

New Species of Marine Mollusks
from Pitcairn Island
and the Marquesas

HARALD A. REHDER
and
BARRY R. WILSON

SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY • NUMBER 203

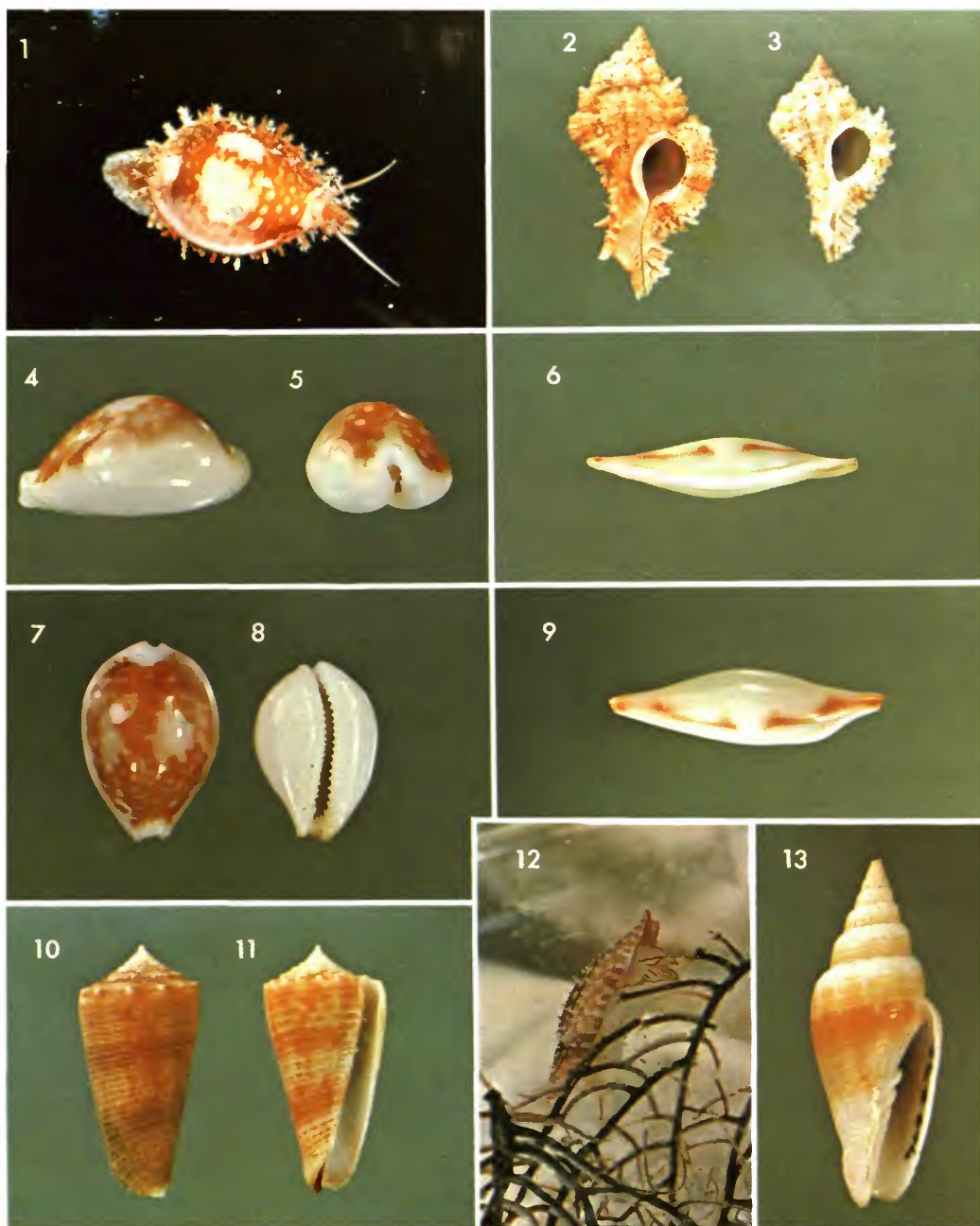
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Cypraea kingae, new species: 1, living animal; 4, holotype (USNM 707234), lateral view, 19.3 mm; 5, paratype 4 (USNM 707235), posterior view, 17.0 mm; 7, holotype, dorsal view; 8, paratype 4, ventral view. *Chicoreus (Chicomurex) venustulus*, new species: 2, holotype (USNM 707241), 40.5 mm; 3, paratype (USNM 707245), 33.9 mm. *Phenacovolva carneopicta*, new species: 6, holotype (USNM 707232), lateral view, 18.0 mm; 9, holotype, dorsal view; 12, living animal on *Antipathes* sp. *Conus marielae*, new species: 10, holotype (USNM 703255), dorsal view, 40.3 mm; 11, paratype (USNM 703256), ventral view, 39.3 mm. *Ziba cernohorskyi*, new species: 13, holotype (USNM 707239), 32.7 mm.

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ABSTRACT

Rehder, Harald A., and Barry R. Wilson. New Species of Marine Mollusks from Pitcairn Island and the Marquesas. *Smithsonian Contributions to Zoology*, number 203, 16 pages, frontispiece (color), 10 figures, 1 table, 1975.—Five new species and one new subspecies are described: *Cypraea kingae* (Cypraeidae), *Fusinus galathea bountyi* (Fascioliidae), and *Zibi cernohorskyi* (Mitridae) from Pitcairn Island and *Phenacovolva carneopicta* (Ovulidae), *Chicoreus (Chicomurex) venustulus* (Muricidae), and *Conus marielae* (Conidae) from the Marquesas. The name *Pellasimnia* Iredale, 1931, is considered to be a synonym of *Phenacovolva* Iredale, 1930. The species comprising the subgenus *Chicomurex* Arakawa, 1964 (of *Chicoreus* Montfort, 1810), are discussed. The paper is preceded by a brief biographical sketch of Mrs. Mariel King.

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Foreword

Mary Eleanor King, 1907–1969

Mary Eleanor (or Mariel, as she was quite generally known) King was born in 1907 in Winona, Minnesota, the daughter of E. L. King, Sr., and Grace Watkins King. Her grandfather, J. R. Watkins, in 1859 founded the pharmaceutical company that is now known as Watkins Products, Inc.

