

OCCASIONAL PAPERS
OF
BERNICE P. BISHOP MUSEUM
HONOLULU, HAWAII

Volume XIII

June 1, 1937

Number 11

Rhyncogonus of the Mangarevan Expedition^{1 2}

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INTRODUCTION

This paper treats of weevils of the genus *Rhyncogonus* secured by the Mangarevan Expedition of Bernice P. Bishop Museum in 1934. The material submitted to me for study by Bishop Museum through the kindness of the former Director, Dr. H. E. Gregory, was collected in the Society Islands, Austral Islands, Rapa, and other islands in the same region including Henderson Island. Most of the specimens were collected by Elwood C. Zimmerman, entomologist of the expedition. Almost 2,500 specimens representing 40 species, 39 of which are new to science, were studied. Three additional unnamed species in the Bishop Museum collection, one from Fanning Island, one from Christmas Island, and the other from Rarotonga of the Cook Archipelago have been included. The paper will supplement those previously published on the same group from southern Polynesia,^{3 4 5} and treats of all the known *Rhyncogonus* with the exception of the Marquesan, Hawaiian, and Wake Island species.

The study of the species described in this report brought out many interesting facts. As in the Hawaiian and Marquesan species, I found that all species are definitely limited in their distribution,

¹ Rhyncophora of southeastern Polynesia Publication 8.

² Mangarevan Expedition Publication. 17.

³ Van Dyke, E. C., *Microgonus*, new genus, and *Rhyncogonus* from the Marquesas: B. P. Bishop Mus., Bull. 98, Pacific Entomological Survey Publication 1, art. 4, 1932.

⁴ Van Dyke, E. C., *Rhyncogonus submetallicus*, new species from Tahiti: B. P. Bishop Mus., Bull. 142, Pacific Entomological Survey Publication 6, art. 9, 1933.

⁵ Van Dyke, E. C., Supplementary notes concerning certain species of *Rhyncogonus* from the Marquesas: B. P. Bishop Mus., Bull. 142, Pacific Entomological Survey Publication 8, art. 13, 1935.

not only to single islands but generally to restricted areas on those islands, and their feeding habits are also more or less circumscribed. Most of the species have developed well marked divergent morphological characters in a few strikingly peculiar features as a result of this isolation, yet because of their common origin they have definitely retained well marked group characteristics. When compared to the Hawaiian and Marquesan assemblages, it was found that some show common characters while others show divergent features. For instance, most of the species from the Society Islands as well as those from Rapa have the second funicular segment of the antennae longer than the first as in the Marquesan species, whereas those from the Austral Islands have the first and second funicular segments about equal in length, or the first is longer as in the Hawaiian species. This character, though useful in separating the species, is not, I believe, significant phylogenetically. Sexual dimorphism is not as marked as in the Marquesan species although there are sexual difference in size and shape in most species. Most of the Society Islands species are flattened and have a cordiform afterbody, appearing tortoise-like. They possess only moderately prominent eyes, have the elytra more or less completely margined at the sides or at least carinate, and the majority have the base of the elytra somewhat elevated or margined. They thus appear to form a unit quite distinct from most of the others. The majority of the species from the Austral Islands and Rapa also appear to form a rather definitely defined and divergent group as indicated by their elongate, fusiform shape, and prominent, somewhat pyramidal eyes. The two most highly specialized species are *R. tuberosus*, a large tubercular species from Tahiti, and *R. nodosus*, an elongate, warty species from Tubuai of the Austral group. These are unlike the other members of the genus though *R. nodosus* has the prominent eyes possessed by other species of the Austral Islands. The three large species, *R. lineatus* from Rarotonga, the most southwesterly species of the genus, *R. cordiformis* from Raiatea, and *R. fulvus* from Borabora, show a distinct resemblance to the larger Marquesan species. The small, more or less convex and rather uniformly pilose species, *R. vagus*, from Fanning Island, *R. fosbergi* from Christmas Island and *R. hendersoni* from Henderson Island resemble the smaller Hawaiian species.

As in the Marquesas, the distribution of species in southeastern Polynesia seems to have come about in an orderly manner. The species of large or moderate size, with well developed but not prominently protruding eyes and robust, somewhat elongated bodies, I consider as closest to the basic stock. Those species from the collection in hand which I place in this category are *R. lineatus* from Rarotonga, *R. cordiformis* from Raiatea, *R. fulvus* from Borabora, *R. gracilis* from Rapa and *R. zimmermani* from Marotiri. Another species from Marotiri, *R. variabilis*, is rather generalized; its prominent eyes, however, indicate some divergence. The small *R. hendersoni* from Henderson Island is also considerably generalized. Thus species from the southern and western islands seem to best represent the basic stock which is represented to such a marked degree in most of the species from the Hawaiian and Marquesas groups. The most specialized groups in southeastern Polynesia are: first, those with prominently projecting eyes, limited to the Austral Islands and Rapa, and second, those containing moderately flattened species with the sides of the elytra distinctly margined or at least carinate, restricted to the Society Islands. The species as a whole throw much light on the general distribution of the genus. They show what has already been observed from the study of the Hawaiian and Marquesan species that with the exception of one species on Wake Island, this large genus of conspicuous weevils, rather distinctly defined, is restricted to the more eastern Polynesian fauna and widely distributed throughout this fauna. Southwest of this region, there are large weevils of undoubted Indo-Malayan and Austro-Malayan origin which have pushed their way eastward into the Solomon and Fijian archipelagos, even as far east as Samoa. These belong to the genus *Elytrurus*, many species of which superficially resemble species of *Rhyncogonus*. They, however, differ structurally, particularly in regard to the mouth.

In treating of individual species, I mention most of the biological facts concerning hosts and distribution recorded in Mr. Zimmerman's extensive field notes. The types and major portion of the collection are deposited in Bishop Museum.

Key to species

1. Second funicular segment of antennae longer than first..... 2
First and second funicular segments of antennae subequal or the first slightly the longer.....23
2. Eyes but moderately projecting, evenly arcuate and never more than a hemisphere in extent..... 3
Eyes very prominent, projecting well out from the head, more or less pyramidal and generally tilted backwards; prothorax more or less narrowed and laterally sinuate at basal half.....17
3. Base of elytra with more or less of a distinctly elevated margin..... 4
Base of elytra not margined.....14
4. Upper surface entirely glabrous except for a few apical elytra hairs in one species..... 5
Upper surface more or less squamose or pilose..... 9
5. Small and rather broad species, afterbody turtle-like, less than 10 mm in length..... 6
Larger and more elongate, shining species, 11 mm or more in length.... 7
6. Upper surface smooth and shining, elytra feebly metallic (Tahiti)..... **R. nigroaeneus**
Head and pronotum shining, elytra piceous, opaque and very finely, sparsely pilose (Moorea)..... **R. opacipennis**
7. Eyes moderately prominent, almost hemispherical, pronotum rather finely, sparsely punctured, elytra with punctures somewhat irregularly arranged and slightly rugose (Tahiti)..... **R. glabrus**
Eyes less prominent, much flattened..... 8
8. Pronotum rather finely, sparsely punctured; elytra with strial punctures coarse and regularly arranged, minute interstitial punctures irregularly disposed, and sometimes a sparse pubescence at apex of elytra; last ventral segment finely pubescent (Tahiti)... **R. corvinus**
Pronotum somewhat coarsely, closely punctured; elytra with punctures coarse and serially arranged, the general surface also more or less rugose; last ventral segment clothed with long coarse pubescence (Tahiti) **R. ventralis**
9. Vestiture limited to a few elongate white scales on rostrum, post-ocular area of head, sides of pronotum especially at hind angles and scutellum, and with a limited amount of white pile at the narrowed apex of elytra; surface otherwise black and shining, the punctures fine, serially arranged on elytra; eyes moderately prominent (Huahine) **R. caudatus**
Vestiture more uniformly distributed or densely placed at sides of pronotum and elytra10
10. More elongate species, prothorax but little broader than long; vestiture rather sparsely and irregularly distributed over elytra; eyes only feebly prominent.....11
Broader species, prothorax evidently broader than long; elytra with complete lateral margin.....13
11. Vestiture entirely hairy, conspicuous fulvous pile regularly but not closely distributed over entire body, the underlying surface shining and black with a bronze lustre; elytra laterally margined only near base (Raiatea)..... **R. sparsus**

- Vestiture made up of sparse yet somewhat uniformly distributed pile, especially on elytra, and in addition a few irregularly placed scales; elytra tortoise-shaped and with complete or almost complete lateral margin.....12
12. Head, prothorax and body beneath clothed with conspicuous, fulvous, rather sparsely placed pile, the elytra above and epipleurae speckled with fine fulvous hair or hair-like scales and with larger elliptical scales more widely and irregularly scattered over the surface (Raiatea)**R. pulvereus**
- Males with patches of elongate, white scales near basal angles of prothorax and in gular region, elytra minutely, sparsely and regularly pilose; females somewhat densely clothed with long white scales on both head and prothorax, above and beneath, the elytra rather regularly peppered with short white hair and hair-like scales; the metasternum in both sexes with a dense tuft of white or yellowish-white pile, the underside generally finely, sparsely pilose, more evident in female (Raiatea).....**R. pectoralis**
13. Robust, quite convex above, black shining, elytra greenish bronze, and sparsely yet uniformly clothed with gray or very light fulvous pile, denser on the epipleurae (Tahiti).....**R. submetallicus**
- Broad, somewhat flattened above, vestiture squamous, dense and mainly confined to sides of both pronotum and elytra (Raiatea)**R. cordiformis**
14. Pubescence of upper surface sparse and irregular in distribution; lateral margin of elytra more or less well defined.....15
- Pubescence of upper surface dense and more evenly distributed over surface; lateral margin not sharply defined except near base in one species; smaller and generally narrower species.....16
15. Elongate, fusiform species, black and shining with fine, white pile, moderately dense at sides of prothorax and sides and apical portion of elytra; sides of elytra completely and distinctly margined (Tahiti)**R. expansus**
- Large and robust species, upper surface black or rufopiceous, dull, more or less rugose or granulate, with sides of elytra markedly tuberculate in males and sinuate to dentate in females; and pile white, limited in males to tufts at hind angles of prothorax and scutellum and to very minute, sparsely distributed hairs over elytra, and in females to hair-like scales at sides of prothorax, scutellum and to interrupted lines at sides, and apical portion of elytra (Tahiti)**R. tuberosus**
16. Rather small, somewhat narrow species, uniformly clothed above with coarse white pile, sometimes slightly fulvous at sides; elytra subcordate (Rapa)**R. albipilis**
- Moderately large, elongate species, somewhat densely clothed above with coarse fulvous pile, denser at sides and towards apex; elytra in female carinate at sides near base (Rapa).....**R. gracilis**
17. Black species18
- Small species, more or less aeneous or submetallic, especially female.....20
18. Large, rather robust species, 14 mm or more in length, glabrous except for few scattered long hairs along lateral margin of elytra

- and at apex; sides of elytra compressed, carinate and margined towards apex, especially in females (Rapa).....**R. othello**
 Smaller and robust species.....19
19. Elongate with elytra parallel sided at middle and strongly carinate near base and apex, 11-12 mm long (Rapa).....**R. angustus**
 Smaller species, 8-9 mm long, elytra sparsely clothed with closely appressed fine white pile, hardly to be seen in males (Rapa)....**R. erebus**
20. Brilliantly greenish bronze, somewhat explanate and with fulvous pile, sparse on head and prothorax and more dense at elytral apices and beneath (Rapa).....**R. viridescens**
 But feebly bronzed at most and never very broad.....21
21. Elytra more or less pilose, very finely so in males, more coarsely and evidently so in females, sparsely pilose beneath and with elytral margins completely carinate in both sexes (Rapa) **R. pubipennis**
 Upper surface entirely glabrous.....22
22. Epipleurae, legs and undersurface of forebody rather densely clothed with long pile; body above black, faintly aeneous; elytra sparsely pilose at apex, subcarinate at sides, with short basal carina at about eighth interval in female, and with punctures rather large and serially arranged, the more minute interstitial punctures almost absent (Rapa)**R. pleuralis**
 Epipleurae practically smooth, a few minute hairs occasionally near apex of elytra, apex itself and undersurface sparsely pilose; body black, somewhat aeneous, elytra with double type of punctuation, larger round punctures serially arranged and more minute punctures rather densely but irregularly scattered over the intervals (Rapa)**R. interstitialis**
23. Eyes very prominent, at least hemispherical and generally more or less pyramidal as in the species just mentioned above.....24
 Eyes but moderately prominent, evenly arcuate and never quite hemispherical35
24. Species more or less pilose above, at least the females.....25
 Species in general quite glabrous above in both sexes.....31
25. Very narrow and elongate species, of moderate size, prothorax almost as long as broad and elytra about twice as long as broad.....26
 Species more robust, the females at least with elytra much less than twice as long as broad.....27
26. Upper surface moderately clothed with closely appressed scales, which are of two types on head and pronotum, broad or linear, and linear on elytra, the elytra in addition with two series of widely spaced blunt tubercles surmounted with tufts of coarse hair and series of irregular shaped tubercles along the margin, better developed in females (Tubuai).....**R. nodosus**
 Prothorax cylindrical, disk coarsely, rugosely punctured; elytra fusiform and granulate; males naked except for small tufts of white pile at hind angles of prothorax and minute hairs scattered over elytra, females with scattered scales and fine hair on sides of prothorax as well as hind angles and fulvous pile, somewhat densely clothing the elytra, also long suberect setae on apical portion of latter (Tubuai)**R. longulus**

