CRYPTORRHYNCHINAE OF HENDERSON, PITCAIRN, AND MANGAREVA ISLANDS

(Coleoptera, Curculionidae)

By

ELWOOD C. ZIMMERMAN

BERNICE P. BISHOP MUSEUM

OCCASIONAL PAPERS

VOLUME XII, NUMBER 20

HONOLULU, HAWAII

PUBLISHED BY THE MUSEUM

December 5, 1936

CRYPTORRHYNCHINAE OF HENDERSON, PITCAIRN, AND MANGAREVA ISLANDS[1] [2]

(Coleoptera, Curculionidae)

By Elwood C. Zimmerman

INTRODUCTION

The insular faunas treated of herein are of great interest because of their extreme isolation from other high islands or continental land masses. On the basis of "continental" regions, they are the most isolated islands in the world. It is unfortunate that we are not now able to obtain a true picture of the one time endemic faunas of most of these islands, because of the devastation that has followed in the footsteps of man. However, three species of endemic Cryptorrhynchinae, two of them described as new in this paper, are known from these islands. It is probably true, however, that the islands never harbored a greatly diversified fauna, because they mark the extreme eastern limit of an attenuated fauna that stretches across the Pacific from the west.

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

MANGAREVA ISLANDS

Of the five species of Cryptorrhynchinae known from these islands, only two are endemic. The other three are widely distributed species found throughout much of southeastern Polynesia. Only the main island of Mangareva is known to be inhabited by the subfamily. On the other islands the devastation of the endemic flora has been complete, and the cryptorrhynchine fauna has gone with the flora.

1. Elytroteinus subtruncatus (Fairmaire).

Pteroporus subtruncatus Fairmaire: Soc. Ent. France, Ann., ser. 6, vol. 1, p. 307, 1881.

Elytroteinus subtruncatus (Fairmaire), Marshall: Bull. Ent. Res., vol. 11, p. 276, pll. 7, fig. 8, 1920.

[1] Rhynchophora of Southeastern Polynesia, Publication 5.

[2] Mangarevan Expedition Publication 13.

This species, known as the "ginger weevil" in Hawaii, is immediately recognizable by its large size (5-8 mm), for it is larger than any other cryptorrhynchid from southeastern Polynesia, by its reddish-brown scaling, the usually conspicuous M of white scales at the top of the declivity, by its mesosternal receptacle which terminates anterior to the mesocoxae, and by its elytra which are subapically constricted and sub-truncate at the apex.

Two specimens were collected by the Mangarevan Expedition on Mangareva Island, one taken by F. R. Fosberg from under dead Pandanus and coconut leaves at Rikitea, June 3, 1934, and one specimen taken by me while beating dead banana leaves on the south side of Mount Mokoto, elevation 1,000 feet, June 7.

2. Acalles samoanus Marshall.

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

See "Cryptorrhynchinae of the Austral Islands" (part 4 of this work)[3] for detailed description, illustration, and geographical distribution of this species. It is easily recognized by its tuberculate dorsum and the conspicuous white markings on the sides of the base of the pronotum.

3. Islanderia vittata Zimmerman.

See the reference given above for a detailed account and illustration of this species. It is recognized by its conspicuous pale scaling and vittate elytra and is generally collected near the sea.

4. Microcryptorhynchus mangarevae, new species (fig. 1, *a*).

Derm shiny black, covered with an earth-colored or reddish-brown, amorphous incrustation of varying density, but usually rather light; the setae forming a white stripe on intervals 5 and 7 and an alternating white and black stripe on interval 3.

Head with the interocular area coarsely and deeply pitted and with a variable median fovea, elsewhere with shallow punctures; a row of stout, striated, erect setae around the inner margins of the eyes and extending to the crown, elsewhere with few small, erect setae. *Rostrum* hardly reaching past the anterior margin of the mesocoxae in the male, almost reaching the middle in the female; irregularly, coarsely, and densely punctate, with four rows of erect setae from the base to the antennae that are much stouter near the base, interspersed with flattened, circular scales, the setae beyond the antennae fine. *Antennae* with the scape about as long as the first 5 funicular

[3] Zimmerman, E. C., Cryptorrhynchinae of the Austral Islands (Phyncophora of southeastern Polynesia Publication 4): B. P. Bishop Mus., Occ. Papers, vol. XII, no. 17, 1936.