When Mariel was a child the family went to Florida each winter to avoid the cold weather of Minnesota, and it was there that Mariel collected her first shells. Although her interest in shells began in those early years, her real contributions to malacology were to come considerably later, after she went to Hawaii in the spring of 1952.

Soon after her arrival in Honolulu she became associated with the Bernice P. Bishop Museum as a volunteer. It was to gather mollusks and corals for the museum that Mariel King, with a friend, went on her first collecting trip, in 1955. They stopped at the Great Barrier Reef and then went on to the Indian Ocean where they collected at Mauritius, Madagascar, and East Africa. At each of these places they collected shells on the beaches and reefs, and shipped back to the museum by air freight many cartons and boxes of specimens. Mariel returned in December 1955 and immediately set about the task of cleaning and sorting this material. In March 1956 the Bishop Museum appointed her honorary associate in malacology.

In the ensuing years Mariel King took part in five expeditions which she either sponsored wholly or helped to finance—Sulu Sea, Philippines (1956), Hawaiian Islands (1959–1968), Western Australia (1960), Sulu Sea again (1964), and Polynesia (1967). She became particularly interested in dredging, and the early work in the Hawaiian Islands and in Western Australia was undertaken on chartered vessels which she had outfitted with the necessary equipment to do dredging in waters up to a hundred fathoms or more. In 1961 she purchased an 83-foot U. S. Coast Guard cutter and had it completely renovated and equipped for dredging; this was the *Pele*, with which her name is particularly associated. Mariel King was on the *Pele* during the 1964 trip to the Philippines and on the expedition to Polynesia in 1967. She was preparing to visit the Moluccas in 1970 when she was taken ill and died in Minnesota on 11 September 1969. This expedition was carried out, however, as the "Mariel King Memorial Moluccas Expedition," supported by her mother, Mrs. Grace W. King, and by the National Geographic Society.

Mariel King was one of the most munificent as well as dedicated and scientifically knowledgeable patrons that malacology has ever had. The great amount of material collected on the seven expeditions that she financially helped make possible and the resultant scientific information obtained have increased immeasurably our knowledge of the marine fauna of the central and western Pacific.

She enjoyed the excitement of the dredging operations on the *Pele* and the various other vessels that she had chartered earlier and equipped for dredging. Both of the authors have had the pleasure and privilege of participating in several of these expeditions and for us these experiences will always be unforgettable memories. Those who have enjoyed her hospitality, first in her home on Portlock Road, and later in her lovely place on Maunalani Circle, high above the city on Wilhelmina Rise in Honolulu, will always remember her as a gracious, kindly, and generous lady.

In addition to her mother, Mariel King is survived by a daughter, Mrs. Frank G. Mertes of Homer, Minnesota, and three grandchildren.

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New Species of Marine Mollusks from Pitcairn Island and the Marquesas

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Introduction

Since the days of the Renaissance, malacology has benefited from the interest of wealthy patrons. In recent years an outstanding contribution was made by the late Mrs. Mariel King of Honolulu, who financed and took part in a number of major mollusk-collecting expeditions in the Indian and Pacific oceans. The most recent of these, the National Geographic Society-Smithsonian-Bishop Museum Marquesas Expedition, from 5 September to 2 November, 1967 (Rehder, 1974), made use of Mrs. King's own vessel, the *Pele*, which was especially equipped for dredging. During this expedition many dredge hauls were made in the Marquesas Islands and off Pitcairn Island. Since this was practically virgin territory for that kind of collecting operation, it was not surprising to find among the dredged specimens several species that appear to be new to science.

Rather than wait for the publication of the final report on the mollusks gathered on this expedition, which will be incorporated in a comprehensive study of the marine mollusks of Polynesia, it has been deemed advisable to publish in advance

the descriptions of five new species and one new subspecies.

The senior author has already commented (Rehder, 1969) on the high degree of endemism found in the Marquesas Islands. As the faunas of other isolated islands in southeastern Polynesia, such as Pitcairn and Rapa, are critically studied they probably also will be found to exhibit this phenomenon of endemism, though possibly to a lesser degree.

We are happy to have the opportunity to dedicate this work to Mrs. Mariel King in recognition of her generosity, hard work, and fine companionship during the voyage.

ACKNOWLEDGMENTS.—At the outset we wish to express our warm thanks to our colleagues of the scientific party on this expedition: Dr. Thomas H. Richert, physician and malacologist from Honolulu; Dr. Dennis Devaney of the Bernice P. Bishop Museum; and Otis Imboden of the photograph staff of the National Geographic Society. Their active part in the collection program and their congenial and cooperative spirit helped materially to make the expedition the success that it turned out to be.

We extend our appreciation to the National Geographic Society, particularly for the support by the committee under the late Dr. Leonard Carmichael, who was the Society's vice-president for research and exploration.

Harald A. Rehder, Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560. Barry R. Wilson, Division of Natural Science, Western Australian Museum, Perth, Western Australia 6000.

We are grateful to the authorities of the Bernice P. Bishop Museum, the Smithsonian Institution, and the Western Australian Museum for their assistance and cooperation in many ways.

In the study of this material we have had the assistance of the following individuals who have examined specimens of those groups in which they have special competence or have lent us comparative material in connection with our studies: Walter O. Cernohorsky, the Auckland Institute and Museum; Dr. Alan J. Kohn, Department of Zoology, University of Washington; Dr. Winston F. Ponder, Australian Museum; and Dr. Emily H. Vokes, Department of Geology, Tulane University.

Except for the drawing of the radular teeth of *Ziba cernohorskyi*, new species, made by Walter O. Cernohorsky, the drawings were prepared by the junior author.

PRESENTATION OF DATA.—The station number consists of a symbol denoting the island: FH, Fatu Hiva; NH, Nuku Hiva; TH, Tahuata; UP, Ua Pou (all in the Marquesas); PIT, Pitcairn. Following this lettered symbol is a Roman numeral denoting the station number, and this in turn is followed by numbers denoting the dredge haul or hauls; thus, NH-XI:3-8 means dredge hauls 3-8 made at station NH-XI. The date of collecting precedes the station number.