27. Rather large and robust with scape barely reaching middle of prothorax; pronotum coarsely, irregularly punctured and rugose; both sexes quite convex but females more pilose (Marotiri).....
 **R. variabilis**
- Rather small species with scape reaching back behind middle of prothorax; pronotum coarsely, closely, cribrately punctured, slightly strigose and with tufts of white pile at right angles; male elytra evenly convex, female elytra irregular in contour, variably pilose and with epipleurae markedly lobed behind.....28
28. Species 8 mm or more in length, black or piceous, males quite convex and to a great extent glabrous above, females with elytra irregular in contour and outline, excavated near humeri and apex and with apices broad and obliquely truncate (Rurutu)....**R. excavatus**
- Species less than 9 mm in length, both sexes somewhat rufous, more or less flattened and pilose.....29
29. Pronotum very shallowly, obscurely punctured and rugose, elytra with closely applied pubescence and rather long, suberect setae (Rurutu)**R. hispidus**
- Pronotum more or less deeply punctured, elytra with closely applied pubescence30
30. Small, 7 mm or less in length, prothorax about one fourth broader than long; males with elytra evenly arcuate transversely, with punctures somewhat irregularly disposed and finely pubescent; females with elytra irregular, excavated at humeri and apex, with punctures more regularly arranged and a tuft of long hair disposed along the elevated margin of the humeral excavations (Rurutu)**R. debilis**
- Larger, as large as 8.5 mm in length in females, prothorax about as long as broad; elytra in both sexes evenly arcuate transversely or the females feebly obliquely flattened near humeri and at apex, the punctures coarse and rather regularly arranged and the pubescence fine and sparse though a bit more dense and more irregularly disposed apically in females (Rimatara).....**R. rufulus**
31. Large species, 10-13 mm long; eyes more or less pointed at apices; pronotum coarsely, closely and cribrately punctured, tuft of white pile at hind angles.....32
- Smaller species, 10 mm or less; eyes somewhat rounded at apices; pronotum more irregularly punctured, rarely cribrately.....34
32. Somewhat flattened transversely; hind angles of prothorax carinate laterally and sides of elytra margined in both sexes almost to apices, the females with short diskal carina near humeri (Rai-vavae)**R. nigerrimus**
- Quite convex transversely; hind angles of prothorax not carinate laterally and only females with sides of elytra carinate.....33
33. Prothorax distinctly broader than long, somewhat cuneiform; elytral punctures irregularly disposed (Rurutu).....**R. tenebrosus**
- Prothorax almost as long as broad, subcylindrical; elytral punctures more or less serially arranged (Tubuai).....**R. obscurus**
34. Prothorax practically naked above, elytra with punctures irregularly disposed (Rapa)**R. dispersus**

- Prothorax sparsely pilose at sides or at least at hind angles, elytra with punctures regularly arranged (Rapa).....**R. regularis**
35. Larger species, 13 mm or over in length.....36
 Smaller species, 10 mm or less in length.....38
36. Above very finely, sparsely pubescent, the surface dull black and finely granular (Marotiri)**R. zimmermani**
 Upper surface more or less concealed by scaly vestiture.....37
37. Scaly vestiture white, to a great extent limited to sides of prothorax and to diskal vittae and sides of elytra (Rarotonga).....**R. lineatus**
 Scaly vestiture fulvous, more or less densely and uniformly applied to entire upper surface, the elytra also with fine, long, suberect setae scattered over the surface (Borabora).....**R. fulvus**
38. Species quite convex, rather distinctly, more or less uniformly pilose; elytra laterally margined only near base and apex.....39
 Species somewhat flattened; elytra either completely margined or carinate at sides.....40
39. Vestiture absolutely pilose, somewhat obliquely elevated; elytral intervals quite regular as result of more regular arrangement of striae punctures (Fanning Island).....**R. vagus**
 Vestiture more or less scale-like, quite closely appressed on elytra though with here and there a fine suberect seta: elytral intervals irregular as result of more transverse type of striae punctures with consequent greater indenting (Christmas Island)..... **R. fosbergi**
40. Species sparsely clothed above with fulvous pile, somewhat shining, pronotum moderately punctured and with hind angles laterally carinate; elytra with finely elevated margin at base, with coarse striae punctures in males, more or less obsolescent in females but with surface granular (Tahiti).....**R. testudineus**
 Species more uniformly but not densely clothed with white pile, prothorax coarsely punctured but without laterally carinate hind angles; elytra without elevated basal margin but with coarse, serially arranged punctures in both sexes (Henderson Island).....
**R. hendersoni**

1. *Rhyncogonus nigroaeneus*, new species.

Rather small, depressed, shining and to a great extent glabrous, the males almost absolutely so, the females with a fine, sparse pubescence in supra-orbital region, at hind angles of prothorax, apical portion of elytra, and somewhat longer and denser on ventral surface, black with elytra faintly aeneous or with a slight violaceous gloss and last ventral segment rufous. Head and basal portion of rostrum continuously flattened, rather coarsely punctured and rugose, rostral apex dilated and depressed in front; eyes large and moderately convex, about one half the convexity of a hemisphere; rostrum broad, a third longer than wide; antennae with scape quite arcuate, almost reaching middle of prothorax, second funicular segment evidently longer than first, third shorter than first, following gradually shorter. Prothorax at least a fifth broader than long, apex one fifth narrower than base, sides almost straight and parallel at basal two thirds, thence gradually arcuate and narrowed to apex, hind angles rectangular and laterally carinate; disk evenly convex and finely, somewhat regularly but not closely or sharply punctured and often with a smooth line faintly indicated medially

Scutellum punctured and glabrous. Elytra one fourth longer than broad and three times as long as prothorax; sides evenly and rather broadly arcuate to posterior third, thence straight and convergent to apex, and with well marked, slightly reflexed and complete margin; the disk moderately convex and with striae punctures fine and serially arranged, less regular and more obscure at sides, and with a fine but sharply elevated basal margin. Beneath irregularly, sparsely punctured in front, more finely punctured and rugose behind, and with suture between first and second ventral segments obsolescent. Legs of moderate length, all tibiae very finely serrate along inner margin. Male, length 8-8.5 mm, breadth 3.5-4 mm; female, length 10 mm, breadth 4.5 mm.

The males are generally smaller, narrower, with elytral punctures coarser and more regularly arranged, more distinctly glabrous, both above and beneath, with the first and second ventral segments connate and somewhat flattened. The females are larger, broader, with elytra more often violaceous in contrast to the aeneous green or black of the males, with a fine and sparse pubescence often evident on the elytra and the coarser pubescence of the underside well marked, the abdomen also somewhat convex.

Society Islands: Tahiti, holotype male and allotype female and numerous designated paratypes from a series of 345 specimens collected by E. C. Zimmerman as follows: Vairao, Vairao Plateau, altitude 1,000 ft., March 30, 1934, by beating shrubbery; Afaahiti Taiarapa Peninsula, altitude 900-1,200 ft., March 23, 1934, by beating *purau*.

This species seems to be definitely limited to the peninsula of Tahiti and was always to be found resting on foliage. Its distinctive tortoise-like aspect, glabrous and shining surface, rufous last ventral segment and other characters as well as its distribution should enable it to be recognized. I considered this species to be *R. coquereli* (Fairmaire), but specimens sent by Mr. Zimmerman to Mm. P. Lesne and compared with the type have been pronounced different.⁶

2. *Rhyncogonus opacipennis*, new species.

Similar in general size and shape to the preceding, head and prothorax smooth and shining, elytra subopaque and minutely, sparsely pubescent, under surface also somewhat pubescent, above nigropiceous, antennae, legs and under surface rufopiceous, last ventral segment rufous. Head and basal

⁶ *Rhyncogonus coquereli* (Fairmaire).

Elytrurus coquereli Fairm.: Essai sur les Col. de la Polynésie, Rev. et Mag. Zool., pp. 509-510 (Reprint, pp. 61-66), 1849.

This species was evidently not taken by Mr. Zimmerman. It somewhat resembles *nigroaeneus* but differs according to Lesne by having a broader prothorax, more convex eyes, elytra laterally serrulate behind and with considerable chalky white pubescence, etc.

portion of rostrum flattened, rather coarsely punctured and rugose, apex of rostrum depressed and dilated; eyes large and moderately convex; rostrum a third longer than broad; antennae with scape feebly arcuate, reaching middle of prothorax, second funicular segment about a fifth longer than first, third a fourth shorter than first. Prothorax a fifth broader than long, apex narrower than base, sides almost straight and feebly divergent from base to middle, thence rounded and gradually narrowed to apex, hind angles somewhat obtuse and laterally carinate; disk evenly convex, densely, shallowly punctured. Scutellum smooth at apex, punctured in front. Elytra one third longer than broad and three times as long as prothorax; sides rather broadly arcuate from base to posterior third, then almost straight and convergent to apex, and with very distinct, slightly reflexed and complete margin; disk moderately convex, striae feeble but striae punctures well impressed, moderately close and regularly arranged, the base finely elevated into a definite margin and epipleurae coarsely punctured. Beneath obscurely punctured in front, mesosternum coarsely punctured and abdomen finely, sparsely punctured, the last ventral segment moderately pilose, and the suture between first and second ventral segments obsolete. Legs of moderate length, all tarsi obscurely serrate along inner margin. Length 9 mm, breadth 4 mm.

Society Islands: Moorea, two specimens, holotype and paratype, presumably males, collected on the north ridge of Mount Teaharoa at an elevation of 2,000 ft., Sept. 25, 1934, by E. C. Zimmerman and Donald Anderson, both taken from fronds of *Angiopteris*.

This species is closely related to *R. nigroaeneus* but the color, opacity, and more definite punctuation should enable it to be readily separated.

3. *Rhyncogonus glabrus*, new species.

Moderately large, elongate, somewhat fusiform and flattened, black, smooth and shining, the apex of elytra and posterior ventral segments sparsely pubescent. Head convex behind, finely punctured and shining, flattened in front with the flattening continued forward on to the rostrum, coarsely, rugosely punctured, sometimes with shallow transverse impression between the eyes; rostrum twice as long as average breadth, dilated and depressed in front and often with a slight, median, longitudinal carina; eyes large, almost hemispherical; antennae with scape feebly arcuate, reaching middle of prothorax, second funicular segment about a fifth longer than first, third almost equal to first. Prothorax about one third broader than long, apex two thirds breadth of base, sides straight and parallel in males or moderately divergent forward to beyond middle in females, thence arcuately narrowed anteriorly and suddenly constricted and sinuate before apex, hind angles rectangular, laterally compressed but not carinate, and sometimes with a few minute hairs; disk but moderately convex and irregularly, discretely punctured. Scutellum sparsely punctured in front, apex smooth. Elytra elongate, cordiform, almost twice as long as broad in males, proportionately broader in females and about four times as long as prothorax; sides arcuate from base to posterior third, thence almost

straight and convergent to feebly rounded apices, with narrow, somewhat reflexed and almost complete margin; disk moderately convex, striae not impressed but punctures rather coarse and serially arranged, epipleurae with punctures more or less obscure, and base with somewhat of a narrow margin. Beneath fairly smooth in front, the abdomen sparsely, vaguely punctured, the suture between first and second ventral segments well defined. Legs rather long, all tibiae definitely serrate along inner margin. Male, length 12 mm, breadth 4.25 mm; female, length 14 mm, breadth 5.5 mm.

Society Islands: Tahiti, holotype male and allotype female, collected at an elevation of 4500 ft. on the east slope of Mount Orofena, by F. R. Fosberg, the male, Sept. 26, 1934, the female, Sept. 22, 1934.

This species belongs to a group of four elongate, more or less glabrous, shining black species in which the elytra has both a basal and well defined lateral margin and in which the second funicular segment of antennae is longer than the first. The other members of the group differ from it as follows: *R. corvinus* has the eyes considerably flattened, has minute interstitial elytral punctures as well as the usual coarse serial ones and the under surface rather definitely pilose; *R. ventralis* has the eyes less convex, the pronotum very coarsely, closely punctured and hind angles carinate laterally, elytra coarsely, closely though serially punctured and somewhat rugose, and last ventral segment coarsely pubescent; while *R. caudatus* has the constricted apex of the elytra, the sides of the prothorax and hind angles furnished with elongate, white scales, scales also very evident beneath on pro-, meso-, and metapleura, and the abdomen finely pilose.

