* with the first two ventrites shallowly and broadly concave down the middle in the male, densely punctate throughout, the punctures rather large, bearing fine, slanting setae, separated by distances equal to less than their diameters; the intercoxal process subtruncate in front, about twice as broad as a metacoxa; fifth ventrite minutely punctate and rather densely setose, the setae hairlike. Length, 2.6 mm.; breadth, 1.3 mm.

Holotype male taken by me from *Asplenium nidus* on Karapo Rahi Islet, 100-300 feet, July 18, 1934.

This species is not closely allied to any other Rapan species and is easily recognized by its rather large size, stout form and the arrangement of the elytral setae in addition to numerous other salient characters. It somewhat resembles the type represented by *M. mangarevae* Zimmerman, and some of the stout, undescribed Marquesan species in the collections before me.

33. Microcryptorhynchus andersoni, new species (pl. 2, no. 7).

Derm dark reddish brown to piceous with the appendages reddish; with at most a thin incrustation; squamose above, the scales and setae white or yellowish.

Head almost entirely concealed from above by the pronotum, finely reticulate, minutely punctate, normally densely squamose; interocular area depressed, with a single row of short, erect, lanceolate setae along the inner margins of the eyes. *Rostrum* not

sulcate nor carinate above, for the most part finely punctate and shiny in both sexes, the lateral sulcus fine and with a few small, erect setae near the base only. *Prothorax* slightly longer than broad (2.1 :1.9), rounded and broadest at the middle, subequally narrowed to the base and apex, the subapical constriction feeble, not impressed across the dorsum, which is gently convex but somewhat flattened in the apical third by the subapical constriction; rather coarsely reticulate, densely punctate excepting an almost impunctate median line, the punctures shallow and subconfluent, often individually indistinct, each capped with a round scale, the median line not squamose; setae scattered on either side of the median line of the disk, more abundant beyond the subapical constriction, rather narrowly lanceolate and anteriorly inclined on the disk; base truncate, the squamose area rather broad, convex, shallowly emarginate at the middle. *Elytra* about five sevenths as broad as long, slightly more than three fourths longer than the prothorax, elongate oval, narrowly arcuate on the sides from base to apex, the subapical constriction indistinct; striae shallow, the punctures not very deep and conspicuous; intervals flat or nearly so, two or three times as broad as the striae, squamose, the scales denser along the suture; the alternate intervals bearing a row of posteriorly inclined, broad, sublanceolate setae, those near the apex narrower. *Legs* with the femora and tibiae squamose and with scattered, short, slender setae; the tibial uncus strongly developed throughout, arising from the outer apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls high and reaching the front coxae, the hind margin hardly protuberant, reaching the hind margin of the mesocoxae in the female and to slightly beyond the middle in the male; metasternum shallowly and irregularly punctate, as broad as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex in the female, flattened down the middle in the male, with scattered punctures, the intercoxal process subtruncate in front, one third broader than a metacoxa; the fifth ventrite minutely punctate, finely setose. Length, 2-2.5 mm.; breadth, 0.8-1 mm.

Holotype male, allotype female, and eight paratypes collected as follows: allotype and three paratypes collected by D. Anderson at Maitua, 700-800 feet, July 2, 1934; holotype beaten from *Eurya* on the northeast ridge of Mangaoa Peak, 1,000-1,200 feet, July 6; one paratype beaten from shrubs at the same locality, 900-1,200 feet, July 4; another beaten from shrubs at the same locality, 1,000-1,200 feet, July 25; one beaten from *Fitchia* on the south slope of Mount Tepiahu, 400-600 feet, July 16; another beaten from ferns at the same locality and elevation, July 20; and one beaten from *Lautea* on the east ridge of Mount Perahu, 800-1,000 feet, July 21. All the specimens were collected by me except the allotype and three paratypes collected by D. Anderson.

This species somewhat resembles *M. abnormis* but can readily be distinguished from that species by its smaller size, less sharply pointed elytra, less coarsely impressed elytral striae, its flat intervals, the fifth interval unmodified, its smooth, non-sulcate rostrum, and by the structure of its mesosternal receptacle.

It gives me great pleasure to dedicate this species to my friend, Mr. Donald Anderson, assistant malacologist of the Mangarevan Expedition, in recognition of his interest and efforts in capturing insects while collecting land shells, and in memory of the many happy and profitable hours we spent together in the field.

34. Microcryptorhynchus spathifer, new species (pl. 1, no. 24).

Derm piceous to black, the appendages diluted with red; with a variable, heavy, dense, gray or brown, amorphous incrustation both above and below; setae white or yellowish.

Head concealed from above by the pronotum, rather coarsely punctate, the punctures round, well defined, and separated by distances not greater than their diameters; with a row of large, erect, spatulate setae along the inner margins of the eyes and joining on the front above the eyes. *Rostrum* tricarinate from the base to the antennae, more coarsely so in the male than in the female, with four rows of comparatively slender setae borne from the striae between the carinae, shiny and minutely punctate in the apical half in the female, dull and coarsely, irregularly punctate in the male. *Prothorax* distinctly longer than broad (1.9:1.5), rounded at the middle, slightly more strongly narrowed behind than before the middle, the subapical constriction well marked, continued deeeply and conspicuously across the dorsum; coarsely and densely punctate, the punctures rather large, oval, or round, the interstices only about as broad as one half of their diameters; the setae large, broad, spatulate, and erect, a row of medianly inclined ones along the apical margin, some scattered erect ones beyond the subapical constriction, a patch at the sides at the middle and a few behind these; base subtruncate, the squamose area narrow and convex. *Elytra* two thirds as long, almost twice as long, as the prothorax, broadly rounded on the sides, broadest slightly before the middle, the subapical constriction distinct; striae coarse, broader than the intervals, the punctures large, deep and coarse, subquadrate; the intervals usually about as broad as the interstices between the strial punctures on the disk, but somewhat variable, slightly convex, the setose intervals slightly more convex than the others, the alternate ones bearing erect setae that are large, broad, and spatulate on the disk but become narrow and slender near the apex. *Legs* with the femora and tibiae incrusted, with scattered, sharp setae; the tibial uncus strongly developed, arising from the outer apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls high and extending to the front coxae, the hind wall distinctly protuberant, terminating slightly beyond the middle of the mesocoxae in the male, almost at the hind margin in the female; metasternum coarsely punctate, with stellate scales, almost as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites coarsely and densely punctate, the punctures bearing stellate scales, convex in both sexes, but with the intercoxal process more deeply concave in the male than in the female; the intercoxal process slightly arcuate in front, about twice as broad as a hind coxae; ventrite five pale, minutely punctate, sparsely and finely setose. Length, 1.6-2.2 mm.; breadth, 0.7-1.0 mm.

Holotype male, allotype female, and 85 paratypes collected by me as follows: 75 specimens from *Asplenium nidus* on Karapo Rahi Islet, 100-300 feet, July 18, 1934; eight specimens taken from same host on the south slope of Mount Tepiahu, 400-600 feet, July 20; and two specimens beaten from ferns in the southeast valley of Mount Ororangi, 600-700 feet, July 3.

This species is allied to *M. setifer* and can be distinguished offhand from that species by its fewer and shorter, spatulate, dorsal setae and by its prothorax which is proportionately larger and longer than broad.

35. Microcryptorhynchus humeralis, new species (pl. 1, no. 25).

Derm dark reddish brown, the appendages paler, with a very dense, amorphous, often earth-like incrustation that usually distorts the true outlines of the body; scaling and setae white or grayish.