The following abbreviations are used to indicate the museums where types have been deposited: BPBM (Bernice P. Bishop Museum), MHNP (Museum National d'Histoire Naturelle, Paris), USNM (National Museum of Natural History, Smithsonian Institution, under the catalog numbers of the United States National Museum), WAM (Western Australian Museum).

Family CYPRAEIDAE

Genus *Cypraea* Linnaeus, 1758

Cypraea kingae, new species

FIGURES 1-3; FRONTISPIECE: FIGURES 1, 4, 5, 7, 9

DIAGNOSIS.—Shell rather small, 14-19.3 mm long, broadly ovate and rather elevated, with a heavy white base, laterally somewhat elevated, and with fine apertural teeth. Color of dorsum yellow-brown, with white spots and pale, irregular macu-

lations. At first glance it resembles *Cypraea helvola* Linnaeus, 1758, but the white base, fine teeth, and smooth dorsal margins differentiate it immediately. Its closest relative is probably *C. engleri* Summers and Burgess, 1965, from Easter Island, but the white base, finer, more numerous teeth, and differently colored dorsum distinguish it sufficiently.

RANGE.—Off Pitcairn Island, SE Pacific Ocean, in 35-70 fms, in coral rubble and stones.

DESCRIPTION.—*Shell*: Solid, depressed, broad-based, pyriform; base rounded, meeting dorsum at a high, sharp-edged margin on each side so that the shell is distinctly lenticular in cross section, left posterior margin calloused, margin of right side bent up centrally; anterior extremity pinched-in above the margins and behind the rim of the siphonal canal; spire depressed and covered with a callus. Aperture narrow and rather straight, fossula broad with a deep sulcus; aperture teeth numerous, of unequal length and thickness. Labial teeth, not counting the anterior terminal ridge of that side, 23 in number; the most anterior labial tooth strong, oblique, and reaching the margin where it forms a tiny projection; 2nd, 3rd, and 4th anterior labial teeth and the 5 most posterior labial teeth also strong and oblique but not reaching the margin; central labial teeth fine and very short. Columellar teeth 18, the 1st, 2nd, and 3rd anterior

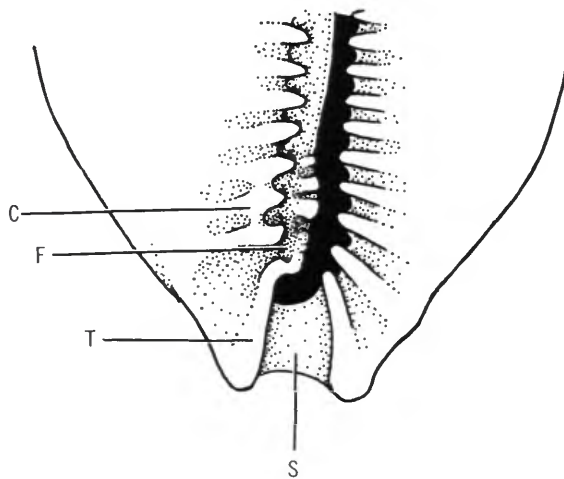


FIGURE 1.—*Cypraea kingae*, new species, details of the denticles: fossula (F), terminal ridge (T), columellar platform (C), and siphonal canal (S) at the anterior end.

columellar teeth strong and fused to form a thick, raised longitudinal platform but not extending up into the fossula sulcus; central columellar teeth sharp, fine, and very short on the base but extending a short distance into the aperture; the 5 most posterior columellar teeth oblique and relatively strong and long; inner rim of fossula bearing 3 rather squared denticles corresponding to, but not joining, the 3 anteriormost columellar teeth. Terminal ridge on columellar side high and narrow, running longitudinally along the side of the anterior siphon canal and ending in a forward-pointing projection, its posterior end arching upwards to form the raised anterior rim of the fossula; in this internal region the edge of the terminal ridge irregular. Between the terminal ridge and the 1st anterior columellar tooth is a deep wide channel which sweeps around from the fossular sulcus across the base to the margin on the left side immediately behind the anterior extremity. Base, extremities, and margins glossy porcelanous white; dorsum yellow-brown on top; diffuse white spots of irregular size scattered over dorsum; a weak central dorsal line present; a large, thin, diffuse white patch, with the stronger white dorsal spots showing through, present on each side of dorsal line; yellow-tan of posterior left side suffused with a very thin layer of white spreading up from marginal callus.

External Anatomy: Details of the organs of mantle cavity not observed. Mantle light colored, mottled pale orange, white, and pinkish mauve, with darker pinkish mauve margins and patches of dark brown to black spots. Mantle filaments long,

dendritic, straight-stemmed with short, rounded branches (Figure 2); filaments either pale orange or yellowish with white patches. Anterior siphon long, tubular, margin neither serrate nor flabellate but with simple tentacles; pale orange with white spots. Head and eye tentacles pale orange except for pinkish mauve lines along sides of eye tentacles; eye tentacles long, narrow, pointed. Foot mottled pale pinkish mauve, orange, and white.

Radula (Figure 3): The nomenclature of the teeth, denticles, and bracts follows Schilder (1936: 94-98) and Kay (1960:279-281) except that the "admedian" teeth of those authors are the same as the "lateral" teeth referred to here.

There are approximately 65 rows of teeth on the radula with the usual taenioglossate 7 teeth per row. The teeth overlap each other laterally but for clarity they have been separated in the drawing.

Median tooth rectangular, longer than wide, sides convex near the base; central cusp at the top prominent with a small lateral denticle on each side; a dumbbell-shaped internal bract present; subtending bract prominent and deep; basal denticles present at each bottom corner of tooth; base of tooth (excluding subtending bract) not straight but slightly indented or concave on each side of a low peak at the midline.