4. *Rhyncogonus corvinus*, new species.

Of moderate size, elongate, somewhat fusiform and more or less flattened, black, feebly aeneous, smooth and shining, apex of elytra sparsely and undersurface more evidently pubescent. Head in front and basal portion of rostrum continuously flattened, coarsely punctured, obscurely striated, apex depressed as well as dilated; eyes large but feebly convex; antennae with scape feebly arcuate and reaching beyond middle of prothorax, second funicular segment a fifth longer than first, the third almost as long as first. Prothorax almost a third broader than long, apex a third narrower than base, sides almost straight and feebly divergent from base to beyond middle, thence gradually arcuate and narrowed to apex, hind angles obtuse and laterally subcarinate; disk moderately convex and rather finely, regularly but not closely punctured and with vague longitudinal carina at middle. Scutellum punctured in front and smooth at apex. Elytra two sevenths longer than broad in male and one fourth longer in female and less than three times as long as prothorax; sides arcuate from base to posterior third and almost straight and convergent to apex, with margin reflexed and

complete; disk convex, without striae but with punctures varying from coarse in male to rather fine in female and closely, serially arranged, and with a few, very fine interstitial punctures, more noticeable in female, epipleurae coarsely, shallowly punctured, and base with distinct yet narrow margin. Beneath almost smooth in front, finely, sparsely punctured and with gray pubescence behind, the last ventral segment in males somewhat rufous, and suture between first and second ventral segments well defined. Male, length 11.5 mm, breadth 4.75 mm; female, length 13 mm, breadth 6 mm.

Society Islands: Tahiti, holotype male and allotype female, collected on Mount Aorai trail, by E. C. Zimmerman, the male at an altitude of 4500-5500 ft., Sept. 14, 1934, on *Weinmannia* and the female at an altitude of 3500-4500 ft., Sept. 13, 1934, on *Metrosideros*.

This species is very close to the following but differs in its large size, more flattened eyes, and the finer and more generally dispersed pile on the abdomen.

5. *Rhyncogonus ventralis*, new species.

Similar in shape and general appearance to the above but differs in the following particulars: front of head and rostrum more coarsely punctured and rugose, eyes more convex and generally prominent, projecting well out from sides of head; pronotum more coarsely, closely punctured, hind angles laterally carinate, and last ventral segment rather densely clothed with coarse fulvous pile, the remainder more or less glabrous, and the suture between the first and second ventral segments obsolete.

Society Islands: Tahiti, collected at 3500 ft., at Taohiri on Mount Aorai trail, Sept. 16, 1934, beating herbage, by E. C. Zimmerman.

With this unique, I have associated three smaller specimens which have the eyes less pronounced and the general punctuation less gross, agreeing in these peculiarities with *R. corvinus*, but having the last ventral segment clothed with coarse fulvous pile as in the typical *R. ventralis*. One of these smaller specimens has the suture between the first and second ventral segments obliterated, but the other two have it well indicated. These three were also collected on the Mount Aorai trail as follows: one on Sept. 13, 1934, between 3500 and 4500 ft. in elevation, on ferns; the others on Sept. 16, 1934, at 3500-4500 ft. altitude, by beating shrubs, all collected by E. C. Zimmerman.

It is possible that this species is but a variant of *R. corvinus* but in view of the definite differences between the pubescence of the ventral segments in the two series, it seems best to consider them as distinct until more material can be secured to settle the point.

6. *Rhyncogonus caudatus*, new species (fig. 2, a).

Rather large, elongate, fusiform, with the apex of the elytra narrowed and somewhat prolonged, black, smooth and shining, with elongate, white scales at sides of head, prothorax and especially hind angles of latter, and very long hair-like scales and hair at apex of elytra, the pro-, meso-, and metapleura tufted with white scales, and the hind femora transversely barred at the middle with similar scales. Head in front and base of rostrum flattened, moderately punctured, rostrum feebly, triangularly sulcate at middle and with a few scales in depression, and depressed and expanded in front; eyes large, moderately convex; antennae with scape almost straight and reaching to middle of prothorax, all funicular segments very long, second about one fourth longer than first and third fully as long as first. Prothorax but one seventh broader than long, apex one sixth narrower than base, sides in females feebly arcuate from base almost to apex where slightly constricted while in males sinuate near base, hind angles rectangular and laterally subcarinate. Scutellum finely punctured near apex and often with a tuft of white scales. Elytra almost twice as long as wide in male and but slightly over one third longer in female, nearly three times as long as prothorax, sides evenly arcuate from base to posterior third, thence narrowed and sinuate to rounded apex, the basal half laterally margined only in female; disk convex, striae vaguely impressed but striae punctures fine, closely placed and serially arranged, larger and more deeply impressed in female, the basal margin with a fine somewhat obscure carina. Beneath, somewhat smooth in front, finely, sparsely punctured behind, with entire under surface and legs clothed with white pile, much denser on last ventral segment, and with suture between first and second ventral segment fine but distinct. Legs long, and finely serrate along inner margin of all tibiae. Male, length 11.5 mm, breadth 4.5 mm; female, length 14 mm, breadth 5.5 mm.

Society Islands: Huahine, holotype male and allotype female, collected on northwest ridge of Mount Turi, Oct. 1, 1934, by E. C. Zimmerman. The male was taken at 1800 ft. altitude on *Dioscoria* and the female at 2,000 ft. altitude on *Angiopteris*.

This white-tailed species can be readily recognized from its relatives by its shape and scale pattern. No other species from the Society Islands or neighboring groups closely simulates it. *Rhyncogonus navicularis* Marshall of the Marquesas Islands mimics it somewhat in general shape but is far more robust and differs in almost all details of structure.

7. *Rhyncogonus sparsus*, new species.

Of moderate size, fusiform, black, feebly aeneous, regularly but not densely clothed with fulvous pile, that of the elytra short and fine, of the underside moderately long and denser. Head at base and rostrum flattened, obscurely punctured, the rostrum depressed at apex and moderately dilated; eyes large but very slightly convex; antennae with scape almost straight and not quite reaching middle of prothorax, second funicular segment but little longer than first, the third shorter than first. Prothorax subcylind-

drical, slightly broader than long, apex less than a third narrower than base, broadest at middle, sides feebly arcuate, narrowed in front, hind angles obtuse, subcarinate outwardly. Scutellum punctured and with tuft of yellow pile at apex. Elytra about one third longer than broad and about three times as long as prothorax, sides evenly arcuate to posterior third thence straight and convergent to acute apex, margined only at basal third, well rounded posteriorly; disk quite convex, striae absent and punctures obscure, the general surface somewhat rugose, base finely margined, epipleurae obscurely punctured. Beneath rather smooth in front, finely, sparsely and somewhat obscurely punctured behind, first and second ventral segments connate but with the suture between distinct. Length 8 mm, breadth 5.5 mm.

Society Islands: Raiatea, holotype, a unique, presumably a female collected in 1926-1927 by J. W. Moore.

This insect was collected about the same time and place as *R. pulvereus*; and may possibly be the female of that species, but I doubt it. In dimorphic species such as we have in the south Pacific, such sexual differences as are indicated here in both shape and vestiture are not unusual, but marked differences within the species in the shape of the eyes as is presented here where the eyes are quite prominent in *R. pulvereus* and very much flattened in *R. sparsus*, have not been observed before in the genus. I therefore prefer to keep them apart until more ample material can be procured to settle the point finally.

8. *Rhyncogonus pulvereus*, new species.

Rather large, broadly fusiform, somewhat flattened, black; forebody, legs and under surface sparsely yet conspicuously clothed with fulvous pile, the elytra rather regularly sprinkled with minute, hair-like scales and to a less extent with larger elliptical scales of a fulvous color and both above and on the epipleurae, and in addition with a few large scales about eyes and on propectus, the pile on legs somewhat condensed into a transverse bar at middle of femora. Head flattened in front, rostrum broadly, shallowly, triangularly impressed at middle, both head and rostrum coarsely punctured, the rostrum broad and depressed at apex as usual; eyes large and moderately prominent, flattened at summits; antennae with scape almost straight and nearly reaching middle of prothorax, second funicular segment noticeably longer than first, third shorter than first. Prothorax just barely broader than long, apex one third narrower than base, sides straight and feebly diverging to beyond middle, thence arcuate and narrowed to apex, hind angles obtuse and laterally carinate; disk convex, rather coarsely, somewhat densely punctured. Scutellum punctured and tufted with pile at apex. Elytra over one third longer than broad, and about three times as long as prothorax, sides evenly arcuate from base to posterior third, thence straight and convergent to rounded apices, and with well marked, reflexed and complete margins; disk convex yet considerably flattened, striae absent but striae punctures well defined towards sides and serially arranged, else-

where rugose, base finely margined, epipleurae moderately punctured and finely rugose. Beneath sparsely punctured in front, finely, more densely punctured behind and scabrous, last ventral segment very finely, closely punctured and rufous; the first and second ventral segments moderately flattened and with suture between them finely but sharply defined. Length 13 mm, breadth 5.5 mm.

Society Islands: Raiatea, holotype, a unique, collected in 1926-1927 by J. W. Moore.

This shapely species stands out from its associates, especially of Raiatea, by the double type of scaling, the more or less regular manner in which scales are sprinkled over the surface of the elytra, and its fulvous color. As indicated under *R. sparsus*, this species might possibly prove to be the opposite sex to that described.

9. *Rhyncogonus pectoralis*, new species.

Of moderate size, attenuated before and behind, black, somewhat shining, the upper surface more or less ornamented with narrow white scales, in the males most evident as a tuft at hind angles of prothorax, and at posterior portion of mesopleurae, the elytra also sparsely yet more or less regularly sprinkled with very minute, hair-like scales, the females in general with more scales, the head and pronotum often quite densely clothed with the larger white scales and the elytra sparsely or somewhat densely sprinkled with smaller scales as well as the more minute type such as are found on the males, the scutellum also often with a tuft at apex, the underside of prothorax, mesopleura and metapleura also more or less densely covered with hair-like scales which are sometimes quite fulvous. Head in front and base of rostrum flattened and coarsely punctured and rugose, rostrum triangularly depressed at apex as well as widened; eyes large and moderately convex; antennae with scape feebly arcuate but reaching to middle of prothorax, second funicular segment about one fifth longer than first, third two thirds length of first. Prothorax barely a seventh longer than broad, apex one third narrower than base, sides sinuate from base to middle in males, straight and parallel in females, and gradually arcuate and narrowed to apex, hind angles rectangular and laterally carinate; disk convex, sparsely, finely, more or less obscurely punctured. Scutellum punctured. Elytra a third longer than wide in males, two sevenths longer in females, and almost three times as long as prothorax, sides evenly arcuate from base to posterior third, thence narrowed and sinuate to pointed apex and margined from base to posterior third; disk convex but depressed, surface granulated-scabrous, the striae vague and the punctures absent, base finely and feebly margined, epipleurae coarsely punctured and rugose. Beneath almost smooth in front except for vestiture, finely, sparsely punctured behind, last ventral segment finely, closely punctured; first and second ventral segments connate but with suture between defined though fine. Male, length 10 mm, breadth 4 mm; female, length 11-12.5 mm, breadth 5.5 mm.

Society Islands: Raiatea, holotype male, allotype female and numerous designated paratypes from a series of 129 specimens, col-

lected at altitudes of 1200-1600 ft. on the Temahani Plateau, beaten from *Metrosideros*, Oct. 5, 1934, by E. C. Zimmerman.

This species is quite variable as to size and vestiture, most specimens being quite glabrous above, others well sprinkled with various types of scales. My allotype female is one of the latter. The somewhat flattened appearance, tortoise-like shape, yet narrowed in front and behind, double type of scaling, sparsely placed yet with a definite tuft of white scales nearly always at hind angles of prothorax and condensed pilosity on metapleurae, should enable this species to be recognized. In the narrowing of the elytral apex, it approaches *R. caudatus* but it is proportionally broader and flatter. In this species, the front portion of the abdomen is flattened or even slightly concave and rugose in the males as in the Marquesas Islands species.

10. *Rhyncogonus submetallicus* Van Dyke.

Rhyncogonus submetallicus Van Dyke: Pacific Entomological Survey Publication 6, article 9, B. P. Bishop Mus., Bull. 142, pp. 51-52, 1933.

This very distinct Tahitian species was not collected by the Mangarevan Expedition, so that the unique type in Bishop Museum remains as the only known specimen. Its position in relation to the other species is fairly well indicated by its placement in the synoptic key.

11. *Rhyncogonus cordiformis*, new species.