Head coarsely reticulate and densely squamose, with a row of short, stout, erect setae along the inner margins of the eyes. *Rostrum* dorsally tricarinate to the antennae,

thence coarsely reticulate, finely punctate and sparsely setose to the apex, with four rows of erect setae in the sulci between the carinae from the base to the antennae, stout near the base but becoming successively finer distad in the male; the carinae less conspicuous in the female, with setae only at the base and more shiny and less coarsely sculptured. *Prothorax* as long as broad, rounded on the sides, somewhat more strongly narrowed before than behind the middle, the subapical constriction rather strong on the sides, continued broadly but distinctly across the dorsum; densely and minutely punctured throughout, the punctures normally covered with small white scales; setae numerous and scattered on the disk, most abundant near the apex; base truncate, the squamose area narrow, arcuate. *Elytra* about four fifths as broad as long, slightly less than twice as long as the prothorax; base shallowly concave, becoming rather rapidly broader than the thorax near the base, almost parallel-sided in the middle and thence roundly narrowed to the apex, the shoulders rather conspicuous, with numerous long, laterally projecting setae that hold the dense incrustation which distorts the true outline, making the humeri appear very prominent and angulately produced around the base of the prothorax; striae rather coarse, the punctures close; intervals about as broad or slightly broader than the striae, the third, fifth, and seventh somewhat more elevated than the others; alternate intervals each bearing a row of moderately long, erect, sharp, subcylindrical setae, those on the humeri longer and denser. *Legs* squamose and with rather long setae and incrusted. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls extending beyond the anterior margins of the mesocoxae, terminating at about the middle of the mesocoxae in the male and at the hind margin in the female; metasternum coarsely reticulate, indistinctly punctate, two thirds as long as a hind coxa at its narrowest point between the mid and hind coxae. *Venter* coarsely reticulate, the first two ventrites finely punctate, strongly convex in the female, slightly convex with the intercoxal process flattened in the male; the second ventrite steep behind; the fifth ventrite finely punctate and setose; the intercoxal process subtruncate in front, twice as broad as a metacoxa. Length, 1.9-2.2 mm.; breadth, 0.6-1.0 mm.

Holotype male, allotype female, and 37 paratypes collected by me as follows: holotype, allotype, and 33 paratypes beaten from *Coprosma* on the east ridge of Mount Perahu, 1,200-1,500 feet, July 21, 1934; two paratypes beaten from *Bidens* at the same locality, 1,500-1,800 feet, July 28; and two beaten from *Lautea* at the same locality, 1,200-1,500 feet, July 21.

This species, at least the male, is rather easily distinguished by its apparently prominent shoulders which are formed by the dense incrustation adhering to the longer and denser humeral setae. It might be confused with small specimens of *M. chaetectetoroides,* but it lacks the characteristic fascicles found on that species. The female is more difficult to recognize, for in that sex the humeral setae are not large and there is no conspicuous prominence at the shoulders. I had at first considered the females as belonging to a distinct species, but the development of the humeral setae is apparently a sexual character which is much more developed in the male than in the female. There is considerable variation among the individuals. Small specimens of this species may be rather difficult to place in the key, for the median rostral carina may not be as distinct as usual and the humeri may not appear prominent.

36. Microcryptorhynchus foveaventris, new species (pl. 1, no. 26).

Male. Derm black, prothorax somewhat diluted with red, appendages reddish brown to black; scaling and setae white; with a thin, irregular, pale incrustation.

Head coarsely, very densely punctate throughout; interocular area with a distinct median carina and with two rows of long, narrowly lanceolate setae on either side of the median carina. *Rostrum* medianly tricarinate from the base to beyond the antennae, the median carina widening distally and finely striate above the insertion of the antennae; with four rows of erect setae borne from the striae between the carinae, becoming shorter and finer toward the antennae. *Prothorax* comparatively large and robust, as long as broad, arcuate on the sides, broadest at about the middle and subequally narrowed toward base and apex, the subapical constriction hardly discernible on the sides, shallowly continued across the dorsum which is almost evenly convex from base to apex; base truncate, the squamose area narrow, slightly convex; coarsely and densely punctate throughout, the punctures moderately large, deep, rounded, their interstices narrow, not more than half as broad as their diameters; with scattered, anteriorly inclined, lanceolate setae. *Elytra* elongate-oval, broadly rounded on the sides in the basal five sixths and thence with a distinct subapical constriction, two thirds as broad as long, twice as long as the prothorax; striae coarse and deep, the punctures large, coarse, deep, and subquadrate; intervals about as broad as the striae, convex, the alternate ones more elevated and convex and each bearing a row of narrow, lanceolate or sharp, slender setae. *Legs* with short, fine, scattered setae; tibial uncus strongly developed throughout, arising from the outer apical angle. *Sternum* with the mososternal receptacle deep and cavernous, the side walls complete, protuberant, projecting forward to the anterior coxae, the hind wall rather thick on the sides, distinctly protuberant, terminating just before the hind margin of the mesocoxae in the male; metasternum not quite as long as a metacoxa at its narrowest point between the mid and hind coxae and there slightly shorter than the median line between the mesosternal receptacle and the first ventrite; closely set with large, coarse, setigerous punctures. *Venter* with the first two ventrites very coarsely and densely punctate, the punctures reticulately placed, their interstices not broader than half of their diameters; the first ventrite shallowly but distinctly concave down the middle, the intercoxal process arcuate in front and broader than a hind coxa; ventrites three, four, and five minutely punctate, the fifth yellowish brown and finely setose. Length, 1.9 mm.; breadth, 0.8 mm.

Holotype male collected by me from *Asplenium nidus* on the east ridge of Mount Perahu, 1,200-1,500 feet, July 21, 1934. 1137

This species may be separated from its Rapan congeners by its robust, coarsely punctate prothrorax, coarsely punctate elytra, and by the coarse punctuation of the metasternum and first two ventrites.

37. Microcryptorhynchus abditiceps, new species (fig. 6, *d*; pl. 1, no. 27).

Derm reddish to reddish brown, covered with a thin, variable, pale, amorphous incrustation; scaling white or yellowish.

Head completely concealed from above by the pronotum; very densely squamose, the densely punctate derm completely concealed by the scaling; with a single row of long, stout, spatulate, erect setae along the inner margin of each eye that converge upon the crown. *Rostrum* with the scaling and erect setae continued to the antennae, the sulci nearly to the apex, bare, shiny, and with the rows of punctures in the sulci giving rise to fine setae beyond the antennae in the male; the scaling and erect setae reaching to about half the distance from the base to the antennae in the female, otherwise bare and shiny, the sulci marked by rows of punctures beyond the antennae; not strongly carinate in either sex, but with a feeble median carina for the most part concealed by the scaling. *Prothorax* conspicuously elongate, one fourth longer than broad, two thirds as long as the elytra, projecting slightly over the head at repose; rounded on the sides in the basal half, thence constricted slightly beyond the middle and thence almost straight-sided to the broadly rounded apex; longitudinal dorsal outline strongly convex, highest before the middle and thence slanting downward to the apex, the submedian constriction broadly

continued across the dorsum; very densely punctate throughout, the punctures rather small, their interstices much narrower than the diameters of the punctures; densely squamose, each puncture capped by a conspicuous farinaceous scale; with a row of long erect, spatulate setae around the apical margin, and a few scattered ones beyond the submedian constriction; base truncate, the squamose area narrow. *Elytra* two thirds as broad as long, as broad as the length of the prothorax, broadly rounded on the sides from base to apex, without a distinct subapical constriction; striae coarse, as broad or broader than the intervals on the disk, punctures close and coarse, rather large and subquadrate; intervals rather irregular, the alternate ones usually somewhat broader and with a row of sharp, erect setae. *Legs* densely squamose; femora densely setose along the dorsal edges, elsewhere with scattered setae. *Sternum* with the mesosternal receptacle deeply cavernous, terminating at the middle of the mesocoxae in the female, slightly before the middle in the male, the side walls continued forward to the fore coxae, the hind margin not elevated above the mesosternum; metasternum at its narrowest point between the mid and hind coxae about as long as a hind coxa in both sexes. *Venter* with the first two ventrites closely punctate, the intercoxal process twice as broad as a hind coxa; the fifth ventrite shiny, evidently impunctate and with short, fine setae. Length, 1.6-2.0 mm.; breadth, 0.7-0.9 mm.