Lateral teeth rectangular with a very large, pointed, curved central cusp at the top, flanked by a smaller but still pointed and prominent lateral denticle on each side; an internal bract equivalent to that of the median tooth (but smaller and not dumbbell-shaped) present at base of tooth; nar-

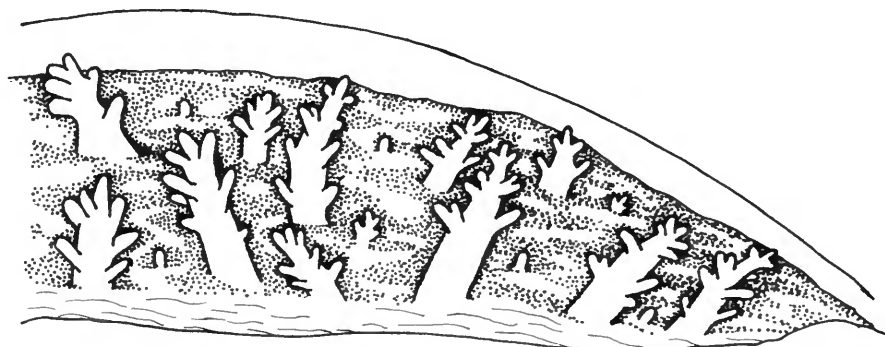


FIGURE 2.—*Cypraea kingae*, new species: mantle filaments of paratype no. 15 (WAM 223-69). Drawn from a partly contracted specimen. The right mantle lobe is partly extended over the right side of the shell.

row bract present below base resembling subtending bract of median tooth; basal denticles present on each bottom corner, the inner one very large and projecting, the outer one shorter, narrower but also projecting; between basal denticles a central downward projection of the basal margin, this projection usually extending to the margin of subtending bract and appearing to match the central basal peak of median tooth.

Both marginals sickle-shaped with a long, narrow, acuminate central cusp at top, flanked by a shorter but also pointed lateral denticle on each side; internal bracts and possibly subtending bracts appear to be present at the base of both marginals but details there are confused and difficult to interpret; inner marginal with a prominent basal denticle at each corner, the outer one very large but not protruding beyond margins of tooth; outer marginal tooth with small basal denticles, the outer one rarely protruding beyond margin of tooth.

VARIATION.—Sixteen adult specimens were examined. Details of variation in shell size, proportions, and dentition are given in Table 1.

Structure and dentition of the fossula are variable. In the holotype there are three denticles on the inner rim of the fossula that are not connected to the corresponding teeth, but in other specimens there are as few as two or as many as seven fossular denticles and these are often connected to the corresponding columellar teeth by a low saddle—i.e., the columellar teeth extend across the fossular sulcus. There is also slight variation in the thickness and height of the raised platform formed by the

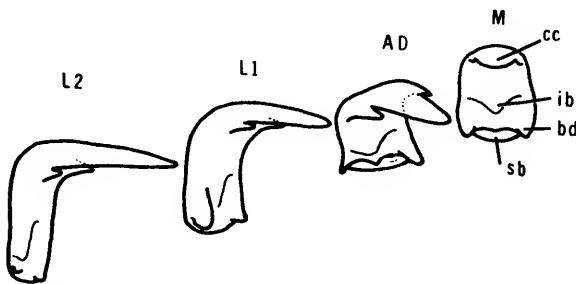


FIGURE 3.—*Cypraea kingae*, new species, half-row of radula of holotype: median (M), admedian (AD), first lateral (L1), second lateral (L2), central cusp (cc), internal bract (ib), basal denticle (bd), subtending bract (sb). The teeth overlap laterally but have been separated here for the sake of clarity.

fusion of the three anteriormost columellar teeth on the base, but this structure is present in all the specimens in the type series.

The radulae of the holotype and two paratypes were examined. There is slight variation in the shapes of the teeth and relative size of the cusps, denticles, and bracts, but the radulae of the two paratypes fit the generalized description given of the holotype's radula.

MATERIAL.—*Holotype*: One mile off NW point of Pitcairn, in 55–70 fms; 19 October 1967; PIT-VI:8; USNM 707234.

Paratypes: Off NW point of Pitcairn, 55–70 fms; 19 October 1967; PIT-VI:8; 2 specimens, WAM 220–69, 221–69; 1 specimen, BPBM. Off NW point of Pitcairn, 35–68 fms; 19 October 1968; PIT-VI:10; 2 specimens, USNM 707235. Off NW point of Pitcairn, 40–60 fms; 20 October 1967; PIT-VI:14; 1 specimen, BPBM; 2 specimens, USNM 707236. Off NW point of Pitcairn, 54–56 fms; 20 October 1967; PIT-VI:17; 1 specimen, BPBM. Off NW point of Pitcairn, 45–62 fms; 20 October 1967; PIT-VI:24; 1 specimen, BPBM. Off NW point of Pitcairn, 40–58 fms; 20 October 1967; PIT-VI:23; 1 specimen, WAM 224–69. Off NW point of Pitcairn, 25–28 fms; 19 October 1967; PIT-VI:2, 2 specimens, USNM 707238. Off NW point of Pitcairn, 55–65 fms; 20 October 1967; PIT-VI:19; 1 specimen, USNM 707237. Off St. Paul's Point, Pitcairn, 45–60 fms; 20 October 1967; PIT-VII:3; 2 specimens, WAM 222–69, 223–69.

REMARKS.—This unusual, small cowry appears to have few close relatives among the living species known to us. Though quite different in coloration, it probably is most closely related to *C. englerti* Summers and Burgess, 1965, which is restricted to Easter Island. These two species have in common the peculiar fossular condition described here for *C. kingae*, although in our new species the teeth are much finer and the raised and fused condition of the anterior columellar teeth is unique. Also, they both have a wide and deep channel separating the first columellar tooth from a sharply defined terminal ridge. In this last respect the dentition of *C. kingae* and *C. englerti* resembles that of the widespread *C. caputserpentis* Linnaeus, 1758, and of *C. caputdraconis* Melvill, 1888, another Easter Island species, and it is possible that they may be distantly derived from or ancestral to those species. In fact, in occasional specimens of *C. caputdraco-*

TABLE 1.—Counts and measurements of *Cypraea kingae*
(station number in parentheses)