Large, depressed and much expanded; black, moderately clothed above with white scales of various types, most conspicuous on head, at sides of prothorax and sides of elytra, and extending beneath on head, prothorax and epipleurae, the mesopleurae and metapleurae and legs coarsely pilose. Head flattened in front, likewise base of rostrum flattened, the latter also broadly, triangularly impressed and dilated and depressed at apex; eyes quite prominent; antennae with scape almost straight and about reaching center of prothorax, second funicular segment a fifth longer than first, the third barely shorter than first. Prothorax more than a fourth broader than long, apex two sevenths narrower than base, sides straight behind, feebly divergent forwards to beyond middle then gradually narrowed to apex, hind angles rounded at apices and externally carinate; disk convex and finely, moderately, densely punctured. Scutellum punctured and pubescent. Elytra broadly cordiform, a third longer than broad and three times length of prothorax, sides broadly arcuate but gradually narrowed from beyond middle to apex and with finely reflexed and complete margin; disk convex, finely, obscurely striate, with fine, irregular striae punctures and very fine, irregularly placed punctures on intervals, the general surface finely rugose but concealed laterally to a great extent by the small linear and elliptical white scales. Beneath rather finely, somewhat densely punctured, and with

the first and second ventral segments connate but with the separating suture distinct. Legs robust, all tibiae distinctly serrate along inner margin. Length 14.5 mm, breadth 6.5 mm.

Society Islands: Raiatea, holotype, a unique female, collected at an altitude of 600 ft., south slope of Toahiva Valley, Oct. 7, 1934, by E. C. Zimmerman.

This species is quite different in appearance from most of the other Society Islands species, simulating very closely many of the species from the Marquesas Islands. It does, however, have the well defined lateral elytral margin, fine basal margin and diversified type of scales, a characteristic feature of many of the species in the Society Islands. The larger Marquesan species which most closely resemble it have the scales replaced by pile.

12. *Rhyncogonus expansus*, new species.

Large, moderately depressed with sides of elytra expanded, black, shining, the sides of prothorax and elytra rather sparsely clothed with depressed fulvocinereous pile, the undersurface more finely and sparsely pilose. Head in front and rostrum flattened and moderately punctured, the rostrum depressed at apex and widened in front; eyes large, prominent, but obliquely set so not evenly convex; antennae long, with scape feebly arcuate and reaching middle of prothorax, second funicular segment over a fourth longer than first, the third subequal to first. Prothorax one seventh broader than long, apex almost a third narrower than base, sides almost straight and feebly diverging from base to middle where well rounded, thence convergent to apex, hind angles subrectangular, rounded at apex and not carinate; disk convex, with a shallow, transverse impression near base, and rather coarsely, somewhat densely punctured. Scutellum finely punctured and with a tuft of white pile at apex. Elytra over a third longer than broad in male, and somewhat less than a third longer in female, and about three times as long as prothorax, sides evenly arcuate to posterior third thence feebly sinuate to somewhat produced apex and with well marked and complete margin; disk convex, with vague striae but rather closely placed series of punctures, less sharply defined in female, and with basal margin not evident. Beneath somewhat smooth in front and finely punctured behind, the first and second ventral segments connate and the separating suture distinct. Legs long and delicate, with all tarsi definitely serrate along inner margin. Male, length 14 mm, breadth 5.5 mm; female, length 17 mm, breadth 6.5 mm.

Society Islands: Tahiti, holotype male and allotype female, the first collected May 1927, by H. L. MacDaniels; the second collected on the east slope of Mount Orofena, altitude 4500 ft., Sept. 22, 1934, by F. R. Fosberg.

This large and interesting species stands out from its fellows because of its size, length, and expanded and posteriorly attenuated elytra.

13. *Rhyncogonus tuberosus*, new species (fig. 2, e).

Large and robust, pitchy black or rufopiceous, somewhat flattened above, with series of large tubercles along the outer margin of elytra and white hair-like scales scattered along sides of prothorax and in serial patches over outer part of elytra, most evident in females. Head convex, a transverse impression between eyes, rostrum broadly, triangularly impressed above and with a narrow carina at the middle of the latter, the apex suddenly depressed and with a rounded tubercle at middle of depression, the front widened as usual, and both head and rostrum with coarse, irregularly placed punctures. Prothorax a fourth wider than long, apex slightly more than one half of base, both base and apex emarginate at middle, sides about parallel to beyond middle, thence rounded and narrowed to apex, hind angles rectangular but not sharp or laterally carinate; disk feebly convex, coarsely punctured and irregularly, transversely rugose. Scutellum coarsely punctured and with tuft of white hair at apex. Elytra averaging a third longer than broad and over a third longer than prothorax, sides evenly arcuate from base to beyond middle thence gradually narrowed to apex and with series of 8-9 prominent tubercles projecting outwards and upwards from the margin in the male, the margin broadly sinuous in front and somewhat tubercular behind in the female; disk slightly convex, rugose yet with striae and stria punctures more or less defined and the females in addition with several rows of widely spaced, small tubercles on outer portion. Beneath punctate-rugose in front, finely punctured and scabrous behind, first and second ventral segments connate yet with suture between very well marked. Legs stout, all tarsi with well developed serrations along inner margin. Male, length 14 mm, breadth 5.5 mm; female, length 15 mm, breadth 7 mm.

Society Islands: Tahiti, holotype male, allotype female and seven paratypes, four males and three females, the first collected between 3500 and 4500 ft. altitude on the Mount Aorai trail, Sept. 13, 1934, by beating *Metrosideros*; the second collected between 5500 and 6300 ft., Sept. 13-15, 1934, from *Weinmannia* or *Alyxia*, all by E. C. Zimmerman.

This species because of its large size and tubercular margined elytra can always be very readily separated from any other species of the genus.

14. *Rhyncogonus albipilis*, new species.

Small, black, uniformly and quite densely clothed with closely appressed white or slightly fulvous pile. Head coarsely punctured, flattened in front, rostrum broadly, triangularly sulcate above with sulcus smooth and shining; eyes small yet prominent and almost hemispherical; antennae with scape feebly arcuate, almost reaching middle of prothorax, second funicular segment slightly longer than first, the third about one half length of first. Prothorax subcylindrical, barely broader than long, apex about one fourth narrower than base, sides straight or feebly sinuate in basal half, arcuate at middle and convergent forwards, hind angles not carinate; disk somewhat flattened, coarsely, irregularly punctured but to a great extent concealed

by the vestiture. Scutellum finely punctured and with a tuft of white pile at apex. Elytra cordate, over a third longer than broad in male and considerably less than a third longer than broad in female, and about three times as long as prothorax, sides arcuate from base to beyond middle, thence almost straight or feebly sinuate and convergent to somewhat extended apex, and carinate but not margined in female near base; disk convex, finely rugose and with striae punctures more or less distinct and serially arranged. Beneath finely, sparsely punctured and rugose, more shining behind, first and second ventral segments connate and with suture between practically obliterated at middle. Legs of moderate length, the tibiae all finely serrate along inner margin. Male, length 9.5 mm, breadth 3.75 mm; female, length 10 mm, breadth, 4.5 mm.

Rapa, holotype male, allotype female and numerous designated paratypes from a series of 175 specimens, the first two collected at an elevation of 25 ft., a quarter of a mile east of Area, July 1, 1934, by beating *Hibiscus tiliaceus*. Others were taken at various times and places such as: Mount Tanga, altitude 700-800 ft., July 25, 1934, on *Sida*; east slope of Mount Vairu, altitude 700-800 ft., July 26, 1934, collected by Donald Anderson; northeast slope of Mount Tevaitahu, altitude 700-800 ft., July 8, 1934, on *Sida*, *Dodonaea*, and *puru*; near Area, altitude 200 ft., July 8, 1934, by C. M. Cooke, Jr., and Donald Anderson. All these were from Rapa and except where stated otherwise were collected by E. C. Zimmerman.

This species because of its small size and uniform gray pubescence is easily recognized from its relatives.

15. *Rhyncogonus gracilis* Perkins (fig. 2, b).

Rhyncogonus gracilis Perkins: Ann. Mag. Nat. Hist., ser. 2, vol. 10, p. 57, 1899.

Rather large, narrow and elongate, black, moderately clothed with fulvous, stiff pile, denser at sides of prothorax and elytra and with a tendency to be disposed in a lineate manner on disk of elytra. Head flattened in front, coarsely, irregularly punctured, a deep fovea between the eyes, rostrum broadly, shallowly impressed at middle, and depressed at apex; eyes prominent, almost hemispherical; antennae with scape feebly arcuate and about reaching middle of prothorax, second funicular segment distinctly longer than first, the third but little more than half as long as first. Prothorax one fifth wider than long, apex one third narrower than base, sides almost straight and parallel or feebly sinuate basally, arcuate at middle and narrowed at apex, posterior angles not carinate; disk convex, coarsely, irregularly punctured. Scutellum punctured and sparsely hairy. Elytra somewhat less than twice as long as broad in male and with proportions of 9 to 5 in female, and almost four times as long as in prothorax, sides feebly arcuate at basal third, almost parallel at middle third, thence gradually narrowed to apex, the basal third carinate in female; disk convex, irregularly convex and rugose. Beneath rugose in front, smooth behind and with white

or slightly fulvous pile on the meso- and metapleura and sides of ventral segments, first and second ventral segments connate and with line of union evident but vague. Legs long, all tibiae serrate along inner margin. Male, length 11 mm, breadth 3.75 mm; female, length 14 mm, breadth 5 mm.

The Mangarevan Expedition secured 163 specimens collected by E. C. Zimmerman on Rapa partially as follows: northeast ridge, Mangaoa Peak, altitude 900-1200 ft., July 4-6, 1934, by beating shrubs; northeast slope, Mount Tevaitahu, altitude 700-800 ft., July 8, 1934, from *Dodonaea*; southeast slope, Mount Pukutaketake, altitude 500-600 ft., July 11, 1934, from *Dodonaea*; Mount Tanga, altitude 700-800 ft., July 23, 1934, from *Dodonaea*; Mount Vairu, altitude 1,100 ft., July 12, 1934, from *Dodonaea*; near Area, altitude 25 ft., July 1, 1934, from *Hibiscus tiliaceus*; and one from Karapo Rahi Islet, Rapa, altitude 100-300 ft., July 18, 1934, from *Fitchia*, which does not differ appreciably.

This elongate, fusiform species is very distinct from any of the other Rapan species not only because of its form but because of the more normal shape of its eyes. It is one of the most elongate of the genus, only exceeded in narrowness and length by one or two of the species from the Austral Islands which are quite different in other respects.

16. *Rhyncogonus othello*, new species.

Large, robust, convex, black, naked except for a patch of fine, erect hair along the lateral margin of elytra near base and at apex. Head convex, rostrum deeply, longitudinally sulcate, the sulcus extending back of the eyes, both head and rostrum coarsely, not densely punctured; eyes very prominent, obliquely set, larger than a hemisphere and with well rounded apices; antennae long, with scape arcuate and reaching middle of prothorax, second funicular segment a fifth longer than first, third two thirds length of first. Prothorax a sixth broader than long, apex two sevenths narrower than base, sides arcuate; disk convex, rather coarsely irregularly and moderately densely punctured, a smooth median longitudinal line in front. Scutellum rugose. Elytra four ninths longer than wide in male, almost two fifths longer in female and three times as long as prothorax, sides regularly arcuate to posterior third thence almost straight and convergent to apex, and somewhat carinate; disk very convex, moderately coarsely, regularly, but not densely punctured, more reduced at sides and apex, and evidently flattened apically. Beneath rather smooth in front, rugose and finely, sparsely punctured behind, first and second ventral segments connate with suture between obscure in male though finely outlined in female. Legs long, tarsi finely serrate along inner margin. Males with front ventral segments concave and smoother than in females. Males, length 13.5 mm, breadth 5 mm; females, length 16 mm, breadth 6.5 mm.

Rapa, holotype male, allotype female, and two paratypes, the first two collected on northeast ridge of Mangaoa Peak, altitude 1100-1200 ft., July 25, 1934, by E. C. Zimmerman, the male from *Allophyllus*, the female from *Dodonaea*; the male paratype was taken on the east ridge of Mount Perahu, altitude 200-1500 ft., July 21, 1934, from *Veronica*, and the female paratype, same locality, July 4, 1934, from *Metrosideros*, collected by E. C. Zimmerman. The male paratype is quite rugose as well as more coarsely punctured than the other three specimens.

This fine black species is readily separated by its size, convexity, type of eyes and more or less naked condition.

17. *Rhyncogonus angustus*, new species.

Medium sized, elongate, shining black and glabrous except for a few long hairs at apical margin of elytra in female, a few small hairs on under surface and the usual hair on legs. Head flattened in front and with the rostrum coarsely punctured and rugose, the latter also broadly, shallowly sulcate, depressed in front and greatly widened forwards; eyes very prominent, more than hemispherical, somewhat tilted backwards and rounded at apices; antennae with scape feebly arcuate, reaching middle of prothorax, second funicular segment somewhat longer than first, the third two thirds length of first. Prothorax one sixth broader than long, apex one fifth narrower than base, sides sinuate and somewhat divergent to middle where broadly rounded, thence convergent to apex; disk convex, rather coarsely and irregularly punctured, and with indistinct median longitudinal line. Scutellum finely punctured behind. Elytra three sevenths longer than broad in male, almost twice as long in female and three times as long as prothorax; sides arcuate from base to middle third, almost straight and parallel at middle, and somewhat straight and convergent to individually rounded apices, the lateral carina only evident near base and apex in male though complete in female but most pronounced near base and apex; disk quite convex, coarsely, irregularly, somewhat densely punctured, finely rugose and each elytron obliquely flattened near apex. Beneath moderately coarsely, sparsely punctured in front and shining, more finely, closely behind and finely rugose. Legs long and with all tibiae finely serrate along inner margin. Male with front ventral segments flattened, convex in females, and both with first and second connate but with suture between fine and fairly distinct. Male, length 11 mm, breadth 4 mm; female, length 12 mm, breadth 4.75 mm.

