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A New Species of Elasmias from Rurutu, Austral Islands[1]

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During the Mangarevan Expedition special attention was paid to collecting the smaller species of land Mollusca, which are often neglected by collectors. One such species, from Rurutu, was so unique that we considered it important enough to receive special recognition. The specimens are in the collection of Bishop Museum.

Elasmias amphodon,[2] new species (fig. 1).

Shell imperforate, globosely ovate, sayal brown (Ridgway) with indistinct rather broad lighter stripes, slightly thickened, faintly translucent. Surface somewhat shining, marked with weak growth striae. Spire with slightly convex outlines, apex obtuse. Suture simple, well impressed. Whorls 4¼, convex, the embryonic glossy, marked with extremely fine growth lines and microscopically close spiral lines, last whorl large, about ¾ length of shell. Aperture ample, subovate, slightly oblique. Parietal lamella prominent, nearly half a whorl in length, its margin flaring outward. Columella vertical, furnished with a strong, narrowly quadrate plate, its inner margin distinctly dentate, lower edge attached just within margin of aperture. Palatal wall without folds. Peristome erect, thin. Length 3.35 mm., diameter 2.43 mm.; last whorl, length 2.71 mm., aperture axis 1.78 mm., diameter 1.29 mm.; parietal lamella (height) 0.26 mm.

In juvenile specimens from the ananeanic to and including the paraneanic substage the apertural armature is more complex than in the adult stage, which is much simplified. One of these is figured (fig. 1, *b*). This specimen is 2.13 mm. long with just over 3 whorls. Parietal lamella is proportionately much stronger than in adults, more strongly arcuate in section, with its free margin slightly turned upward; on its lower face there are two strong thickened ridges nearly parallel to the free margin. Columellar plate prominent, roughly triangular in outline; its lower margin bordered with a rather strong horizontal fold which is continued onto the back of columella; between basal fold and parietal wall are two denticles which are continued in back for about ¼ of a turn. Lower palatal wall is furnished with 2-4 strong, spirally entering folds about ¼ whorl in length. Upper palatal wall has a single much weaker and shorter fold.

[1] Mangarevan Expedition publication 37.

[2] 'αμφώδων = teeth on both jaws.

Austral Islands: Rurutu, southern slope of Mt. Manureva, near apex of peak, in patch of forest at base of cliff, on ferns and shrubs, alt. 1,000 to 1,150 ft.; holotype and figured juvenile 10116, paratypes 148235-40 (Mangarevan Expedition, Aug. 25, 1934). Additional material was taken in five other colonies on Mt. Manureva on the western, southern, and southeastern slopes at altitudes from 800 to 1,300 ft.

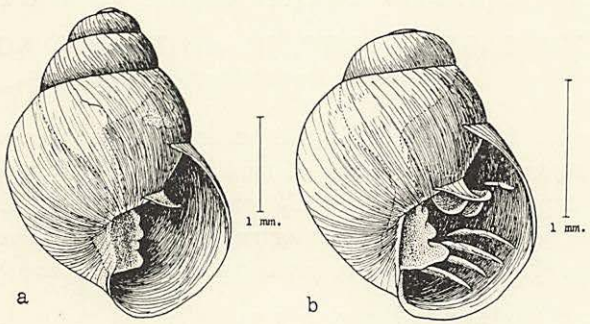

FIGURE 1.—*Elasmias amphodon:* a, adult; b, juvenile.

All the specimens were taken in very small wooded patches which are the only remnants of highland native forest which we encountered during a nine days' stay on the island, or saw in a nearly complete circuit of the land by boat. Except for these patches, the forest, which undoubtedly once covered the entire island, shows evidence of having been burnt and reburnt. The remnants of forest are in small gullies leading to the summit of the mountain and hence escaped destruction. The total area of native forest is not more than 10 or 15 acres. It will be only a short time before the highland endemic fauna is entirely extinct. Forest patches on the lowland slopes proved to be made up of introduced trees such as hau and ironwood. The makatea, raised coral reefs, offer some haven to the lowland species of plants, insects, and shells, but these are mostly widespread forms.

There is apparently no southern or western Pacific *Elasmias* which shows any relationship to *Elasmias amphodon*. The species is unique, except for *E. fusca* found in the Hawaiian Islands, about 2,600 miles to the north. These are the only two species in which juvenile specimens have palatal folds, and a complex parietal lamella.

The shells of *E. amphodon* are slightly broader in proportion to their length, the whorls are more convex, and the apex is blunter; the parietal lamella is higher, thinner, and more arcuate in section. The dentate edge of the columellar plate of *E. amphodon* easily separates the two species with only a cursory examination with a hand lens.

It is a matter of speculation as to why these apparently related species occur only at nearly the most northern and southern distribution limits of the genus. It does not seem possible that their occurrence might be explained by the agency of currents or storms. With our present knowledge of the genus it seems probable that these two species form an example of convergent evolution, each having evolved from distinct stocks. *E. fusca,* from several islands in Hawaii, shows much more variation in the development of the size of the palatal folds. In *E. amphodon* this character is more constant. This may be due to the relatively small area from which the latter species was taken.

The authors are responsible for all statements in this paper.