Catalogue number	Columellar teeth	Labial teeth	Fossular denticles	Length (mm)	Width (mm)	Height (mm)	Ratio	
							W/L	H/L
USNM 707234 (PIT-VI:8)* (holotype)	18	23	3	19.3	13.4	9.8	0.694	0.508
WAM 220-69 (PIT-VI:8)* WAM 221-69 (PIT-VI:8)* BPBM (PIT-VI:8).....	20	19	4	17.3	12.4	9.3	0.717	0.537
USNM 707235-1 (PIT-VI:10)..... USNM 707235-2 (PIT-VI:10)..... BPBM (PIT-VI:14).....	19	20	5	18.8	13.8	10.0	0.734	0.532
USNM 707236-1 (PIT-VI:14)..... USNM 707236-2 (PIT-VI:14)..... BPBM (PIT-VI:17)..... BPBM (PIT-VI:24).....	17	20	2	17.0	11.8	9.1	0.694	0.535
WAM 224-69 (PIT-VI:23)..... USNM 707238-1 (PIT-VI:2)..... USNM 707238-2 (PIT-VI:2)..... WAM 222-69 (PIT-VI:3)..... WAM 223-69 (PIT-VI:3).....	18	19	4	17.0	11.8	8.9	0.694	0.535
	18	18	2	15.0	10.9	8.0	0.727	0.533
	17	16	4	16.1	11.9	8.8	0.739	0.546
	18	18	3	14.1	9.9	7.7	0.702	0.546
	19	18	**	18.5	13.1	9.7	0.708	0.524
	17	19	3	15.5	10.6	8.2	0.684	0.529
	17	19	2	18.7	13.2	10.3	0.706	0.550
	18	19	4	18.5	14.0	10.5	0.756	0.568
	18	20	5	17.1	11.9	9.0	0.695	0.526
	19	21	7	18.3	13.7	10.0	0.748	0.546
	17	21	3	18.2	13.3	9.8	0.731	0.538
	18	18	3	17.9	12.8	9.6	0.715	0.536
Mean							0.715	0.536

* Radula mounted.

** Fossula broken.

nis there is a hint of fossular development of the character seen in *C. kingae* and *C. englerti*. It is perhaps significant that *C. kingae*, *C. englerti*, and *C. caputdraconis* have very restricted ranges at remote and isolated southeastern Pacific islands.

The color and shape of the shell distinguish *C. kingae* from most other species and there should be no difficulty in recognizing it if it is found at other localities.

Color photographs and detailed measurements of five additional specimens have been seen; four are in the C. M. Burgess collection and one in the T. H. Richert collection, both in Honolulu,

Hawaii. All were collected on the *Pele* Expedition and are labeled as collected in 40 fathoms off Bounty Bay.

Richard (1974) recently described a small cowry from Tahiti which he named *Adusta bernardi* and which bears a superficial resemblance to *kingae*. The coloring is similar in both, but in *bernardi* the small white dorsal spots are more distinct and the white dorsal patches are less prominent. The holotype of *bernardi* is small and more pyriform compared to our series of *kingae*; it lacks the strongly callused and sharp-edged margins and lenticular cross section, characteristic of our spe-

cies; and its width to length ratio is less. But most importantly, in *bernardi* the fossula is weakly developed and the anterior labial teeth are normal, showing no indication of the unique condition described here for *kingae*. The apertural teeth in *kingae* are finer and generally more numerous than those of the holotype of *bernardi*. In spite of the similarity of the two species when viewed from above, we are satisfied that they are quite distinct and unrelated.

All specimens in the type series were dredged from depths of 35 to 70 fathoms off the northwest or northeast sides of Pitcairn Island (expedition stations PIT VI, Hauls 8, 10, 14, 17, 24, and PIT VII, Hauls 2 and 3).

The species is named after Mrs. Mariel King.

Family OVULIDAE

Genus *Phenacovolva* Iredale, 1930

Phenacovolva Iredale, 1930:85, 88.—Schilder, 1939:200; 1941:110.—Wenz, 1941:1012.—Cate, 1972:92.

Pellasiunia Iredale, 1931:222, 233.—Schilder, 1939:195; 1941:109.—Wenz, 1941:1012.—Cate, 1972:97.

In the latest monographic treatment of the family Ovulidae, Cate (1972) treats *Pellasiunia* Iredale, 1931, as a subgenus of *Phenacovolva* Iredale, 1930. [On pages 92 and 93 Cate erroneously cites the date of the latter genus as 1939.] Both of these names were proposed as genera by Iredale, and later authors have treated them in various ways. Schilder first considered it a synonym of *Volva* Montfort, 1810 (Schilder 1939:200), in which he was followed by Wenz (1941:1012). Later, Schilder (1941:110) made it a subgenus of *Volva*, and Cate (1972:92) raised it to generic rank. *Pellasiunia* was listed by Schilder (1939:195) as a subgenus of *Volva*, but two years later was raised by him to generic rank (Schilder, 1941:1012).

On comparing the type-species of both groups we are unable to find any basic differences that would warrant their separation.

Phenacovolva carneopicta, new species

FRONTISPICE: FIGURES 6, 9, 12

DIAGNOSIS.—Shell of medium size, 15–18 mm long, lanceolate, with flesh-colored streak on last

0.25 of body whorl which is interrupted medially. In general shape and coloration it resembles *P. gracilis* (Adams and Reeve, 1850) from the Philippines and Borneo (Cate, 1972:101, 102) and *P. weaveri pseudogracilis* Cate and Azuma, 1973, from southern Japan. It differs from the former in being broader and smooth in the middle, from the latter in being paler in color and more attenuate at the terminals.

RANGE.—Haava Strait, between Tahuata and Hiva Oa, Marquesas Islands, on *Antipathes* sp., in 32 fms.