Rapa, holotype male, allotype female and several designated paratypes from a series of 21 specimens; the holotype, collected on the south slope of Mount Tepiahu, altitude 400-600 ft., July 16, 1934, from dead fronds of *Cyathea*; the allotype from the northeast ridge of Mangaoa Peak, altitude 1,000-1200 ft., July 6, 1934. Other specimens were collected on Rapa as follows: 10 at the same time and

place as the allotype; 4 from Mount Vairu, altitude 1100 ft., July 12, 1934; and others from the northwest slope, Mount Tautautu, altitude 700-800 ft., July 9, 1934; south slope, Mount Tautautu, altitude 400-600 ft., July 6, 1934; northeast slope, Mount Tautautu, altitude 700-800 ft., July 8, 1934; Morongota, altitude 700-800 ft., July 11, 1934; and Mount Tanga, July 26, 1934; all from fronds of *Cyathea medullaris* except one from *Eurya*, all collected by E. C. Zimmerman.

This medium sized species is distinguished among the black species by its size and length and the fact that the elytra are more or less straight and parallel at the middle.

18. *Rhyncogonus erebus*, new species.

Rather small, moderately convex, black, head and prothorax feebly shining, elytra subopaque and sparsely clothed with depressed gray pile, especially in females. Head and base of rostrum flattened, coarsely punctured and rugose, rostrum shallowly sulcate forwards, depressed in front and dilated as usual; eyes very prominent, tubercular, rounded at apices; antennae with scape feebly arcuate and reaching middle of prothorax, second funicular segment slightly longer than first, third one half length of second. Prothorax subcylindrical, barely broader than long, apex one fourth narrower than base, sides feebly sinuate to middle, thence arcuate and gradually narrowed to apex; disk coarsely, irregularly and densely punctured, with a linear callosity at center, and finely, sparsely pubescent in female. Scutellum sparsely, coarsely punctured. Elytra two fifths longer than broad in male, one third longer than broad in female and three times as long as prothorax; sides almost straight at middle, rounded towards base and apex and carinate in female with margins evident toward base and apex; disk coarsely, serially punctured but without impressed striae, and minutely, sparsely pubescent in males, more coarsely and evidently punctured in females. Beneath more or less coarsely punctured, the first and second ventral segments connate but with suture between clearly defined. Males with front ventral segments concave. Male, length 8 mm, breadth 3.25 mm, female, length 10 mm, breadth 4 mm.

Rapa, holotype male, allotype female, and numerous designated paratypes from a series of 171 specimens, collected at various places such as: east ridge of Mount Perahu, altitude 1200-1500 ft., July 20-28, 1934; south slope, Mount Tepiahu, altitude 400-600 ft., July 20, 1934; southeast slope, Mount Pukutaketake, altitude 500-600 ft., July 11, 1934; near Anatauri Bay, July 30, 1934. They were all collected by E. C. Zimmerman, the greatest number by beating such shrubs as *Dodonaea*, *Coprosma* and *Veronica*.

This small, dull black species stands out from among its fellows

by its very sombreness. It is apparently a common species on Rapa and rather widely distributed there.

19. *Rhyncogonus viridescens*, new species (fig. 2, c).

Of moderate size, robust, somewhat flattened above, shining, greenish bronze, the head, sides of prothorax and elytra sparsely pubescent, elytral apex, underside and legs more densely clothed with long, fulvous pile. Head feebly convex and finely punctured, rostrum broadly, triangularly sulcate, the apex of groove extending back to a fovea between the eyes; eyes prominent, pyramidal with apices subacute; antennae with scape arcuate and extending to middle of prothorax, second funicular segment slightly longer than first, third two thirds length of first. Prothorax one fifth broader than long, apex a fifth narrower than base, sides feebly sinuate in basal half, arcuate at middle and narrowed towards apex; disk slightly convex, coarsely, irregularly punctured and with a narrow smooth line at center. Scutellum with apex smooth but with a few punctures in front. Elytra one third longer than broad in male, proportionally broader in female and about three times as long as prothorax, sides arcuate from base to posterior third, thence straight or feebly sinuate and convergent to broadly rounded apices; disk moderately convex, without striae but with punctures serially arranged, coarser towards base and finer towards apex, the intervals very smooth and shining. Beneath somewhat rugose in front, finely punctured over abdomen anteriorly but with last two ventral segments more densely punctured, and with the first and second ventral segments connate and with the suture between very poorly defined. Males with abdomen somewhat concave in front. Male, length 10 mm, breadth 4 mm; female, length 11 mm, breadth 4.75 mm.

Rapa, holotype male, allotype female, and numerous designated paratypes from a series of 219 specimens, collected in various places, such as the following: northeast ridge, Mangaosa Peak, altitude 1,000-1200 ft., July 4-8, 1934; Maitua, altitude 600-700 ft., July 10, 1934; northeast slope, Mount Tevaitahu, altitude 700-800 ft., July 8, 1934; southeast slope, Mount Tepiahu, July 23, 1934; south ridge, Mount Perahu, altitude 600-1,000 ft., July 13, 1934; Morongota, altitude 700-800 ft., July 11, 1934; Kopenena, July 24, 1934. Most of these were collected by E. C. Zimmerman from the herbage of such plants as *Dodonaea*, *Kadua*, *Coprosma*, and *Weinmannia*.

This species is readily separated by its brilliant, green-bronze coloration, by the pubescent elytral apices, and the rather coarse, fulvous pubescence of the legs and underside.

20. *Rhyncogonus pubipennis*, new species.

Small, similar in shape to the preceding, black, elytra somewhat aeneous, the underside of head, elytra and hind body beneath sparsely, finely, and yet distinctly pubescent, especially in females. Head flattened in front, rostrum shallowly, broadly sulcate and with head rather densely punctured, and

depressed at apex as usual; eyes very prominent, subconical; antennae with scape arcuate, about reaching middle of prothorax, second funicular segment distinctly longer than first, the third about two thirds length of second. Prothorax subcylindrical, barely wider than long, apex one eighth narrower than base, sides sinuate in basal half, arcuate in front and gradually narrowed to apex; disk slightly convex, rather coarsely, densely and irregularly punctured and with an irregular smooth line at middle. Scutellum smooth at apex. Elytra three tenths longer than broad in male, one third longer in female, and two and a half times as long as prothorax, sides shallowly arcuate to posterior third thence straight and convergent to apices; disk with striae feebly indicated here and there though with striae punctures close and more or less regularly arranged, while the intervals are finely and irregularly punctured. Beneath rugose-punctate, first two ventral segments connate and with suture between rather indistinct. Males with abdomen concave in front. Male, length 8 mm, breadth 3.25 mm; female, length 10 mm, breadth 4 mm.

Rapa, holotype male, allotype female and four paratypes, collected as follows: 4, south slope, Mount Tepiahu, altitude 400-600 ft., July 20, 1934, from *Fitchia*; 2 from Mount Tanga, altitude 700-800 ft., July 23, 1934, and one beaten from *Dodoniaea*, the other from *Sida*; all collected by E. C. Zimmerman.

This species belongs to a small group of small species, rather closely related, which are restricted to the isolated island of Rapa. The most distinctive features of this species are the sparse pubescence of the elytra and the double type of elytral punctuation.

21. *Rhyncogonus pleuralis*, new species.

Small, black, upper surface smooth and shining except for a small amount of pubescence at the apex of the elytra, undersurface particularly of forebody and epipleurae clothed with rather coarse, somewhat fulvous pile. Head rather finely punctured, feebly transversely impressed between eyes; rostrum triangularly sulcate, irregularly punctured, and depressed at apex; eyes very prominent, subconical; antennae with scape moderately arcuate and reaching middle of prothorax, second funicular segment evidently longer than first, the third two thirds length of second. Prothorax subcylindrical, almost as long as broad, apex one fourth narrower than base, sides sinuate in basal half, arcuate forwards and narrowed towards apex; disk moderately coarsely, irregularly punctured, with a vague median longitudinal smooth area. Scutellum coarsely, sparsely punctured. Elytra three tenths longer than broad, sides arcuate, gradually convergent beyond middle and almost straight to apex, feebly carinate towards base; disk with striae not impressed but with numerous series of large, somewhat quadrate punctures, more or less serially arranged. Beneath more or less coarsely punctured in front, smoother behind, first two abdominal segments connate and with vague suture between. Length 8.5 mm, breadth 3.5 mm.

Rapa, holotype and one paratype, apparently both females, one collected on the south slope of Mount Perahu, altitude 600-1,000 ft.,

July 13, 1934, by E. C. Zimmerman; the second on the northeast slope of Mount Tevaitahu, altitude 700-800 ft., July 8, 1934, E. C. Zimmerman, both from *Dodonaea*.

This species belongs in the series of small species containing the three preceding and the one following. Its most distinctive feature is the coarsely, densely pubescent epipleurae.

22. *Rhyncogonus interstitialis*, new species.

Very similar in size and general appearance to the preceding, differing in the following regards: the epipleurae are naked, the strial punctures are coarse and regularly arranged, the underside is very finely, sparsely pubescent and noticeably so only on the hind body; the pronotum is more finely densely punctured; the elytra with the sides more or less carinate throughout, the disk with intervals finely, irregularly punctured, the punctures in some cases almost as large as the strial or serial punctures, the latter also often much smaller than those in *R. pleuralis*, and the apex flattened accentuating the sharpness of lateral carinated margin. The abdomen is also more definitely and finely punctured. Male, length 8 mm, breadth 3.25 mm; female, length 9.5 mm, breadth 4 mm.

Rapa, holotype male, allotype female and 10 paratypes collected as follows: northeast ridge, Mangaoa Peak, altitude 700-1,000 ft., July 6, 1934, from *Sida*; east ridge, Mount Perahu, altitude 1500-1800 ft., July 28, 1934, from *Coprosma*; Mount Tanga, altitude 700-800 ft., July 23, 1934, from *puru*; and south slope, Mount Tepiahu, altitude 400-600 ft., July 20, 1934, from *Fitchia*, all collected by E. C. Zimmerman, except one by Donald Anderson. A series of eight specimens from Karapo Rahi Islet, adjacent to Rapa, collected at an altitude of 100-300 ft., July 18, 1934, from *Pittosporum* by E. C. Zimmerman cannot be separated from the above.

The male is, as usual, smaller and narrower, with the abdomen slightly concave in front. The species is also somewhat plastic as shown by the fact that in some specimens the serial or strial punctures of the elytra are so reduced in size that they are but little larger than those of the intervals, while in others, the serial punctures are much larger. These latter more closely simulate *R. pleuralis*.

23. *Rhyncogonus nodosus*, new species (fig. 2, d).

Large, elongate, subcylindrical, dull black, regularly but not densely clothed above with elongate scales on the head and pronotum, also with elliptical or broad and triangular scales (these latter varying with individuals), the underside sparsely pilose though also somewhat squamose at sides and on legs, the vestiture generally fulvous in females and cinereous in males, and elytra provided with two rows of diskal tubercles and somewhat tuberculate at sides, the apices of tubercles also generally tufted. Head

transversely arcuate, grossly, shallowly punctured, rostrum triangularly sulcate and depressed at apex as well as expanded; eyes prominent, pyramidal; antennae long, with scape arcuate, suddenly wider at apex, and reaching posterior third of prothorax, second funicular segment slightly shorter than first, third about two thirds length of second. Prothorax subcylindrical, one seventh broader than long, apex one sixth narrower than base, sides rather evenly arcuate though convergent forwards; disk slightly convex, coarsely, shallowly punctured and rugose, sometimes with a few, irregular tuberculate callosities. Scutellum small, sparsely punctured. Elytra almost twice as long as wide and about three times as long as prothorax, sides moderately arcuate, broadly rounded at apex, subcarinate apically, and margined with tubercles, small and acute in front, larger and often truncated behind and much more evident in females than males; disk moderately convex, somewhat irregularly punctured with well spaced punctures, with two rows of tubercles, the first about the third interval and with eight or nine blunt tubercles at the most, most evident posteriorly, the anterior generally replaced by the tufts of hair, the second series commencing at the humerus as a short carina and with four or five tubercles, placed about halfway between those of the first series and the margin. Beneath rugose, the third, fourth and fifth abdominal segments smoother and less pilose, the first and second segments connate though with suture evident. Males generally smaller, with less numerous and pronounced tubercles, lighter vestiture, and abdomen more flattened in front. Males, length 11 mm, breadth 4 mm; females, length 13 mm, breadth 4.5 mm.