Holotype male, allotype female, and 43 paratypes collected by me as follows: holotype, allotype, and 31 paratypes beaten from ferns on the southeast slope of Mount Ororangi, 600-700 feet, July 3, 1934; 12 paratypes, one beaten from *Fitchia*, the others from ferns, from the south slope of Mount Tepiahu, 400-600 feet, July 20.

This species is readily recognized by its conspicuously squamose, elongate prothorax which projects over the anterior edge of the head. It is allied to *M. thoracius* from which it can most easily be distinguished by its conspicuous prothoracic scaling.

38. Microcryptorhynchus thoracicus, new species (fig. 6, *f*; pl. 1, no. 28).

Derm reddish brown, with a variable, dense, grayish or brownish incrustation; scaling and setae usually yellowish.

Head concealed from above by the pronotum, with numerous, small shallow punctures; with a row of erect, stout, clavate or subspatulate setae along the inner margins of the eyes. *Rostrum* finely and indistinctly carinate, with two lateral rows of stout setae from the base to the antennae and two short median rows just behind the antennae, the median rows often obscure in the female. *Prothorax* longer than broad (1.9:1.5), rounded on the sides at the middle, subequally narrowed toward the base and apex, the subapical constriction strongly impressed on the sides and across the dorsum, the dorsum slanting downward behind the middle to the slightly produced apex which is on a plane about midway between the dorsum and sternum; very densely punctate throughout, the punctures rather large on the disk, the interstices about half as broad as the punctures; with a few scattered, erect setae on the disk, and a complete row around the apical margin, the setae rather narrowly spatulate; base truncate, the squamose area narrow and convex. *Elytra* elongate-oval, two thirds as broad as long, not quite twice as long as the prothorax; striae coarse, almost or fully as broad as the intervals, the punctures rounded or subquadrate, large and deep; the intervals convex, the alternate ones hardly more convex and each bearing a row of rather short, erect, slender, lanceolate setae. *Legs* with the femora and tibiae bristling with rather long, erect setae; the tibial uncus well developed and arising from the outer apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls high and extending forward to the anterior margin of the mesoternum, the posterior wall narrowly and rather strongly protuberant, terminating almost at the hind margin of the mesocoxae in the female, about the middle in the male; metasternum closely punctate, the punctures bearing com-

pound scales, almost as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites coarsely and densely punctate, the punctures bearing simple or compound scales, strongly convex in the female, flattened in the middle in the male; the intercoxal process subtruncate in front, twice as broad as a metacoxa; ventrite five almost impunctate and with but a few minute setae. Length, 1.4-1.8 mm.; breadth, 0.5-0.8 mm.

Holotype male, allotype female, and 16 paratypes beaten from ferns in the southeast valley of Mount Ororangi, 600-700 feet, July 3, 1934; one paratype beaten from *Eurya* on the northeast ridge of Mangaoa Peak, 1,000-1,200 feet, July 6; one paratype beaten from ferns on the south slope of Mount Tepiahu, 400-600 feet, July 20; one paratype found on *Asplenium nidus* on Karapo Rahi Islet, 100-300 feet, July 18; and one beaten from dead branches at Maitua, 700-800 feet, July 2. All the specimens were collected by me.

This species can perhaps best be recognized by its rather large prothorax which slants downward from near the base to the apex and which has a strong subapical constriction and is rather coarsely punctate. It is allied to *M. curvus* but the shape of the prothorax distinguishes the two species. It is, however, perhaps most closely allied to *M. abditiceps* but its body form is different and it lacks the characteristic scaling of the prothorax found on that species.

39. Microcryptorhynchus punctipennis, new species (fig. 6, *g*; pl. 1, no. 29).

Derm reddish brown, covered with a very dense incrustation; scaling and setae white or pale brown.

Head entirely concealed from above by the pronotum; coarsely reticulate, almost impunctate; with a few short, scattered setae and a single row of short, subspatulate erect setae along the inner margin of each eye. *Rostrum* with a single row of conspicuous setae on each side at the base only in the female, but almost to the antennae in the male; indistinctly punctate-striate from the base to the antennae, rather shiny and minutely punctate elsewhere. *Prothorax* about one third longer than broad, rounded on the sides from the base to but slightly beyond the middle and thence very strongly constricted, the constriction continued deeply and conspicuously across the dorsum, the longitudinal dorsal contour therefore strongly sinuous, the apex at a plane slightly below that of the base; densely and very coarsely punctate throughout, the punctures reticulate, confluent or subconfluent; with rather short, erect, subspatulate, scattered setae on the disk and a row of longer ones around the apex, the setae often arising from small tubercles; base subtruncate, the squamose area convex, steep and slightly impressed. *Elytra* elongate-oval, without a subapical constriction, slightly more than half as broad as long and not quite twice as long as the prothorax; striae very coarse, their punctures very large, rounded or subquadrate, close and subreticulately placed; the intervals less than half as broad as the striae, the alternate ones somewhat more elevated than the others and bearing a row of lanceolate or spatulate setae, short and usually abraded near the base, longer at the apex, often borne from small tubercles. *Legs* with the femora, tibiae, and tarsi bristling with short to long lanceolate or spatulate setae; tibial uncus strongly developed and arising from the outer apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls complete and extending to the fore margin of the mesosternum, the posterior wall narrow and hardly protuberant, setose, terminating at the hind margin of the mesocoxae in the female and slightly before the hind margin in the male; metasternum almost impunctate and without conspicuous setae, slightly more than two thirds as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites evenly convex in the female, flattened in the male, with obscure, scattered punctures; the intercoxal process but

slightly arcuate in front, not quite twice as broad as a metacoxa; ventrite five indistinctly punctate and with but a few fine setae at the apex. Length, 1.4-1.8 mm.; breadth, 0.5-0.8 mm.

Holotype male and one female paratype beaten from shrubs on the northeast ridge of Mangaoa Peak, 1,000-1,200 feet, July 25, 1934; allotype female from *Cyathea* on the northwest slope of Mount Tautautu, 700-800 feet, July 9. The three specimens were collected by me.

This variable species is evidently allied to *M. thoracicus* but differs from that species in that it is much more coarsely and indefinitely punctured and that the elytral intervals are more or less cariniform.

The paratype differs from the holotype in being coarsely reticulate, in having the punctuation less definite and the setae shorter and the alternate elytral intervals less conspicuously elevated.

40. Microcryptorhynchus setifer, new species (fig. 6, *a;* pl. 2, no. 14).

Derm reddish brown to black, with a variable, loose or very thick and mudlike, grayish or brownish incrustation, setae white, yellowish or brownish.