DESCRIPTION.—*Shell*: Medium size, 15.1 to 18.1 mm in length, fusiform, somewhat inflated, rather solid, opaque, white with a flesh-colored, axially oriented streak on the last fourth of the body whorl beginning at each terminal, interrupted medially, and wider at the medial terminations and at a short distance from the apical and basal ends of the shell; some golden spotting at each terminal. Surface of shell medially smooth, striate at each end; ventral surface covered with a rather heavy callus which is microscopically granulose-wrinkled, abapertural border marked by a lemon-yellow margin which is darker at the outermost edge. Columella smoothly curved, marked by an obliquely entering ridge 1/6 of the length from the posterior or apical end (this ridge is the funiculum of Schilder and Cate), with several low, more or less obscure tuberosities situated on the ventral surface of the posterior end of the funiculum, the lowest one being the largest; a weak fossula appears to be present on the anterior part of the columellar area; internal part of both ends of the columella purplish pink, the posterior end tinged with some orange-yellow. Outer lip thickened, with a broad, shallow basal sinus, its ventral surface obscurely denticulate, the appressed outer margin of the dorsally thickened lip-edge bright yellow. The anterior and posterior flesh-colored markings of the dorsum are visible within the aperture.

Animal: Mantle, foot, and head area white; mantle covering most or all of the shell, with white papillae which increase in height towards the mantle edge, ornamented with a series of circumscribed designs consisting of branching and anastomosing brown lines, the series near the mantle base with designs more elongate than those near the edge of the mantle; a series of long, axially oriented, anastomosing and branching dark brown

lines at the mantle edges. Margin of foot edged in brown; a series of dark, irregular vertical brown lines in the forepart of foot; and a dark brown line through the eye on each tentacle. Tips of tentacles suffused pale brown.

MATERIAL.—*Holotype*: Haava Strait, 32 fms; 1 October 1967; TH-X:7; USNM 707232.

Paratypes: Haava Strait, 32 fms; 1 October 1967; TH-X:7; 3 specimens, USNM 707233; 2 specimens, BPBM 218711; 4 specimens, WAM 136-72, 396/8-72.

MEASUREMENTS (in mm).—

	Length	Width
Holotype, USNM 707232	18.0	4.9
Paratype USNM 707233	17.3	5.3
Paratype WAM 136-72	18.1	4.9
Paratype WAM 396/8-72	15.1	4.4

REMARKS.—This species, as indicated in the diagnosis above, is most closely related to *Phenacovolva gracilis* (Adams and Reeve, 1850) and *P. weaveri pseudogracilis* Cate and Azuma, 1973. From the former it differs in possessing somewhat shorter, less acuminate terminals and in being smooth in the central area of the dorsum, without sculpture. From the latter it is distinguished by its more slender form, its lighter color—white instead of brownish—and the lack of a centrally located transverse white band. Geographically our new species is widely separated from the other two: *P. gracilis* is known from northern Indonesia, the Philippines, and southern Japan, while *P. weaveri pseudogracilis* occurs in southern Japan.

Family MURICIDAE

Genus *Chicoreus* Montfort, 1810

Subgenus *Chicomurex* Arakawa, 1964

Chicomurex Arakawa, 1964:361. [Type-species, by original designation: *Chicoreus (Chicomurex) superbus* (Sowerby III, 1889).]

In my estimation, this subgenus comprises the following species:

<i>superbus</i> Sowerby III, 1889	Japan
<i>jickelii</i> Tapparone-Canefri, 1875	Red Sea
<i>laciniatus</i> Sowerby I, 1841	Philippines
<i>barclayi</i> Reeve, 1858	Indian Ocean
<i>elliscrossi</i> Fair, 1974	Japan

The subgenus *Chicomurex* as originally conceived by Arakawa included two species: *superbus*, the type-species, and the *laciniatus* of Japanese authors, renamed *Chicoreus elliscrossi* by Ruth Fair (1974:1).

In a recent catalog of the Muricinae, Vokes (1971:105) placed *superbus* Sowerby III in *Chicoreus*, subgenus *Siratus* Jousseaume, 1880, apparently considering *Chicomurex* to be a synonym of *Siratus*. The species *jickelii* and *barclayi* she assigned to *Pterynotus*, subgenus *Naquetia* Jousseaume, 1888. The species *laciniatus* she considered to be a member of the nominal subgenus of *Chicoreus*.

It is our opinion that the species listed above form a small, rather compact group, with rather strong intervarical nodes and with the varices relatively not as prominent as in other groups; this gives the whorls, when viewed from above, a more evenly circular outline, not as triangular as in *Pterynotus* or *Naquetia* or even *Chicoreus*.

The species lack the strong, flangelike ribs of *Pterynotus*, the varical spines and elongate anterior canal found on most species of *Siratus*, and the elongate shape and strongly flanged outer margin of the anterior canal of *Naquetia*.

The radula characters of this subgenus have been described and illustrated for four species: *superbus* Sowerby III and *elliscrossi* Fair (Arakawa, 1964:361), *laciniatus* Sowerby I (Cernohorsky, 1967:119-120), and *venustulus*, new species. They are all quite similar and differ from the radulae of *Chicoreus*, *Siratus*, and *Naquetia*.

Chicoreus (Chicomurex) venustulus, new species

FIGURES 4, 5; FRONTISPIECE: FIGURES 2, 3

DIAGNOSIS.—Shell rather small for genus, 20.2 to 40.5 mm in length, broadly fusiform, with three strong varices that are finely lamellose but without spines except for small ones at shoulder below sub-sutural ramp and slightly longer ones on the neck. Similar to *Chicoreus laciniatus* Sowerby, 1841, but smaller, the coloration white and rose or yellowish brown and not yellow and brown with dark brown on varices, the varices lacking the erect hollow spines, and the inner lip white or very pale rose and not purplish red.

RANGE.—Marquesas Islands, in 10-70 fms.