segments; funicular segment 1 strongly clavate, half as broad as long, as long as 2 plus 3, 2 about as long as 3 plus 4 which are longer than broad, 5-7 transverse; club as long as segments 4-7 inclusive. *Prothorax* one fifth broader than long (5-4), broadly rounded on the sides, broadest at the middle, the subapical constriction not very prominent, coarsely and closely punctured throughout, the punctures very large, sub-hexagonal, the setae clavate, striate, erect, forming an irregular line before elytral interval three, a lateral row at the sides of the disk, a transverse row connecting this and the former row at about the middle and thickly clustered, almost fasciculate, at the apex, those of the disk pale, those at the apex black; with scattered, concave, rounded scales arising from the interstices. *Elytra* sub-rotund, almost as broad as long (7:8), jointly, shallowly emarginate at the base, broadest somewhat before the middle; the intervals narrower than the striae, intervals 1, 3, 5 and 7 with erect, clavate setae that are most conspicuous on intervals 3, 5, and 7; the setae on interval one dark in the basal half, pale on the declivity, those on interval 3 forming an outstanding, denser, white patch within the basal third, followed by a single row of dark setae to the middle from whence they are white, those in rows 5 and 7 all white and less closely placed, but sometimes with row 5 with an arrangement of dark and pale scales as on interval 3; striae broad, the punctures very large and coarse, the interstices with small dark scales. *Legs* densely clothed with pale, oval, concave scales and short erect setae. *Sternum* with the side pieces densely squamose, the mesosternal receptacle terminating before the middle of the mesocoxae, crescentiform, very deep and cavernous, the side walls high and extending forward to the fore coxae, setose on the outer margin; metasternum about one third the length of the first 3 ventrites, coarsely punctate, the setae most numerous at the sides. *Venter* with the intercoxal process as broad as the length of the first ventrite, ventrites 1 and 2 densely punctate, with scattered, short, slanting setae, 2 as long as 3-5 inclusive. Length, 1.0-2.4 mm; breadth, 1.1-1.4 mm.

Mangareva, Mangareva Islands. Holotype a male, and 254 other specimens, with the exception of two specimens collected by D. Anderson, all taken by me between June 2 and 7, 1934, on the south slope of Mount Mokoto, elevation 1,000 feet. With the exception of a few specimens that were beaten from dead *fei* leaves, all the specimens were collected from *Asplenium nidus* (birdnest fern).

This species is the second endemic beetle to be described from the Mangareva Islands and one of the few survivors of an almost extinct terrestrial fauna. The native flora and fauna of the Mangareva Islands have all but been exterminated since the advent of man. This and the following species are all the evidence we now have of a possibly rich cryptorrhynchine fauna that may have at one time existed on the Mangareva Islands. This species is probably most closely related to some undescribed forms from the Marquesas Islands rather than those of the Australs or the undescribed species from the Society Islands.

5. Ampagia tesselata Zimmerman.

See "Ampagioid Weevils of Southeastern Polynesia" (part 3 of this work)[4] for details and figures of this species. It may be recognized by its convex, densely squamose body, its distinct scutellum, by its greatly produced mesosternal receptacle, its overhanging first ventrite and very steep second ventrite.

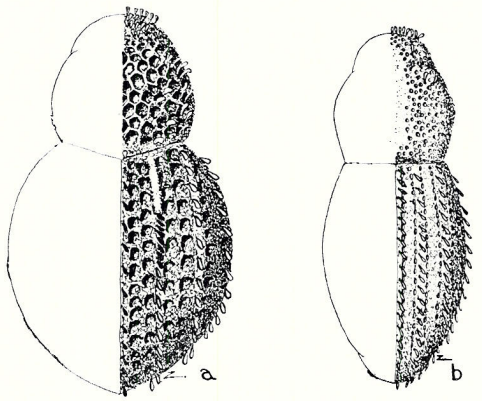

FIGURE 1.—New *Microcryptorhynchus*: *a*, *M. mangarevae*; *b*, *M. orientissimus*.

PITCAIRN ISLAND

I was, unfortunately, unable to discover any endemic Cryptorrhynchinae on this historic island during the few hours I collected there. More thorough searching may result in the finding of new forms. The following species is one of the most important pests of the sweet potato and is almost cosmopolitan in distribution.