Head concealed from above by the pronotum, shiny, with small scattered punctures; the interocular area with a single row of long, erect, cylindrical setae along the inner margins of the eyes. *Rostrum* not distinctly carinate, with four striae bearing erect setae from the base to the antennae, the setae becoming shorter and more slender distad, longer and more conspicuous in the male than in the female; more densely and coarsely punctate beyond the antennae in the male than in the female. *Prothorax* slightly longer than broad (1.5:1.3), rounded on the sides from the base to beyond the middle to the distinct subapical constriction which is continued very broadly across the dorsum, densely punctate throughout, the punctures small and separated by distances not greater than their diameters, usually bearing thin, stellate scales; the setae long, cylindrical, erect, similar to those on the elytra, numerous and scattered on the dorsum; base subtruncate, the squamose area steep, convex, rather conspicuous. *Elytra* elongate-oval, two thirds as broad as long, twice as long as the prothorax; striae not very coarse, the punctures distinct but not outstanding; the intervals about half again as broad as the striae, the alternate ones each with a row of setae and more convex than the non-setose intervals; setae very conspicuous, long, cylindrical, erect, spikelike, straight-sided, pointed or blunt at the tips. *Legs* with the femora and tibiae squamose and bristling with long, erect, cylindrical setae; the tibial uncus strongly developed throughout, long and arcuate, arising from the outer apical angle and extending as far as the inner apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls high and extending almost to the fore coxae, the hind wall narrow, slightly but distinctly protuberant, terminating at slightly behind the middle of the mesocoxae in the male and at the hind margin in the female; metasternum finely punctate, as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites convex in the female, flattened in the basal two thirds in the middle in the male, the punctures rather small, round, and separated by distances about equal to or greater than their diameters; the intercoxal process of the first ventrite slightly arcuate in front, almost three times as broad as a metacoxa; the fifth ventrite indistinctly punctate, with short fine setae. Length, 1.4-1.8 mm.; breadth, 0.6-0.9 mm.

Holotype male, allotype female, 152 paratypes, and one broken specimen collected by me as follows: holotype, allotype, and 58 paratypes beaten from *Lautea* on the east ridge of Mount Perahu, 1,200-1,500 feet, July 21, 1934; nine with the same locality and date, one of which was beaten from *Coprosma,*

three from *Veronica,* three from *Fitchia,* two from *Freycinetia;* five collected at the same place but between 1,500-1,800 feet, July 28, two of which were beaten from *Bidens,* two from shrubs, and one from *Metrosideros*; one beaten from shrubs on the northeast ridge of *Mount Perahu,* 1,200-1,500 feet, July 15; three beaten from *Lautea* on the south ridge of Mount Perahu, 1,000-1,300 feet, July 13; 20 beaten from *Metrosideros* on the northeast ridge of Mangaoa Peak, 1,000-1,200 feet, July 6; four with the same data but beaten from *Eurya*; one found in a dead *Cyathea* frond at the same locality, 900-1,200 feet, July 4; 16 beaten from shrubs at the same locality, 1,000-1,500 feet, July 25; 33 beaten from *Lautea* on Mount Tanga, 700-800 feet, July 23; and two from Karapo Rahi Islet, 100-300 feet, July 18.

This species is distinct owing to its long, spikelike, bristling dorsal setae. It is allied to *M. spathifer,* but the shape of the setae distinguishes the species.

41. Microcryptorhynchus curvus, new species (fig. 6, *b;* pl. 2, no. 13).

Derm reddish brown, with a variable grayish or brownish, amorphous incrustation, scaling and setae white or yellowish.

Head concealed from above by the pronotum, minutely reticulate, almost impunctate, rather densely squamose; the interocular area with a single row of erect lanceolate setae along the inner margins of the eyes. *Rostrum* indistinctly tricarinate above, with four rows of erect setae borne from sulci from the base to the antennae, the setae becoming smaller toward the antennae, hairlike in the female; somewhat shiny, sparsely punctate and setose beyond the antennae. *Prothorax* longer than broad (1.8:1.6), evenly expanded on the sides from the base to the rounded middle, thence rather abruptly constricted, the subapical constriction strongly developed on the sides, and distinctly though rather shallowly, impressed across the dorsum; coarsely reticulate, densely punctate, the punctures small and close, separated by distances equal to less than their diameters, each normally capped with a small scale; the setae erect, lanceolate, scattered beyond the subapical constriction, forming an irregular longitudinal line on either side of the median line behind the subapical constriction, several along the posterior margin of the subapical constriction, and with a few scattered ones elsewhere; base truncate, the squamose area narrow. *Elytra* elongate-oval, two thirds as broad as long, not quite twice as long as the prothorax, broadly and evenly arcuate on the sides, the subapical constriction feeble; striae shallow and broad, about as broad as the intervals, the punctures shallow; the alternate intervals somewhat more convex than the others, each bearing a row of erect lanceolate or subcylindrical setae, short near the base but becoming longer toward the apex. *Legs* with the femora and tibiae squamose and with erect scattered setae; the tibial uncus strongly developed, arising from the outer apical angle, arcuate, reaching to a point opposite the inner apical angle. *Sternum* with the mesosternal receptacle deep and cavernous, the side walls high and extending forward to the anterior margin of the mesosternum, the hind wall broad, the inner margin narrowly protuberant, terminating at the middle of the mesocoxae in the male, at the hind margin in the female; metasternum as long as a metacoxa at its narrowest point between the mid and hind coxae. *Venter* with the first two ventrites densely punctate, convex in the female, flattened in the basal half in the male; the intercoxal process about twice as broad as a metacoxa; ventrite five minutely punctate, finely setose. Length, 1.6-1.9 mm.; breadth, 0.7-0.8 mm.

Holotype female, allotype male, and eight paratypes collected by me as follows: holotype, allotype, and seven paratypes beaten from ferns in the southeast valley of Mount Ororangi, 600-700 feet, July 3, 1934; one paratype

beaten from shrubs on the northeast ridge of Mangaoa Peak, 1,000-1,200 feet, July 25.

This species is allied to *M. spathifer* and *M. setifer* and can be distinguished from those species by the shape of the setae, and prothorax, and from *M. spathifer,* in particular, by its shallow elytral striae. It is a rather obscure species without any conspicuous and outstanding or peculiar characteristics.

Genus OPARUA, new genus

Derm almost everywhere concealed by a thick, dense, amorphous incrustation. *Head* convex, entirely concealed from above by the pronotum; interocular area distinctly broader than the base of the rostrum; eyes only about half as broad as the interocular area. *Rostrum* distinctly compressed and rather slender dorsoventrally, very feebly curved; antennae inserted at or slightly beyond the middle. *Antennae* with the scape distinctly shorter than the funicle excluding the club; funicle seven segmented, the first two segments elongate. *Prothorax* convex, distinctly longer than broad, projecting over the head, with a distinct subapical constriction; postocular lobes comparatively well developed, concealing the eyes at repose. *Scutellum* invisible. *Elytra* slightly emarginate at the base and there not broader than the base of the prothorax, without humeri, nine striate, the strial punctures large and coarse and broader than the intervals. *Wings* absent. *Legs* abnormal, with the femora edentate, greatly and angulately expanded, very thick, with a heavy incrustation; tibiae greatly thickened and incrusted at the base, with a semicircular radiating series of enormously developed squamae near the base that almost completely conceal the tarsi from above; tarsi short and very broad, bearing large squamae. *Sternum* with the mesosternal receptacle deeply cavernous, the side walls well developed and almost reaching the fore coxae; metasternum between the mid and hind coxae about as long as a metacoxa. *Venter* with the ventrites all on the same plane; with the first and second ventrites fused; the intercoxal process truncate, about twice as broad as a hind coxa; first ventrite about as long as two, three, and four together; three and four subequal, the sutures between them coarse; five about as long as two.

Genotype: *Oparua vannipes,* new species.