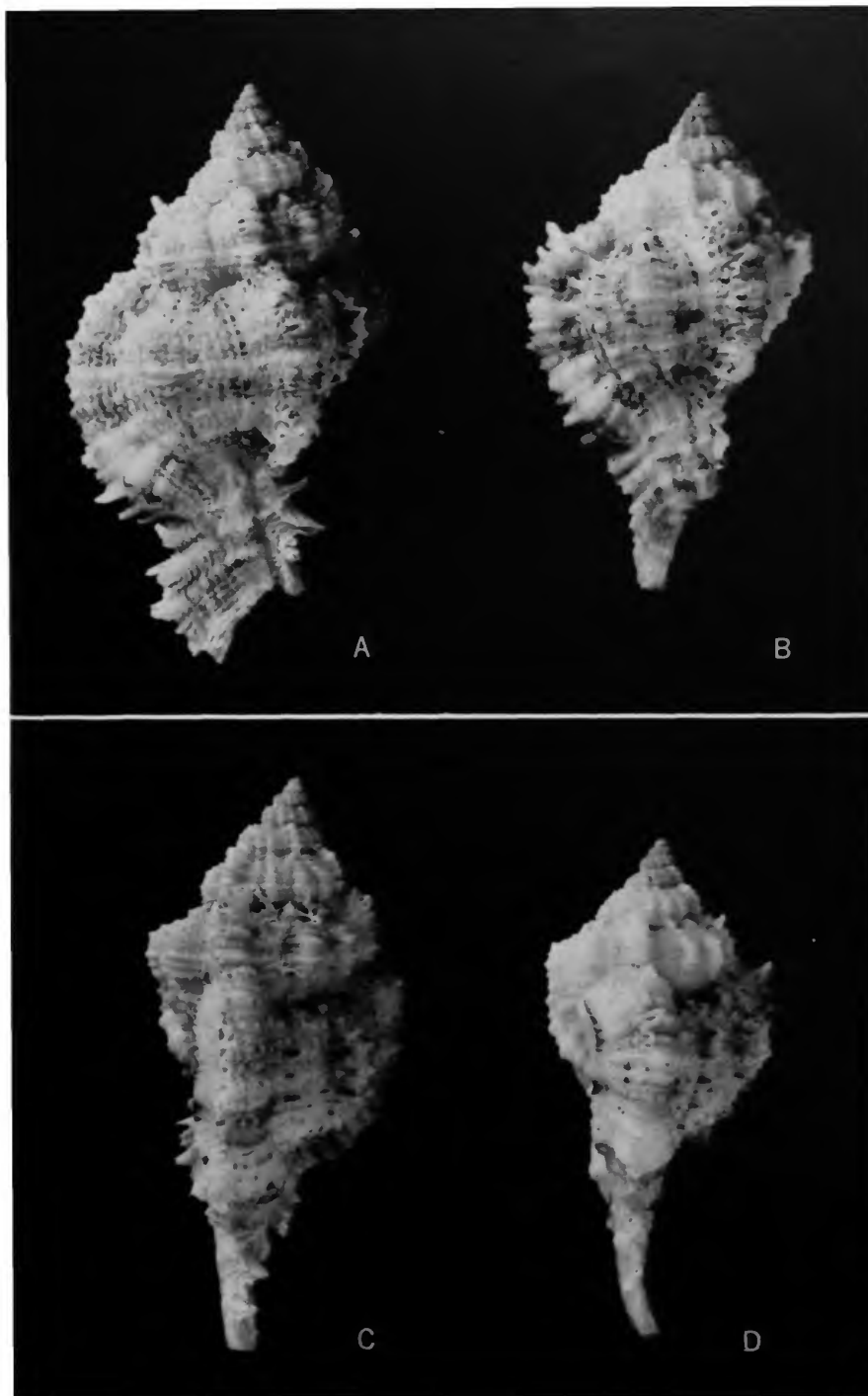


FIGURE 4.—*Chicoreus* (*Chicomurex*) *venustus*, new species: A, C, holotype (USNM 707241), dorsal and lateral views, 40.5 mm; B, D, paratype (USNM 707245), dorsal and lateral views, 33.9 mm.

DESCRIPTION.—*Shell*: Rather small for genus, 20.2–40.5 mm in length, broadly fusiform. Protoconch conical, of 3+ whorls, glassy, smooth, straw yellow or pinkish yellow, the strongly opisthocyrt reflected lip sometimes present; in type (40.5 mm long), postnuclear whorls 7+ in number, variously mottled and banded with pink, yellow, and reddish brown on a basically white ground; sculptured with strong axial ribs, crossed by prominent spiral cords that form strong, spirally elongate nodes where they cross the ribs; later postnuclear whorls, beginning with about the 3rd whorl, with 3 strong varices and with intercalated, more slender spiral cords between the major ones; between the varices are 2 or 3 (rarely 1) axially oriented nodes, with the adapertural node smaller, especially on the last whorl, and three intervarical nodes found only on the penultimate and antepenultimate whorls. The varices finely squamose on the spiral cords on the adapertural side, the scales strongest on the summit of the varices and on the base and neck of the body whorl where they become fused into fluted and spinose lamellae; generally, the varical scale on the spiral cord at the shoulder of the later whorls more prominent than others and forming a small, hollow spine, though in some fresh specimens other scales on the later varices may be subspinose; in fresh specimens the spiral cords in the intervarical spaces may be weakly lamellose. Apertural side of varix at outer lip broad, with crowded, undulating lamellae of varying strength crossing the spiral cords, the lamella at the summit of the varix (outermost lip-edge) subspinose; the varix becoming spinosely fimbriate on the neck. Edge of outer lip protrusive, somewhat effuse, denticulate, spotted with reddish

brown in line with banding on body whorl; interior of outer lip spirally ridged. Inner lip curved, with a raised outer margin forming a marked inductura; parietal wall sometimes showing a pale pink coloration, with strong irregular lirations, the largest one near the posterior angle. Both inner and outer lips forming a relatively small oval aperture that anteriorly runs into a rather long, narrow, slightly curved canal which is margined on outer side by the lamellar, subspinose anterior extension of the varix forming the outer lip, and on the columellar side by the flattened, finely rugose anterior projection of the inner lip, which is margined in turn by the anterior ends of earlier varices. Operculum broadly oval, with subterminal nucleus.

Radula (Figure 5): Rachidian tooth broad, with a high, straight, pointed central cusp flanked on each side by two smaller cusps, these lateral cusps also straight and pointed and about 1/3 the height of the central cusp, the outer pair being only slightly higher and larger than the intermediate pair. Lateral teeth simple, unicuspid, shaped like a boomerang, pointed at both ends.