Austral Islands: Tubuai, holotype female, allotype male and numerous designated paratypes from a series of specimens collected as follows: southwest ridge, Mount Taita, altitude 1200 ft., Aug. 20, 1934, mostly by beating *Piper*, though a few specimens were taken on *Hibiscus tiliaceus* and on Celastraceae. The greater number were collected by E. C. Zimmerman, but Donald Anderson collected several.

24. *Rhyncogonus longulus*, new species (fig. 3, *b*).

Large, narrow and elongate, black, males almost glabrous, females irregularly pilose and sparsely setose, the vestiture fulvous. Head coarsely, shallowly punctured, more densely so in females, and sparsely squamose and pilose, somewhat flattened in front; rostrum smoother and more or less impressed medially, apex depressed and expanded; eyes prominent, pyramidal; antennae very long, with scape arcuate and reaching back behind middle of prothorax, first and second funicular segments variable though generally about equal in length, third three fourths length of second. Prothorax subcylindrical, about one seventh broader than long, apex narrower than base, sides moderately arcuate; disk coarsely, densely punctured, naked in males except for a few hairs at posterior angles, rugose as well as punctured in females and finely, sparsely pilose, and with a few elliptical scales at sides and tufts of hair at posterior angles. Scutellum, sparsely, coarsely punctured. Elytra twice as long as wide, almost four times as long as prothorax, sides in males rather evenly arcuate until near apex then straight and convergent to rounded apex, in females feebly arcuate or almost straight and divergent to posterior third, thence straight and convergent to apex, not

carinate in male but moderately so in female at widest part; disk in male coarsely granular, in female with coarse punctures in irregular rows, the flat intervening areas minutely punctured and opaque and the general surface irregularly clothed with coarse fulvous pile and with a few suberect long setae, more or less arranged in rows. Beneath, male rather coarsely punctured in front and smooth behind, female rugose-punctate and sparsely pilose, smooth and glabrous behind. Male, length 11.5 mm, breadth 4 mm; female, length 17 mm, breadth 5.5 mm.

Austral Islands: Tubuai, holotype female, allotype male and numerous designated paratypes from a series of 26 specimens collected from the southwest ridge of Mount Taita, altitude 1200 ft., Aug. 20-21, 1934, by E. C. Zimmerman, beaten from plants such as *Hibiscus tiliaceus*, *Piper*, and a species of Celastraceae. A single specimen was taken on the southeast ridge of Mount Taita at an altitude of 1100 ft., Aug. 20, 1934, by Donald Anderson.

The sexes are so different that I was at first inclined to consider them as different species. They were all collected at about the same time and place and as all of the glabrous specimens proved to be males and the larger pilose specimens proved to be females, I judge that they are all of one species.

25. *Rhyncogonus variabilis*, new species.

Rather large, moderately robust especially the females, black, glabrous and feebly shining in males, subopaque and considerably pilose in females with the pile an ochraceous color. Head coarsely punctured, transversely impressed in front of eyes, feebly so in males but quite strongly in females; rostrum broadly sulcate, rugose-punctate, depressed at apex as well as laterally expanded; eyes prominent, more or less pyramidal in males, somewhat hemispherical in females; antennae with scape arcuate and barely reaching middle of prothorax, first funicular segment slightly longer than second, third about two thirds length of second. Prothorax one seventh broader than long, in females cuneate with apex over one third narrower than base and sides arcuate but rapidly convergent forward, while in males the sides are parallel or feebly sinuate in basal half and rounded and feebly convergent forwards; disk coarsely, densely, irregularly punctured, somewhat rugose especially in females and with interrupted median line in latter, the males with a few, fine hairs at sides and the females densely pilose laterally and more finely, sparsely so beneath than above. Scutellum finely punctured, in females with a tuft of pile at apex. Elytra almost one third longer than broad and fully one third longer than prothorax, sides broadly arcuate, carinate towards apex in both sexes, the apices feebly divergent in females; disk very convex, striae punctures large, deep, irregularly arranged in series, intervals minutely punctured, two vague carinae on each elytron, more evident in males and posteriorly, the males with a few minute hairs at sides but the females with the surface somewhat granular and regularly but more or less sparsely pilose. Beneath, males somewhat coarsely punctured in front, more finely so behind, quite glabrous and with ventral

segments feebly concave in front; females rather densely, somewhat coarsely punctured throughout and finely, sparsely pilose. Male, length 11 mm, breadth 5 mm; female, length 14 mm, breadth 5.5 mm.

Marotiri: holotype female, allotype male and several designated paratypes from a series of 56 specimens collected on the southeast islet, altitude 100-200 ft., July 22, 1934, by E. C. Zimmerman, from *Portulaca*.

This is a most variable species, the males much smaller and narrower than females, also almost glabrous, the smallest 9 mm, the largest 12 mm long, while the females are quite robust and clothed with ochraceous pile, the smallest 10.5 mm, the largest 15 mm long. Many females, however, approach the males quite closely in appearance. The lateral margin of the elytra in some females is completely carinated.

26. *Rhyncogonus excavatus*, new species (figs. 1; 3, *c*).

Small or medium sized, somewhat elongate, black, males subglabrous, females with afterbody moderately clothed with coarse, fulvous pile. Head coarsely, cribrately punctured, somewhat strigate, sparsely pilose in female, feebly transversely impressed in front of eyes; rostrum flattened, somewhat punctate, shallowly sulcate anteriorly, depressed and dilated in front; eyes prominent, pyramidal; antennae with scape arcuate, suddenly clubbed at apex and reaching behind middle of prothorax, second funicular segment shorter than first, third about three fourths length of second. Prothorax about one eighth broader than long, apex a fifth narrower than base, sides sinuate posteriorly, arcuate forwards and gradually narrowed to apex; disk coarsely, cribrately punctured, feebly strigate, males with tuft of light fulvous pile at hind angles, females with same and in addition with general surface sparsely, finely pubescent. Scutellum punctured in front, smooth at apex. Elytra almost one third longer than broad and three times as long as prothorax, sides in males rather evenly arcuate and gradually convergent apically, also obtusely carinate, in females oblique and divergent from base, arcuate and somewhat sinuate at middle and straight and convergent to broadly and obliquely truncate apices, also acutely carinate and margined throughout; disk in male evenly convex, alutaceous, with minute scattered hairs, obscurely rugose, and with striae punctures coarse and more or less serially arranged, in female convex at center, rather deeply excavated in humeral area and more shallowly excavated towards apex, with serial punctures less sharply defined, the intervals feebly convex, the sutural fifth and sometimes ninth more elevated, and general surface opaque and moderately clothed with coarse, fulvous pile, longer and more erect along elevated inner margin of humeral depressions. Beneath in males smooth and shining, though also sparsely punctate forwards, the first two ventral segments connate with the intervening suture obscure at most; the females rugose-punctate and sparsely, finely pilose to third ventral segment, with suture between first and second ventral segments better defined than in males, the posterior ventral segments smoother, the membranous connections between

the second and third, third and fourth quite broad as a result of the strongly reflexed abdomen, the epipleurae behind also greatly lobed. Male, length 10 mm, breadth 4 mm; female, length 11 mm, breadth 4.75 mm.



FIGURE 1.—Leaf of *Piper* from Mount Teape, Rurutu, showing the characteristic work of *R. excavatus*, new species. About one third natural size. (Photograph furnished by E. C. Zimmerman.)

Austral Islands: Rurutu, holotype female, allotype male and numerous designated paratypes from a series of 410 specimens, most of which were collected on the southeast slope of Mount Manureva, altitude 800-1100 ft., Aug. 28-30, 1934, by E. C. Zimmerman, beaten from *Piper*, ferns or *Metrosideros*. A few were collected on the southwest slope of Mount Manureva at an altitude of 800 ft., Aug. 24, 1934, and one on the bluff south of Moerai, Aug. 26, 1934, from *Hibiscus tiliaceus*, others from the south slope of Mount Teape, Sept. 2, 1934, from *Dryopteris* or *Piper*.

This markedly dimorphic species belongs to a group of four species which are characterized as a whole by their moderate or small size, with prominent, pyramidal eyes, second funicular segment

shorter than first, the pronotum densely, shallowly, cribrately punctured and more or less strigate, the females quite depressed, moderately and irregularly pubescent, with the elytra more or less irregular in contour as the result of humeral and apical depressions, with the epipleurae strongly lobed behind and the abdomen strongly flexed thus exposing to a great extent, the broad membranes between the posterior ventral segments. The species just discussed, *R. excavatus*, differs from its fellows in being somewhat larger, black or piceous in both sexes, the females with the elytral impressions very marked and the apices of the elytra broad and obliquely truncate.

27. *Rhyncogonus hispidus*, new species.

Small, somewhat elongate, rufous to piceous, more or less clothed with fulvous pubescence in both sexes. Head coarsely, closely and shallowly punctured, sparsely pubescent; rostrum triangularly impressed forward, depressed in front and expanded as usual; eyes prominent, pyramidal; antennae with scape arcuate and extending to behind middle of prothorax, second funicular segment shorter than first, third three fourths length of second. Prothorax subcylindrical, less than a fifth wider than long, apex slightly narrower than base in male and more evidently so in female, sides evenly arcuate, feebly convergent to apex; disk with obscure, broad and shallow punctures, also distinctly rugose, and sparsely clothed with pile except at hind angles where it is in the form of tufts. Scutellum coarsely punctured. Elytra somewhat elliptical and depressed, sides arcuate in basal half, irregularly sinuous posteriorly and acutely carinate and margined throughout in both sexes; disk rather evenly convex, feebly impressed towards apex, punctures moderate in size, well separated and more or less serially arranged, sutural and fifth intervals feebly elevated, the remainder flat, the general surface sparsely, more or less irregularly pubescent and with series of setae, moderate in length in males to quite long in females, arranged posteriorly on alternate intervals. Beneath coarsely punctured and sparsely, finely pubescent to third ventral segment, smoother behind. Male, length 7.5 mm, breadth 3 mm; female, length 8.5 mm, breadth 3.5 mm.

Austral Islands: Rurutu, holotype female, allotype male, and two female and one male paratypes collected, the first on the pass along the Moerai-Avera trail, at an altitude of 500 ft., Aug. 28, 1934, by C. M. Cooke, Jr.; the others on the southwest slope of Mount Manureva, at an altitude of 900-1,000 ft., Aug. 29, 1934, by E. C. Zimmerman, by beating *Blechnum* or on guava.

This species looks very much like both *R. rufulus* and *R. debilis* but the pubescence is denser, that on the elytra in the females more or less formed into patches producing a spotted appearance, the pronotal punctures almost obliterated, and conspicuous erect setae on the apical half of the elytra, especially in the female.

28. *Rhyncogonus debilis*, new species.

Somewhat similar to *R. excavatus* but much smaller, piceous or rufous in color, pronotum with punctures anastomosing and strigate; the males more pubescent, with elytral apices more sharply rounded; the females less broad, with elytra more spatulate, the depressions less pronounced, intervals less convex though sutural, fifth and ninth more prominent than others as usual, and the apices individually rounded. Male, length 6 mm, breadth 2.5 mm; female 8 mm, width 3.5 mm.

Austral Islands: Rurutu, holotype female, allotype male, and numerous designated paratypes from a series of 57 specimens collected as follows: Mount Manureva, altitude 1200 ft., July 28, 1934, by sweeping *Dianella* and miscellaneous herbage; from the southwest slope of Mount Manureva, altitude 1100 ft., Aug. 29, 1934, by beating *Metrosideros*, *Blechnum*, and by sweeping grasses and low herbage; south slope, Mount Teape, altitude 50 ft., Aug. 31 and Sept. 2, 1934, by beating *Metrosideros*; all collected by E. C. Zimmerman.

The characters given above, especially the size, sculpturing of pronotum and more or less individually rounded elytral apices will distinguish species. It is the smallest species of the genus so far discovered.

29. *Rhyncogonus rufulus*, new species.

Similar to the preceding in color but slightly larger, with the pronotum densely, deeply, cribrately punctured, and slightly strigate; the elytra in both sexes rather even in contour, the female only with feeble apical impressions, the pubescence sparse on the elytra though evident in both sexes and denser in the female, the punctures much coarser and deeper, in the male somewhat close and cribrate. Male length 7 mm, breadth 2.75 mm; female, length 9 mm, breadth 3.5 mm.

Austral Islands: Rimatara, holotype female, allotype male and paratype male, collected on the Oromana Hills, altitude 300 ft., Sept. 4, 1934, from *Hibiscus tiliaceus*, by E. C. Zimmerman.

The distinctive characteristics of this species, especially with regard to the other members of its small group, are the even contour of the elytra, coarse and deep elytral punctuation and sparse pubescence in both sexes.