This peculiar genus is like no other known to me. It is evidently a rather old derivitive of *Microcryptorhynchus* to which it is most closely allied. It cannot be confused with *Microcryptorhynchus* because of the peculiar and extraordinarily abnormal structure of its legs. If it were not for the structure of the legs, however, the species would be placed in *Microcryptorhynchus.*

When observed in the field, it seemed that the individuals of the genotype lacked tarsi and were walking on the outer edges of their tibiae. This illusion was caused by the peculiar "fan" of large scales on the tibiae that almost conceals the tibiae and tarsi when the specimens walk about in their characteristic "bow-legged" fashion.

Oparua vannipes, new species (fig. 5, *e*; pl. 2, no. 15).

Derm reddish brown, almost everywhere concealed by an extremely dense, thick, grayish or brownish amorphous incrustation that obscures and distorts the true outlines of the body and appendages.

Head coarsely reticulate; the eyes somewhat wedge-shaped; devoid of setae except two or three thick ones at the inner margins of the eyes. *Rostrum* densely incrusted to the antennae, less densely so in the female than in the male, with a lateral row of erect setae, stout at the base of the rostrum and becoming successively thinner distally; finely punctate and setose beyond the antennae, the setae more conspicuous in the male than in the female. *Antennae* with the funicle as long as the first four funicular segments; first funicular segments stouter and somewhat longer than two, two about as long as three plus four, three and four elongate, three longer than four, five to seven successively broader; club slightly longer than the first funicular segment. *Prothorax* somewhat more than four fifths as broad as long, conspicuously constricted slightly beyond the middle, the constriction continuing deeply and broadly across the dorsum; coarsely and densely punctate throughout, coarsely reticulate; with a row of very thick, erect setae along the apical margin and a longitudinal, discontinuous row on either side of the median line; the basal declivity with small, closely placed, pale scales. *Elytra* about twice as long as the prothorax, usually appearing expanded distally owing to the heavy incrustation; strial punctures very large, much broader than the striae which are only about as broad as the distance between the punctures, the seventh and eighth striae evidently beginning at about the middle of the elytra; with a very conspicuous row of heavy erect setae on the third interval, a discontinuous, variable, less conspicuous row on the fifth interval and a conspicuous fringe of horizontal setae around the lateral margin in the posterior half. *Legs* with the femora and tibiae very thickly incrusted, the tibiae with a diagonal row of large setae on each side and numerous small setae; tibiae with the squamae in the "fan" thin and somewhat translucent, oval or circular in outline and laterally imbricated, arising from about the basal third; tarsi densely setose below and with numerous large, flattened squamae above. *Sternum* with mesosternal receptacle U-shaped, terminating at about the middle of the mesocoxae in the female and slightly more anteriorly in the male; metasternum densely incrusted and with a few scattered setae. *Venter* incrusted, finely punctate, reticulate and with small, fine scattered setae; the fifth ventrite apically emarginate in the female, entire and often somewhat retracted in the male. Length, 1.8-3.0 mm.; breadth, 0.8-1.2 mm.

Holotype male and allotype female beaten from shrubs on the northeast ridge of Mangaoa Peak, the holotype on July 25, 1934, 1,000-1,200 feet; the allotype on July 4, 900-1,200 feet. Thirty paratypes and one specimen sacrificed for dissection taken as follows: 13 specimens with the same data as the type; five specimens beaten from shrubs at the same locality, 900-1,200 feet, July 4; six specimens beaten from *Metrosideros* at the same locality, 1,000-1,200 feet, July 6; one specimen beaten from ferns in the southeast valley of Mount Ororangi, 600-700 feet, July 3; one beaten from *Bidens* and three from *Metrosideros* on the east ridge of Mount Perahu, 1,500-1,800 feet; and two specimens beaten from shrubs on the northeast ridge of Mount Perahu, 1,500-1,600 feet, July 15. All the specimens were collected by me.

This strange species is distinct from all the other Rapan weevils and can be immediately recognized by its peculiar legs. The incrustation on the body is hard and difficult to remove. It is evidently not soluble in hot water, ether, chloroform, or alcohol.

Genus **RAPACIS,** new genus

Head convex, concealed from above by the pronotum, interocular area about as broad as the base of the rostrum; eyes not quite so broad as the interocular area, coarsely faceted. *Rostrum* comparatively short, about one third longer than the head, stout and subcylindrical, not strongly curved, antennae inserted at about the apical third. *Antennae* with the scape shorter than the funicle excluding the club, rather strongly clavate, reaching the lower margins of the eyes; funicle seven segmented, the first two segments elongate. *Prothorax* convex, the postocular lobes but feebly developed, without a subapical constriction. *Scutellum* invisible. *Elytra* truncate at the base, and there not broader than the base of the prothorax, without humeri, strongly convex, highly polished, striae obsolete. *Wings* absent. *Legs* with the femora strongly compressed, strongly expanded distally, edentate, not grooved; tibiae strongly compressed, slightly angulate at the base, armed with a strongly bent uncus at the outer apical angle; tarsi with the second segment moniliform, transverse, the third broadly bilobed, the fourth inserted near the base and projecting well beyond the apex of the third, the claws divaricate. *Sternum* with the mesosternal receptacle cavernous, terminating between the mesocoxae, the side walls protuberant, not quite reaching the fore coxae; metasternum between the mid and hind coxae shorter than the length of a metacoxa; the metepisternal suture invisible. *Venter* with the ventrites on a similar plane, none offset; the intercoxal process subtruncate in front, almost a third broader than a hind coxa; first and second ventrites fused, the first about as long as two, three, and four together, two slightly longer than three plus four which are subequal and together slightly shorter than five, the sutures between them coarse.

Genotype: *Rapacis nitidus,* new species.

This genus is evidently another rather old derivitive of *Microcryptorhynchus. Rapacis* may be distinguished from *Microcryptorhynchus* by its strongly compressed and expanded femora and by its non-striate elytra. The dorsum is almost free from punctuation and has only minute, hardly discernible setae. Other than *Microcryptorhynchus* I know of no genus with which *Rapacis* might be confused.

Rapacis nitidus, new species (fig. 5, *a;* pl. 2, no. 11).

Derm shiny black, appendages somewhat diluted with red, almost glabrous, with some yellowish scales at the base of the pronotum and a few above the mid coxae only; without an incrustation.

Head with minute punctures, with a variable, irregular interocular fovea, the interocular area slightly flattened; setae minute and inconspicuous. *Rostrum* with a deep sulcus above the scrobe from the base to near the insertion of the antennae, with large, deep, coarse, transverse, lateral impressions from the base to about the middle and thence giving way to rounded punctures to the apex which is thick, blunt and slightly expanded; with numerous, curved, prostrate or inclined, hairlike setae at the sides and apex. *Antennae* with the scape as long as the first five funicular segments; first funicular segment elongate-oval, stouter and about as long as two plus three, two not quite as long

as three plus four which are subequal and longer than broad, five and six shorter, seven distinctly transverse; club about as long as the preceding four segments. *Prothorax* longer than broad (2.4:2), strongly convex, without a subapical constriction, continuously rounded on the sides and apex, but sharply constricted on the sides at the base which is truncate, the constriction forming a deep impression at the sides of the disk at the base, but concealed from above; derm appearing smooth and glabrous but with scattered, minute, hardly discernible punctures and setae, the scaly area at the base emarginate, there being more scales at the sides than before the elytral suture. *Elytra* almost three fourths as broad as long, fully twice as long as the prothorax, strongly convex throughout, almost ovoid, but slightly subcaudate, the dorsal outline abruptly discontinuous with that of the pronotum, the elytra rising much above the pronotum; almost glabrous and impunctate, but with minute, hardly discernible rows of setae and often with minute, obsolescent punctures representing traces of the obsolete striae. *Legs* with the femora transversally wrinkled; tibiae indistinctly sculptured; the setae minute. *Sternum* with the mesosternal receptacle terminating slightly behind the fore margin of the mesocoxae, broadly U-shaped; metasternum about three fifths as long as a metacoxa, rather closely punctate. *Venter* with small, scattered punctures bearing short, fine setae throughout, the fifth ventrite with the setae condensed near the apex. Length, 2.2-2.6 mm.; breadth, 1.0-1.2 mm.