Euscepes batatae (Waterhouse).

Cryptorrhynchus batatae Waterhouse: Ent. Soc. London, Trans., ser. 2, vol. 5, p. 69, 1849.

Hypermorpha squamosa Blackburn: Roy. Soc. Dublin, Sci. Trans., ser. 2, vol. 3, pp. 182-183, 1885.

Euscepes batatae (Waterhouse) Champion: Biol. Centr. America, Coleopt., vol. 4, pt. 4, p. 497, 1905.

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

Densely clothed with greyish-brown scales and numerous erect setae; an outstanding, irregular transverse, band of white scales at the top of the declivity outlined with black scales. *Rostrum* rather short and stout, coarsely punctured and bristling with erect setae. *Prothorax* broader than long, with few true scales, bristling with erect black and white spatulate setae; punctuation coarse and close, the punctures rounded and each bearing a seta, the interstices coarsely reticulate. *Elytra* sub-parallel-sided in the basal half, the humeri prominent, base sinuate, two thirds as broad as long, about three times as long as the prothorax; the tenth stria complete, deeper in the basal half; the intervals each with a row of erect setae. *Under surface* coarsely reticulate, with numerous slanting squamiform setae which are condensed on the metasternum; mesosternal receptacle deep and cavernous, terminating between the fore and mid coxae, the sutures between the ventrites coarse and distinct. Length, 2-3 mm; breadth, 1-1.5 mm.

I swept six specimens from grasses and low herbage on the north side of the island, June 13, 1934.

For illustrations and detailed account of this weevil and its larva see W. D. Pierce: Weevils which affect Irish Potato, Sweet Potato and Yam, Jour. Agr. Res., vol. 12, no. 9, 1918.

HENDERSON ISLAND

The following species is the first endemic insect to be described from this uninhabited island. It is a most interesting species not only because, as its name implies, it marks the eastern limit of the geographical distribution of its genus, but because it inhabits an elevated coral atoll. The elevation of Henderson Island, with the subsequent forestation, created ecological niches capable of supporting members of this genus when they arrived from the west. The vegetation of the island is dense and jungle-like—much different from the normal coral atolls of the region. The flora is still in its natural state.

Microcryptorhynchus orientissimus, new species (fig. 1, *b*).

Derm reddish-brown, scaling and setae yellowish.

Head finely and sparsely punctured, closely set with short, robust, irregularly-shaped, erect scales; the front distinctly flattened. *Rostrum* with four coarse striae from the base to the antennae, with scattered, elongate, subconfluent punctures on the sides to the apex; the striae with erect setae, those in the outer striae longer and extending upon the front and surrounding the inner margins of the eyes. *Antennae* with the scape as long as the first three funicular segments; first funicular segment slightly shorter than 2 plus 3, strongly clavate and one half as broad as long, 2 only about half as broad as 1, about as long as 3 plus 4; 3 longer than 4; 5-7 successively more transverse; club as long as 4-7 inclusive. *Prothorax* but slightly longer than broad, the sub-apical constriction continued shallowly and broadly across the dorsum

which is rather finely punctate and has a broad, impunctate, median area; the scales farinaceous, condensed toward the sides. *Elytra* elongate-oval, about two thirds as broad as long, slightly less than twice as long as the prothorax; intervals broader than the striae, the alternate ones each with a row of sharp, erect setae; strial punctures rather small and rounded. *Legs* rather densely clothed with elongate-oval scales and slanting, squamiform setae. *Sternum* with the mesosternal receptacle terminating behind the middle of the mesocoxae, rather broadly V-shaped, deep and cavernous, the side walls high, complete and densely squamose on the outer margins; metasternum slightly less than one third as long as the first two ventrites, with a few large punctures, and erect, curved setae. *Venter* with the intercoxal process as broad as one half the length of the first two ventrites which are shallowly punctate and with scattered curved setae; 5 closely set with scales and erect setae. Length, 2 mm; breadth, 0.8 mm.

Henderson Island. Holotype and one paratype collected by me while beating shrubs on the northwest side of the island, elevation about 100 feet, July 18, 1934.

This species is to be placed with the allies of *M. cookei* Zimmerman.