30. *Rhyncogonus nigerrimus*, new species (fig. 3, a).

Of moderate size, somewhat elongate and flattened, black, more or less shining and glabrous except for a small tuft of white hair at posterior angles of pronotum, a sparse pilosity at apical margin of elytra, underside and legs, the femora in particular being conspicuously barred with white pile. Head coarsely, somewhat densely punctured, flattened in front, rostrum

feebly sulcate forwards, depressed and expanded apically; eyes prominent, somewhat pyramidal; antennae with scape arcuate, reaching beyond middle of prothorax, second funicular segment shorter than first, the third three fourths length of second. Prothorax over a sixth broader than long in female and with base one third broader than apex, almost as long as broad in male and with apex hardly one fourth narrower than base, sides almost straight and feebly convergent from base to middle in female, slightly sinuate in male, and arcuate and convergent to apex, carinate near hind angles; disk somewhat flattened, coarsely, densely and in places cribrately punctured. Scutellum coarsely punctured, the apex barely wedging in between the elytra at base. Elytra cordiform, four ninths longer than broad and over three times as long as prothorax, sides arcuate almost to apex, thence sinuate and straight to the feebly divergent apices, and completely carinate and margined; disk coarsely, densely punctured, with punctures somewhat serially arranged, feebly transversely rugose and in females somewhat scabrous, the females also with a short oblique carina extending backwards from the base at the humeri, and somewhat depressed towards apex. Beneath punctate-rugose in front and somewhat smooth behind in females, smoother and more definitely punctate in males, the front of abdomen also concave in males and the first two ventral segments connate and with the suture between vague in both sexes. Male, length 10.5 mm, breadth 4.5 mm; female, length 13 mm, breadth 5.5 mm.

Austral Islands: Raivavae, holotype female, allotype male and numerous designated paratypes from a series of 248 specimens collected by E. C. Zimmerman, at various places, such as: south slope of Mount Muanui, altitude 400-700 ft., Aug. 3-6, 1934, on *Mangifera indica*; south slope of Pic Rouge, altitude 200-400 ft., Aug. 5, 1934, on *Myoporum*; and near Anatonu, altitude 10 ft., Aug. 12, 1934, from *Hibiscus tiliaceus*. A few specimens were also collected near Raiurua, altitude 200 ft., Aug. 3, 1934, by F. R. Fosberg.

This species somewhat simulates the smaller specimens of the Hawaiian *R. blackburni* and even more closely *R. corvinus* and related species from Tahiti. Its coarse punctuation, humeral carina in females, peculiarities of eyes and antennae as well as general spear-like afterbody should enable it to be readily separated.

31. *Rhyncogonus tenebrosus*, new species.

Moderate in size, elongate, black, glabrous except for tufts of white pile at hind angles of prothorax and very minute hairs confined to the punctures. Head coarsely, shallowly punctured, rostrum flat or feebly sulcate in front and with the usual apical expansion and depression; eyes prominent, conical; antennae with scape arcuate and reaching behind middle of prothorax, the second funicular segment shorter than first, and third about two thirds length of second. Prothorax hardly one seventh broader than long, sides constricted near hind angles, arcuate laterally and narrowed towards apex; disk convex, coarsely, densely, umbilicately and more or less reticulately punctured. Scutellum coarsely punctured. Elytra four ninths

longer than broad and three times length of prothorax, sides evenly arcuate from base to apex in female but slightly sinuate in front of base in males, and completely carinate and margined in females while absolutely without carination in males; disk quite convex, and coarsely, densely, irregularly punctured and somewhat rugose. Beneath rather definitely rugose and somewhat punctate in front with last ventral segments smoother in females, while more coarsely punctured and less rugose in front in males, the first two ventral segments connate and with well defined suture between, also somewhat convex transversely in both sexes. Male, length 11 mm, breadth 4.5 mm; female, length 13 mm, breadth 5 mm.

Austral Islands: Rurutu, holotype female, allotype male and numerous designated paratypes from a series of 146 specimens, collected by E. C. Zimmerman, along the bluffs south of Moerai, altitude 240 ft., Aug. 26-30, 1934, on *Hibiscus tiliaceus*, *Cordyline* or *Piper*. A few specimens were also collected by Donald Anderson near Moerai, Aug. 27, 1934.

This elongate, dull black species suggests the males of *R. variabilis* but is more sharply and coarsely punctured. From *R. longulus*, the males of which it also simulates, it differs by being less narrow and by having the elytra punctate, not granulate; and from *R. nigerimus* it is separated by being much more convex, and without the humeral carinae in the females.

32. *Rhyncogonus obscurus*, new species.

This species based upon a single male specimen is very similar to *R. tenebrosus*, but differs as follows: prothorax more cylindrical, with apex but little narrower than base, and sides evenly arcuate and broadest at middle while in *R. tenebrosus* the apex is distinctly narrower than base and the prothorax broadest just in front of base; the head and pronotum are both much less sharply and deeply punctured than in *R. tenebrosus*; the third funicular segment of antennae very long, at least three fourths the length of second; the elytra with the punctures more regular or serially arranged, and when viewed from behind, quite scabrous; and the under surface punctate in front but rather smooth and finely, sparsely punctured behind. Length 12.5 mm, breadth 4.5 mm.

Austral Islands: Tubuai, holotype, a unique male, collected from beneath a stone on Mount Tavaetu, altitude 800 ft., Aug. 22, 1934, by E. C. Zimmerman, "the only specimen collected from this end of the island" (E. C. Zimmerman.)

A close relative of *R. tenebrosus* but definitely separated by good characters as indicated above.

33. *Rhyncogonus dispersus*, new species.

Small, fusiform, shining black, glabrous above except for a few scattered hairs and sparse pubescence at apex of elytra, more pubescent beneath and

on legs. Head coarsely, irregularly punctured, with large fovea between eyes and vague transverse impression in front of eyes; rostrum flattened above, expanded and depressed at apex; eyes prominent, rounded at apices; antennae with scape arcuate, reaching beyond middle of prothorax, second funicular segment shorter than first, third two thirds length of second. Prothorax subcylindrical, barely broader than long, apex slightly narrower than base, sides feebly sinuate in front of base, arcuate at middle and gradually rounded and narrowed towards apex; disk moderately convex, rather coarsely, discretely punctured and with a more or less defined smooth longitudinal line at middle. Scutellum sparsely punctured. Elytra three sevenths longer than broad and over three times as long as prothorax, sides rounded towards base, almost straight and parallel or feebly arcuate at middle, thence straight and convergent to blunt apices, and evidently carinate and margined throughout; disk convex, coarsely, rather closely and irregularly punctured and more or less rugose. Beneath finely rugose and sparsely, finely punctured in front, more shining and closely punctured behind, the two front ventral segments connate and with suture between vague. Male, length 9 mm, breadth 3.5 mm; female, length 9.5 mm, breadth 4 mm.

Rapa, holotype female, allotype male and two paratypes, the first two collected on Karapo Rahi Islet, altitude 100-300 ft., July 18, 1934, by beating *Pittosporum*; one paratype collected with the preceding but on a species of Celastraceae; the second paratype collected on the northeast ridge of Mangaoa Peak, altitude 900-1200 ft., July 4, 1934, by beating shrubs; all collected by E. C. Zimmerman.

This species is in size and general appearance much like the three species, *R. pubipennis*, *R. pleuralis* and *R. interstitialis*, but has a different type of antennae, eyes and punctuation.

34. *Rhyncogonus regularis*, new species.

Very similar in size and general appearance to the preceding species but a bit smaller, a duller black, with rostrum at times feebly sulcate, the prothorax somewhat broader and with coarser, closer punctures and median smooth line more distinct, the elytra with sides more parallel at middle and only distinctly margined near base and apex, and the disk with punctures coarser, serially arranged, and with intervals more or less minutely punctured. Male, length 7 mm, breadth 3 mm; female, length 8.5 mm, breadth 3.5 mm.

Rapa, holotype female, allotype male and six paratypes collected by E. C. Zimmerman, the first on the south slope of Mount Tepiahu, altitude 600-700 ft., July 20, 1934, on *Dodonaea*; the rest taken on Karapo Rahi Islet, altitude 100-300 ft., July 18, 1934, on *Dodonaea*, a species of Celastraceae, *Fitchia* or *Pittosporum*.

35. *Rhyncogonus zimmermani*, new species (fig. 3, e).

Large, robust, dull black, with minute, sparsely placed pubescence above, and longer and more densely placed pile beneath and on legs, especially in males. Head punctate behind, flattened and coarsely, irregularly striate

in front, with a narrow groove between the eyes; the rostrum more or less bisulcate as the result of a median carina and elevated margins, the apex depressed and expanded as usual; eyes large and but moderately convex; antennae with scape suddenly and markedly clavate at apex, feebly arcuate and about reaching middle of prothorax, second funicular segment slightly shorter than first, the third barely two thirds length of second. Prothorax about one eighth broader than long, apex more than a fourth narrower than base, sides parallel at basal half, rounded at middle and feebly arcuate and narrowed towards apex; disk coarsely, irregularly granulate and punctured, the pile longer and denser at sides, particularly near hind angles. Scutellum irregularly punctured. Elytra somewhat cordate, one third longer than broad in male, and much more than three times as long as prothorax, sides in females evenly arcuate to posterior third thence straight and convergent to apex, in males gradually arcuately narrowed from the middle to apex, not carinate in either sex; disk very convex, general surface finely granulate with coarser granules here and there, the three or four striae near suture somewhat well defined and with regular punctuation, the striae elsewhere more or less illly defined and the punctures more irregularly disposed; beneath finely granulate, the first and second ventral segments connate with suture between well defined, the male with abdomen shallowly concave in front. Male, length 16 mm, breadth 7 mm; female, length 17 mm, breadth 8.25 mm.

Marotiri: holotype female, allotype male and 15 paratypes, collected on the southeast islet, altitude 100-200 ft., July 22, 1934, on *Bidens*, by E. C. Zimmerman.

This large and opaque black species stands by itself with regard to the species from southeastern Polynesia, but in size and color it is comparable to *R. blackburni* from the Hawaiian islands though more convex, duller in appearance and otherwise different as to details of structure. This species, together with the other Marotiri species, is the most southern in distribution of any member of the genus. It is fitting that it should bear the name of the collector who worked so hard and so successfully to extend our knowledge of these interesting weevils.

36. *Rhyncogonus lineatus*, new species (fig. 3, *d*).

Large, males narrow, females broad and robust, black, clothed above with elongate, gray scales, scattered over head, condensed at sides of prothorax, on scutellum, and arranged in three broad vittae on each elytron, the scales beneath more hairlike and most evident at sides and on legs. Head rugose-punctate, impressed between the eyes; rostrum flattened above, with narrow median carina, best developed in males, and expanded and depressed apically as usual; eyes large, evenly rounded and considerably less than half a hemisphere in regard to convexity; antennae with scape arcuate, reaching middle of prothorax, second funicular segment barely shorter than first, third three fourths length of second. Prothorax one fourth broader than long, apex a fourth narrower than base, sides evenly

arcuate and narrowed from base to apex; disk coarsely, irregularly, somewhat shallowly punctured and moderately rugose. Scutellum with punctures concealed by scales. Elytra in female over one third longer than broad, in male almost twice as long as broad, and over three times as long as prothorax, sides evenly arcuate to beyond posterior third thence feebly sinuate to very blunt apices and more or less carinate throughout in male but only towards apex in female and not margined; disk somewhat depressed, striae not impressed but strial punctures well marked and more or less regularly arranged, at least in male, the lateral punctures in female quite confused, the general surface alutaceous and the portions clothed with scales feebly depressed. Beneath finely rugose and finely, sparsely punctured, first and second ventral segments connate with the suture between distinct, the males with abdomen somewhat concave in front. Male, length 13 mm, breadth 4.5 mm; female, length 17 mm, breadth 7 mm.

Cook Islands: Rarotonga, holotype female, allotype male and one paratype female collected, one in 1929, the second, June 1929, and third, June 3, 1929, by G. P. Wilder.

This fine striped species was taken in the most southwesterly locality for the genus. In size, shape and general appearance, it closely simulates certain of the species from the Marquesas Islands and is less like those to be found in the Society Islands and other islands situated nearer to it. Its closest resemblance is to *R. lateralis* of the Marquesas Islands, but it differs from that by having a more robust prothorax, different type of antennae and pile.

37. *Rhyncogonus fulvus*, new species.