Holotype, presumably a female, and 41 paratypes found on the leaves of *Acalypha* on Karapo Rahi Islet, 100-300 feet, July 18, 1934. All the specimens were collected by me.

The conspicuous, shiny, black color together with its almost glabrous, impunctate dorsum, flattened femora and stout rostrum readily distinguish this species.

The sexes are extremely similar, and I have been unable to find reliable external characters to separate them.

It is of some interest to note that I found this species only on the small islet of Karapo Rahi. I am sure that the species occurs on the mainland of Rapa, but I did not have an opportunity to explore the forest adjacent to the islet. There are only a few feet of water separating the islet from the mainland, and it has been but recently cut off.

Genus AMPAGIOIDES Zimmerman, 1936

Body very convex, elliptical, densely squamose. *Head* with the interocular area narrower than the base of the rostrum. *Rostrum* much compressed dorsoventrally. *Prothorax* subconical, broader than long. *Scutellum* visible and conspicuous. *Wings* atrophied. *Elytra* ten striate, the striae fine and with very small punctures; the intervals several times broader than the striae. *Legs* with the femora edentate, at least shallowly grooved for the reception of the tibiae. *Sternum* with the mesosternal receptacle deep and cavernous, very strongly protuberant and projecting to a plane below the mesocoxae, its posterior face vertical or nearly so. *Venter* with all the sutures distinct, the first ventrite on a plane lower than the others, about twice as long as the metasternum; ventrite two inclined and steep behind; ventrites three and four very narrow, on the same plane as the fifth which is longer than three plus four.

Genotype: *Ampagioides discretus* Zimmerman.

This genus is closely allied to *Ampagia* Pascoe. It differs from *Ampagia* principally in the structure of the femora and the ventrites. *Ampagioides* does not have the posterior femora very broad, dilated and with a precipitous posterior angle as in *Ampagia;* the anterior femora are comparatively more slender and are not so angulate near the base; there is no median area on the first ventrite bounded by distinct lines, and this ventrite does not overhang the second.

Ampagioides is at present known only from Rapa, the Austral, and Society Islands. It is a rather recent derivitive of *Ampagia,* an Australasian genus which is widely distributed from the Malay Peninsula in the west to the Marquesas and Mangareva Islands in the east. The faunistic affinities of *Ampagioides,* therefore, are with the western Pacific.

When specimens of this genus are disturbed, they fold their appendages compactly against the body in such a manner that they greatly resemble seeds and are often difficult to find before they regain their composure and begin to crawl about. They are not common insects and are associated with dead twigs, branches, and fern fronds.

To make this paper complete, I have included copies of the original descriptions of the two Rapan species from my monograph "The Ampagioid weevils of southeastern Polynesia" (Bishop Mus. Occ. Papers, vol. 12, no. 10, 1936).

Key to the Species

1. Elytra with the suture not deeply sulcate and almost concealed by the scaling ..... **A. discretus**
2. Elytra with the suture deeply sulcate at least in the basal third and not covered by scaling except on the declivity..... **A. sulcatus**

Ampagioides discretus Zimmerman (pl. 2, no. 8): Bishop Mus. Occ. Papers, vol. 12, no. 10, pp. 29-30, figs. 1, *d, j*; 3, *l*; 4, *s,* 1936.

"Derm shiny black, antennae and tarsi paler; scaling predominantly pale brownish-yellow, with the disk of the prothorax dark, outlined by pale scales, the sides of the elytra with large patches, or tesselated with smaller patches, of very dark brown scales interspersed with brown scales.

"Head: distinctly, shallowly, sub-confluently punctate, densely clothed with dark and paler brown scales, the interocular area bristling with white, erect oval scales and squamiform setae. Rostrum: in the male coarsely and confluently punctate throughout; in the female shining and with small punctures. Antennae: with the scape longer than funicular segments 1 and 2 together; funicular segment 1 about as long as 2 plus 3; club as long as the preceding four segments together. Prothorax: subconical, nearly straight on the sides, base practically truncate or just perceptibly sinuate, distinctly broader than long (2.5:2.0), the dorsal outline evenly convex from base to apex; the scaling not dense, the scales forming a variable dark brown area on the disk that may reach from base to apex and have a scattering of pale brown scales, or there may be no distinct area of dark scales, the scales on the sides of disk generally paler, those on the sides sparser, whitish and brown; setae prostrate excepting a few inclined ones near the apex; punctures oval and not very close together, less numerous on the sides. Elytra: less than two thirds as broad as long, the lateral outline broadly rounded from base to apex; the scaling concealing the derm, predominantly yellowish and white,

variegated with brown to very dark brown scales, the posterior two thirds with the very dark brown scales predominating and taken as a whole usually forming a definite dark area; the setae of the intervals prostrate, those of the strial punctures squamiform; stria 10 usually indistinct above ventrites 1-3 but deeper behind to the apex, 6 and 7 beginning more posteriorly than the others, 1-5 rather deeply impressed at the base. Legs: with the femora not densely covered with scales, with a few elongate-oval yellowish scales, the numerous, fine, erect setae. Venter: with the first ventrite twice as long as 5, in the male broadly concave in the middle, in the female convex; the sides with pale oval scales, the central area with small punctures bearing simple and plumose setae; 2 with scattered pale scales; 3 and 4 with small, lateral patches of scales; 5 twice as broad as long, slightly convex in the male, flat in the female, the punctures bearing oval scales and fine setae. Length, normal specimens, 2.6-3.2 mm; breadth, 1.3-1.6 mm; abnormal specimens, length, 4.4 mm; breadth, 2.6 mm."

Collected by me from dead branches on the south slope of Mount Tepiahu, 400-600 feet, July 20, 1934; from dead branches on the southeast valley of Mount Ororangi, 600-700 feet, July 3; in dead *Cyathea* fronds on the northeast ridge of Mangaoa Peak, 900-1,200 feet, July 4; and from *Hibiscus tiliaceus* on the shore of Ahurei Bay near the village of Area, July 30.

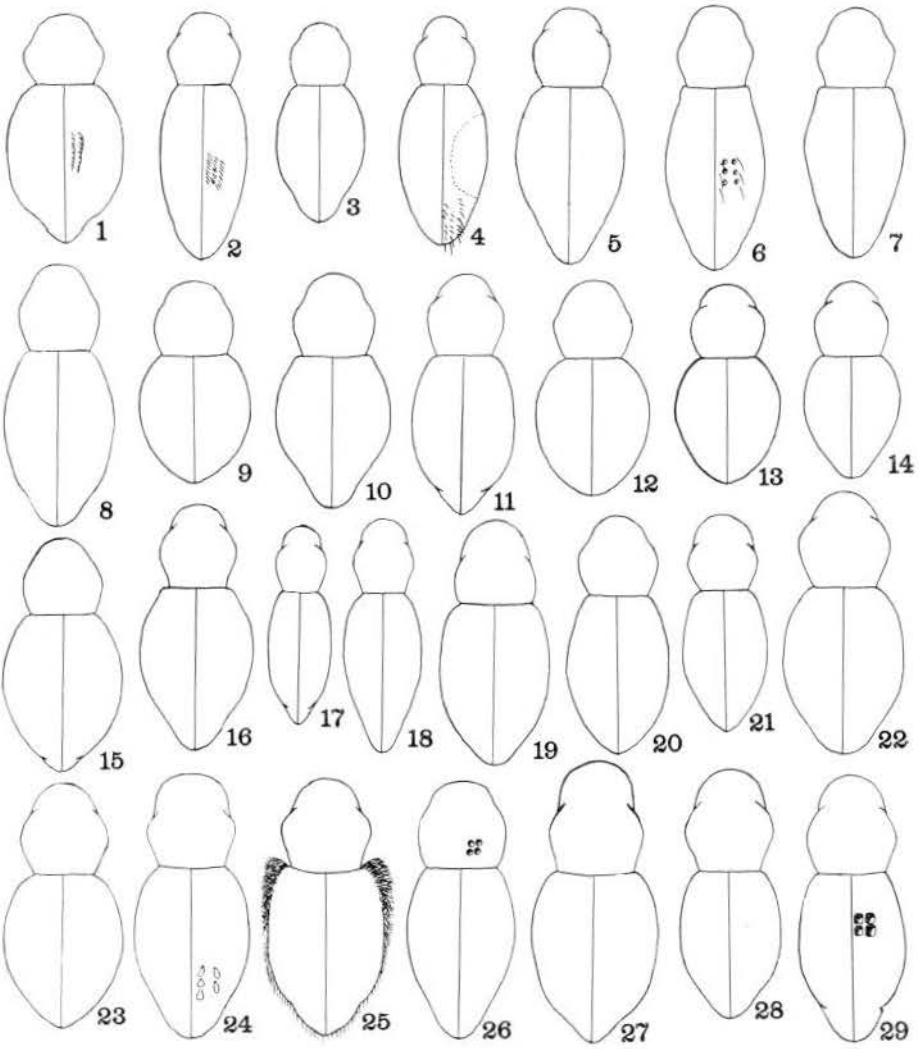
Ampagioides sulcatus Zimmerman: Bishop Mus. Occ. Papers, vol. 12, no. 10, pp. 30-31, figs..3, *h* and 4, *y*, 1936.

"Female. Derm black, shining, with the antennae and tarsi reddish-brown; scaling predominantly yellowish-brown variegated with irregular patches of chocolate-brown scales, the scales of the elytra closely packed and normally completely concealing the derm, those on the prothorax much larger and not concealing the derm.

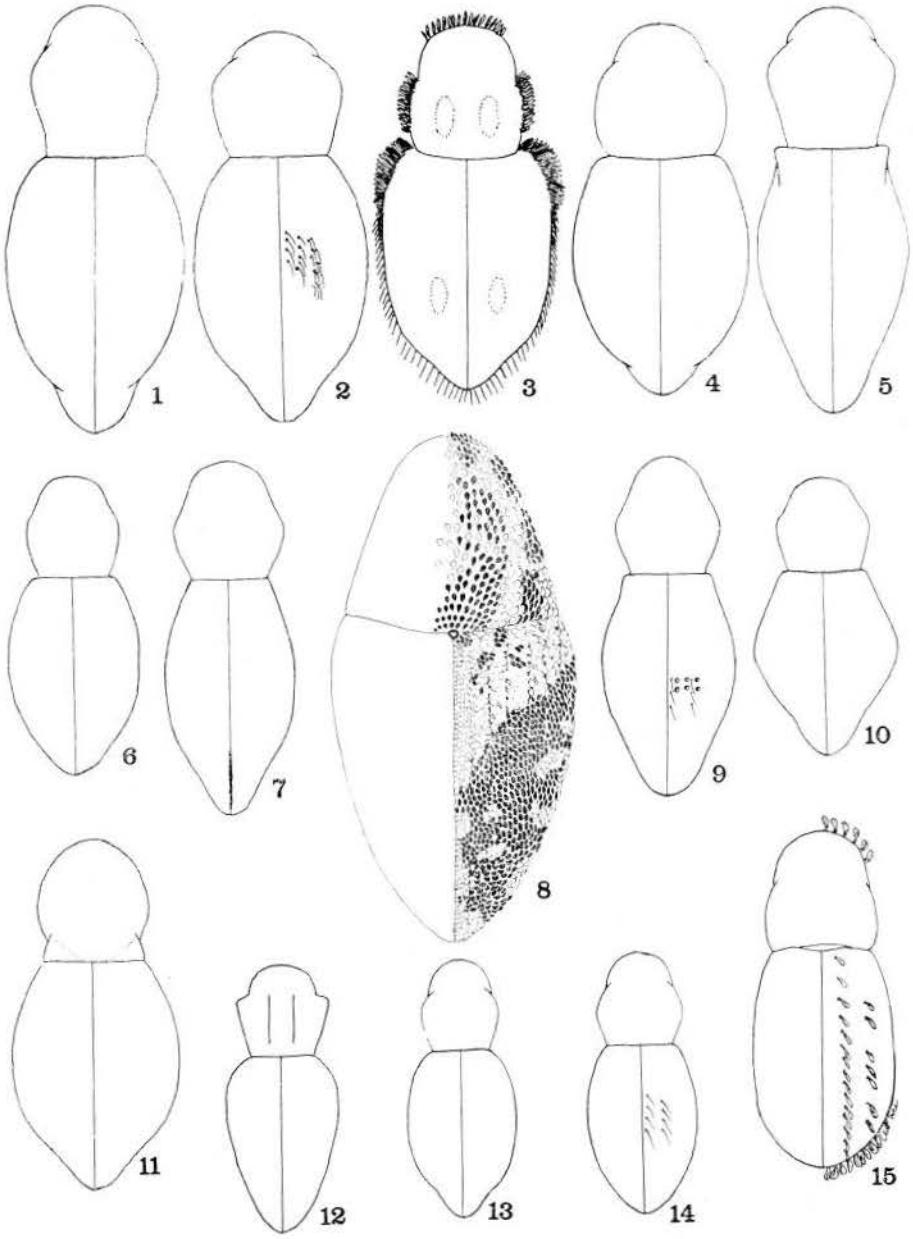
"Head: densely clothed with oval, brownish scales, the interocular area bristling with erect, pale scales and setae; punctures rather large, rounded and shallow. Rostrum: rather densely and evenly set with small punctures. Antennae: with the scape about as long as the first three funicular segments; funicular segment 1 as long as 2 plus 3; club equal in length to the preceding four segments together. Prothorax: subconical and almost straight on the sides, distinctly wider than long (about 4.25:3.50), base truncate; the scaling not dense, rather pale brownish-yellow; the setae inconspicuous except for two patches of inclined ones near the apex; punctuation rather even, the punctures oval and not very close, tending to become longitudinally confluent on the sides, an impunctate, elongate-oval area in the middle of the disk. Elytra: about five sevenths as broad as long, with the lateral outline rounded near the base and thence rather straightly narrowing to before the broadly rounded apex; the scaling very dense making the intervals appear convex; each interval bearing a row of prostrate setae that are difficult to see; the strial punctures bearing prostrate scalelike setae; the first intervals conjointly sulcate along the suture, the width of the sulcus at the base about half the width of the first intervals, but narrowing posteriorly and obsolete on the declivity where the scales completely conceal the suture; the striae distinct throughout and with no isolated punctures near the base, stria 10 almost obliterated between about the middle of the first and fourth ventrites, striae 6, 7, and 8 beginning behind the base and there almost confluent. Legs: with the femora with pale, prostrate, elongate scales, and fine erect setae; tibiae with few scales and numerous erect setae. Venter: with the first ventrite convex but impressed down the middle, twice as long as 5, with the rounded punctures bearing plumose setae in the middle and pale, oval scales on the side; ventrites 3 and 4 with a small lateral patch of pale scales, ventrite 5 flattened, twice as broad as long; punctures oval, close, bearing pale, erect and suberect scales and fine setae. Length, 4 mm; breadth, 2 mm."