Large, broadly fusiform, black, densely clothed above with ochraceous hair-like scales, with a few elliptical scales here and there on the elytral disk and scattered, semierect setae on posterior portion of elytra, the under-surface likewise densely clothed but with ochraceous pile except the median area which is more or less glabrous. Head moderately coarsely, densely punctured; rostrum broadly, shallowly and triangularly sulcate, depressed and widened apically; eyes large, feebly convex or somewhat flattened; antennae with scape almost straight, gradually clavate and reaching middle of prothorax, the second funicular segment very slightly shorter than first, the third two thirds length of second. Prothorax somewhat broader than long, apex about a sixth narrower than base, sides straight and parallel in basal half, feebly arcuate and convergent forwards; disk coarsely, irregularly punctured and rugose. Scutellum punctured. Elytra over one third longer than broad and more than three times as long as prothorax, widest behind middle, sides more or less evenly arcuate to about posterior third, thence convergent to apex, carinate and margined throughout, and finely serrate posteriorly; disk with striae feebly impressed and more or less regularly punctured, the interstices finely, closely punctured, and rugose. Beneath rather finely, moderately densely punctured and rugose, first two ventral segments connate and with suture between vague at the center. Length 14 mm, breadth 5.25 mm.

Society Islands: Borabora, holotype a unique female, collected on the "E. slope Mt. N. of Mt. Pahio", altitude 1900 ft., Oct. 13, 1934, on *Dioscorea*, by E. C. Zimmerman.

This species is superficially as well as structurally much like *R. cordiformis* from the neighboring island of Raiatea, but differs by being proportionally narrower, with the scaly vestiture above more uniformly distributed, the second funicular antennal segment just perceptibly shorter than first, rather than distinctly longer, the striae punctures of elytra more distinct, and so forth. It also quite closely resembles the female of *R. ochraceus* from the Marquesas Islands, but here also the proportions of the funicular segments of the antennae will readily separate them.

38. *Rhyncogonus vagus*, new species.

Rather small, quite convex, black to piceous with antennae and legs more or less rufous, and uniformly and somewhat densely clothed above with gray pile giving the insect a pruinose appearance, the undersurface more finely and sparsely pilose. Head coarsely, densely punctured, somewhat straight and with a feeble transverse impression in front of eyes; the rostrum similarly punctured, often with a vague longitudinal carina and depressed and expanded apically as usual; eyes moderately large and convex; antennae with scape arcuate and reaching middle of prothorax, second funicular segment barely shorter than first, the third two thirds length of second. Prothorax one third broader than long, apex one third narrower than base, sides feebly arcuate or almost parallel near base in females and gradually, arcuately narrowed to apex; disk coarsely, irregularly and more or less densely punctured, a median smooth line or callus sometimes indicated. Scutellum punctured. Elytra in females about one third longer than broad, in males two fifths longer than broad, and about three times as long as prothorax, sides rather evenly arcuate to posterior third, thence straight and convergent or feebly sinuate to apex, carinate only at humeri and near apex; disk quite convex, with striae not impressed but striae punctures deep and regularly arranged, the interstices finely punctured and rugose. Beneath punctate-rugose, the three posterior ventral segments smoother, the first two connate though with the suture between well defined, and the males with these front segments somewhat concave and more coarsely rugose than they are in the females. Males, length 8 mm, breadth 3 mm; females, length 10 mm, breadth 4.75 mm.

Fanning Island, holotype female, allotype male and a pair of paratypes, collected July 1922, by S. C. Ball.

This small and convex species, I thought at first was a species somewhat recently introduced from the Hawaiian islands, as Fanning Island is a coral island and there are records of soil having been carried there from Hawaii. It has, however, been very carefully

compared with specimens of all known species from that archipelago and found to be quite distinct though undoubtedly very close to such species as *R. extraneus* Perkins and *R. saltus* Perkins, especially the former. From this species it differs in having a denser pronotal punctuation, much closer elytral striae punctuation and more angulate humeral angles. The fact that a second species has recently been found on neighboring Christmas Island, which though closely related to it is yet distinct, lends weight to the argument in favor of its endemism.

39. *Rhyncogonus fosbergi*, new species.

This species strikingly resembles *R. vagus* in size, proportions and general appearance. It differs, however, in having the pile slightly shorter and scale-like, whereas it is truly hair in the other, in its being closely appressed, with a tendency to form broken stripes; in having the elytral punctures more transverse, thus indenting the intervals to a greater extent and making them more irregular, and in having the prothorax less broad. Male, length 7.5 mm, breadth 3 mm; female, length 9 mm, breadth 4.25 mm.

Christmas Island, holotype female, allotype male and nine paratypes collected on the northwest point, Aug. 20, 1936, by F. R. Fosberg, on *Sida fallax*.

40. *Rhyncogonus testudineus*, new species.

Moderate in size, rather broad and somewhat flattened, rufopiceous, sparsely clothed with ochraceous pile, more evident in the female and on posterior angles of prothorax and elytra where it is more or less condensed in the form of patches. Head coarsely, irregularly punctured, rostrum somewhat strigate; eyes large, evenly convex; antennae with scape feebly arcuate, reaching middle of prothorax, second funicular segment barely shorter than first, the third three fourths length of second. Prothorax one fifth broader than long, apex over a fifth narrower than base, sides almost straight, feebly convergent to beyond middle thence gradually rounded to apex, carinate laterally near hind angles; disk generally feebly, longitudinally subcarinate at middle, irregularly punctured, somewhat shining and with pile sparse except near hind angles. Scutellum rugose-punctate. Elytra in females about one fourth longer than broad, in males somewhat narrower proportionally and two and one-half times as long as prothorax, sides evenly arcuate to posterior third thence gradually convergent to apex, completely margined and carinate in both sexes; disk somewhat flattened, with punctures well marked and serially arranged in males, not clearly defined in females, irregularly transversely rugose and finely sparsely pilose in males, more densely and coarsely pubescent in females, the base distinctly margined. Beneath punctate-rugose in front, more shining behind, the first two ventral segments connate and with suture between distinct but fine, segments also somewhat flattened in males. Male, length 8.5 mm, breadth 3.5 mm; female, length 9 mm, breadth 4 mm.

Society Islands: Tahiti, holotype female, allotype male and nine paratypes, collected along the trail on Mount Aorai, altitude 4500-5500 ft., on *Weinmannia*, by E. C. Zimmerman.

This turtle-like species resembles in shape both *R. nigroaeneus* and *R. pectoralis* but differs by being more piceous, with ochraceous pile and by having a different type of antennae.

41. *Rhyncogonus hendersoni*, new species.

Rather small, moderately convex, rufopiceous and sparsely though definitely clothed with short, gray pile. Head coarsely punctured, a deep fovea between the eyes; eyes only moderately convex; antennae with scape feebly arcuate, reaching middle of prothorax, second funicular segment shorter than first, third hardly two thirds length of second. Prothorax a fifth broader than long, apex one fifth narrower than base, sides almost straight to beyond middle thence rounded to apex; disk coarsely, irregularly punctured, with an irregular smooth area at middle towards front. Scutellum densely punctured. Elytra over a third longer than wide and about three times as long as prothorax, sides evenly arcuate in males, somewhat straight at middle in females, and almost straight and convergent to apex in both sexes and acutely carinate and margined near base and towards apex; disk convex, finely rugose, with striae punctures deep and regularly arranged, the base often reflexed near scutellum. Beneath coarsely punctured and rugose in front, last ventral segments smoother, first two connate and with suture between distinct, the front of abdomen also flattened in males, and the rear considerably impressed in females. Male, length 9 mm, breadth 3.5 mm; female, length 10 mm, breadth 4.5 mm.

Henderson Island, holotype female, allotype male and numerous designated paratypes from a series of 23 specimens collected on the northwest side, one half mile inland and at an altitude of 100 ft., June 22, 1934, by E. C. Zimmerman and Donald Anderson, from the dead and curled leaves of some tree.

This pruinose species superficially resembles *R. vagus*, from Fanning Island, but the eyes are more flattened, the second funicular segment of the antennae much shorter than the first, barely shorter in *R. vagus*, the sides of the elytra more evidently carinate and margined, and the under surface coarsely punctured in front. It also resembles *R. albipilis*, but this species has the long second funicular antennal segment and cordate afterbody which thus places them well apart.

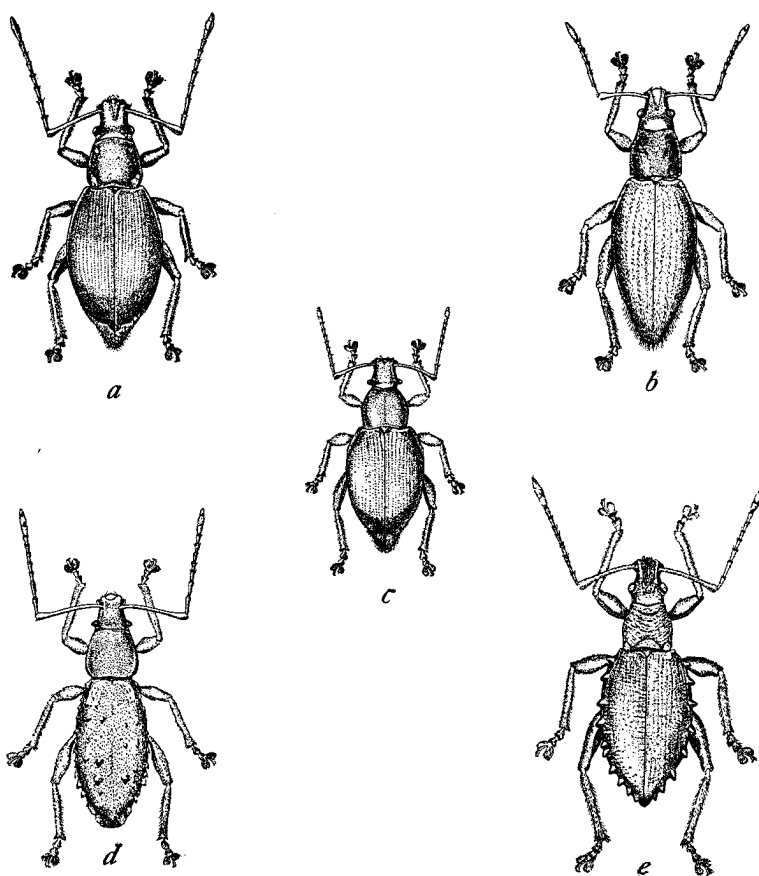


FIGURE 2.—Species of *Rhyncogonus*: *a*, *R. caudatus*, new species, female, from Huahine, Society Islands; *b*, *R. gracilis* Perkins, female, from Rapa; *c*, *R. viridescens*, new species, female, from Rapa; *d*, *R. nodosus*, new species, female, from Tubuai, Austral Islands; *e*, *R. tuberosus*, new species, male, from Tahiti, Society Islands.

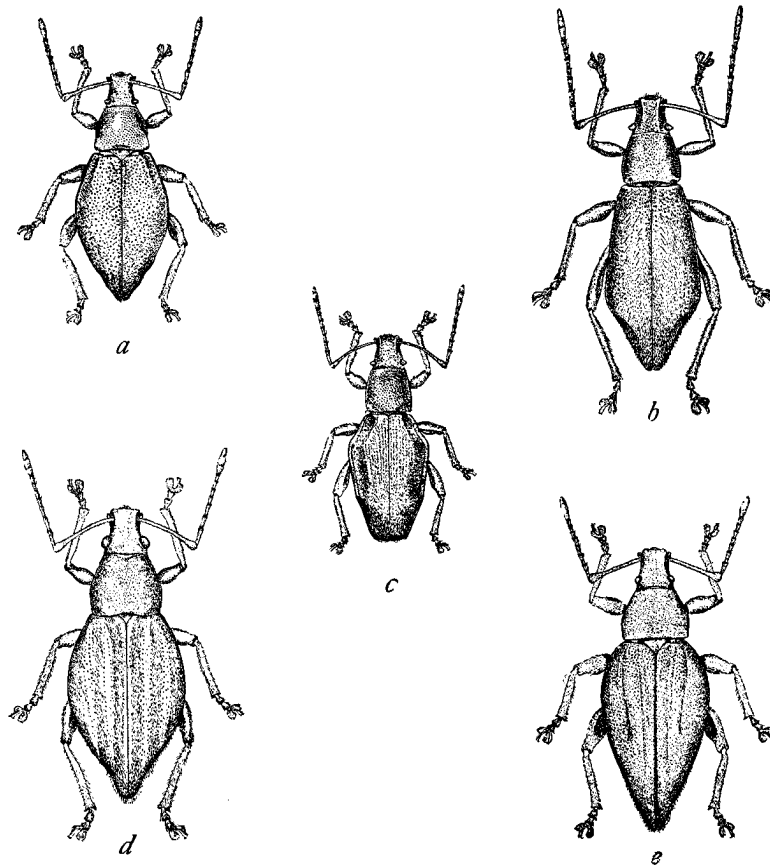


FIGURE 3.—Species of *Rhyncogonus*: *a*, *R. nigerrimus*, new species, female, from Raivavae, Austral Islands; *b*, *R. longulus*, new species, female, from Tubuai, Austral Islands; *c*, *R. excavatus*, new species, female, from Rurutu, Austral Islands; *d*, *R. lineatus*, new species, female, from Rarotonga, Cook Islands; *e*, *R. simmermani*, new species, male, from Southeast Islet, Marotiri, near Rapa.