Only the female holotype is known, beaten by me from the dead branches of a shrub at Maitua, 700-800 feet, July 2, 1934.

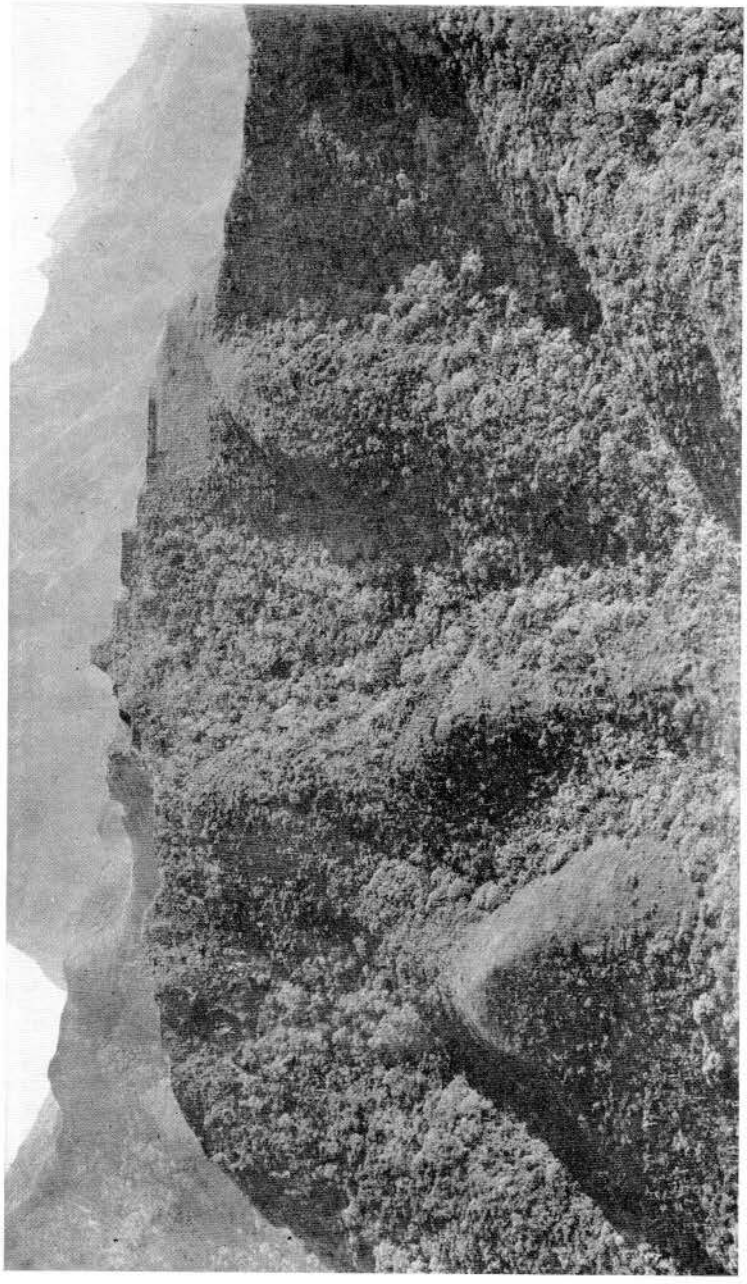
INDEX TO GENERA AND SPECIES



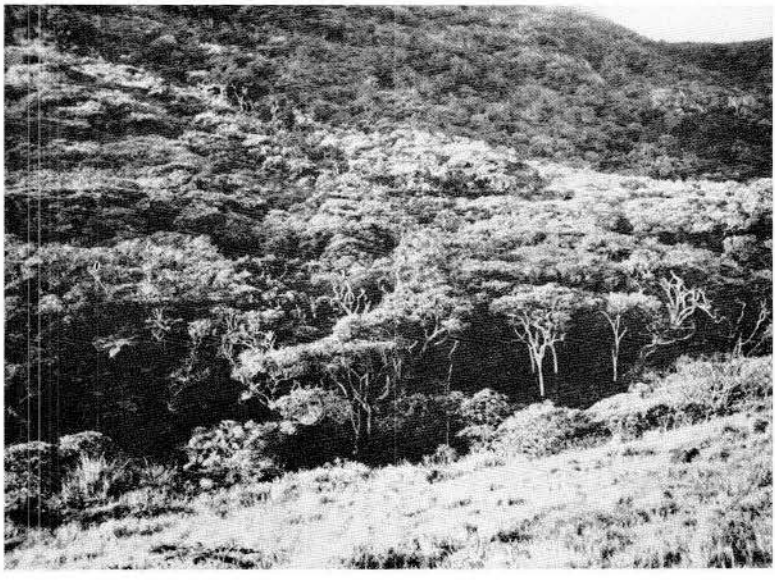
OUTLINE DIAGRAMS OF NEW *MICROCRYPTORHYNCHUS*: 1, *M. CURTUS*; 2, *M. ATER*; 3, *M. MANGAOAE*; 4, *M. BICOLOR*; 5, *M. PROXIMUS*; 6, *M. LUCENS*; 7, *M. GLABER*; 8, *M. FITCHIAE*; 9, *M. SQUAMOSUS*; 10, *M. FASCIATUS*; 11, *M. STERNALIS*; 12, *M. RETICULATUS*; 13, *M. IRREGULARIS*; 14, *M. IMPRESSICOLLIS*; 15, *M. NITIDUS*; 16, *M. MORONGOTAE*; 17, *M. VENTRALIS*; 18, *M. TENUIS*; 19, *M. PAENULATUS*; 20, *M. SETULOSUS*, 21, *M. PUSILLUS*; 22, *M. SILVESTRIS*; 23, *M. SANCTI-JOHNI*; 24, *M. SPATHIFER*; 25, *M. HUMERALIS*; 26, *M. FOVEAVENTRIS*; 27, *M. ABDITICEPS*; 28, *M. THORACICUS*; 29, *M. PUNCTIPENNIS*. (ALL DRAWN TO SAME SCALE.)



OUTLINE DIAGRAMS OF *CRYPTORHYNCHINAE*: 1, *MICROCRYPTORHYNCHUS IMPRESSUS*; 2, *M. CRINITUS*; 3, *M. CHAETECTETOROIDES*; 4, *M. TUMIDUS*; 5, *M. ABNORMIS*; 6, *M. VARIANS*; 7, *M. ANDERSONI*; 8, *AMPAGIOIDES DISCRETUS*; 9, *MICROCRYPTORHYNCHUS NIGER*; 10, *M. OBESUS*; 11, *RAPACIS NITIDUS*; 12, *MICROCRYPTORHYNCHUS CARINATUS*; 13, *M. CURVUS*; 14, *M. SETIFER*; 15, *OPARUA VANNIPES*. (ALL DRAWN TO SAME SCALE.)



FOREST AND TERRACES OF ANCIENT FORT AT MORONGOTA, VIEWED FROM SOUTHEAST, MOUNT PERAHU IN BACKGROUND (TOP OF MOUNTAIN ½ INCH ABOVE TOP OF PHOTOGRAPH).



A

B

FORESTS OF RAPA: *A*, FOREST SOUTHEAST OF MOUNT MOTU; *B*, RAIN FOREST, SUMMIT OF MOUNT PERAHU, SHOWING DENSE UNDERGROWTH AND EPIPHYTES, BROAD-LEAVED PLANT IS *ASPLENIUM NIDUS* (BIRD'S NEST FERN).