MATERIAL.—*Holotype*: Off SW coast of Tahuata, 36–39 fms; 28 September 1967; TH-I:7, USNM 707241.

Paratypes: Near entrance to Baie Taiohae, Nuku Hiva, 25–44 fms; 16 September 1967; NH-I: 5–10; 2 specimens, BPBM 218712.4. Off entrance to Baie Anaho, Nuku Hiva, 20–21 fms; 19 September 1967; NH-XI:3–8; 3 specimens, WAM 140–72, 389/90–72. Off entrances to Baie Anaho and Baie Hatiheu, Nuku Hiva, 23–29 fms; 20 September 1967; NH-XII; 1 specimen, USNM 707242. Off Baie Motu-Hee, Nuku Hiva, 33–35 fms; 22 September 1967; NH-XIV; 1 specimen, USNM 707243; 2 specimens, BPBM 218712.1; 1 specimen, WAM 143–72. Off SW coast of Tahuata, 45 fms; 28 September 1967; TH-I:1; 1 specimen, USNM 707244. Off SW coast of Tahuata, 44 fms; 28 September 1967; TH-I:3; 1 specimen, WAM 139–72. Off SW coast of Tahuata, 45–46 fms; 28 September 1967; TH-I:8; 10 specimens, USNM 707245; 6 specimens, WAM 138–72, 391/95–72; 3 specimens, MHNP. Haava Strait, 31 fms; 1 October 1967; TH-X:2; 1 specimen, BPBM 218712.2. Haava Strait, 30–32 fms; 1 October 1967; TH-X:9–11; 1 specimen, WAM 137–72. Off Baie Hanavave, Fatu Hiva, 44–45 fms; 27 September 1967; FH-I:3;

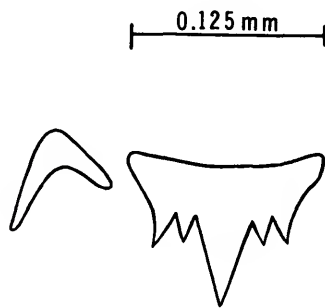


FIGURE 5.—*Chicoreus* (*Chicomurex*) *venustus*, new species: half-row of radula.

1 specimen, USNM 707246. Off W coast of Fatu Hiva, 37–40 fms; 27 September 1967; FH-I:2; 1 specimen, BPBM 218712. Off W coast of Ua Pou, 22–28 fms; 23 September 1967; UP-II:1–2; 3 specimens, USNM 707247. Off W coast of Ua Pou, 30–35 fms; 23 September 1967; UP-II:3; 2 specimens, USNM 707248; 2 specimens, WAM 144–72, 387–72. Off W coast of Ua Pou, 40–51 fms; 23 September 1967; UP-II:4–6; 2 specimens, USNM 707249; 5 specimens WAM 141/42–72, 385/86–72, 388–72. Off W coast of Ua Pou, 60–70 fms; 23 September 1967; UP-II:7–9; 3 specimens, BPBM 218712.3.

MEASUREMENTS (in mm).—

	Length	Width	Length of aperture	Length of anterior canal
Holotype, USNM 707241	40.5	22.3	11.2	14.2
Paratype WAM 143–72	40.4	22.7	11.2	14.5
Paratype WAM 137–72	33.1	18.8	10.4	10.8
Paratype BPBM 218712	38.7	22.1	12.1	14.1
Paratype USNM 707245	30.8	18.5	9.8	12.1
Paratype USNM 707245	20.2	11.9	6.9	6.9

REMARKS.—This striking species is characterized by its relatively small size, prevailing pinkish (or yellow) coloration, strong varices without strong spines, and fimbriately lamellose sculpture, especially on the varices. It is most closely related to *Chicoreus laciniatus* Sowerby, 1841 (of which there is a fine specimen in USNM from Magellan Bay, Cebu, Philippines), but *C. laciniatus* is larger, with strongly spinose varices, suffused with dark brown coloration; also, the anterior part of the apertural varix is not lamellar but bears strong, distinct hollow spines, and the inner lip is a vivid purplish red. It also is related to *Chicoreus superbus* Sowerby II, 1888, described from Hong Kong, but that species is a larger shell, with higher spire and beaded spiral cords, articulated with brown. The shell that Japanese workers have called *laciniatus* Sowerby (Habe, 1964:80, pl. 25: fig. 16) definitely is not that species. Fair (1974:1) has described it as *Chicoreus elliscrossi*.

There is also some resemblance to *Chicoreus* (*Chicoreus*) *thomasi* Crosse, 1872, a species described originally from Nuku Hiva, Marquesas, and endemic to those islands. That species, however, is a much heavier, stouter shell with strong, broad varices and a single broad intervarical

node. The surface is finely granulose, as in *Chicoreus* (*C.*) *torrefactus* (Sowerby II, 1841), *C.* (*C.*) *microphyllus* (Lamarck, 1822) and *C.* (*C.*) *insularum* (Pilsbry, 1921), species to which *thomasi* seems most closely related. We dredged two adult specimens and two juveniles of the latter species in 44 fathoms off the southwest coast of Tahuata.

The radula (Figure 5) resembles the radulae described by Arakawa (1964:362, figs. 1, 2) for *Chicoreus* (*Chicomurex*) *superbus* and *C. laciniatus* (= *elliscrossi* Fair).

Family FASCIOLARIIDAE

Genus *Fusinus* Rafinesque, 1815

Fusinus galathea Powell, 1967

Fusinus galathea bountyi, new subspecies

FIGURES 6, 7, 8

DIAGNOSIS.—Relatively large, fusiform, with long anterior canal and high spire, the rather markedly angulate periphery of the whorls with pronounced nodes; with fewer and stronger tubercles on the periphery of the last two whorls than typical *F. galathea*, and on the early whorls the axial ribs are more numerous and stronger.

RANGE.—Off Pitcairn Island in 26–55 fms.

DESCRIPTION.—*Shell*: Rather large, 116.5 to 137.7 mm (4.5 to 5.4 inches) in length, fusiform, with a high acuminate spire that comprises about 37 to 48 percent of total length, anterior neck long, narrow, and straight. Protoconch missing in all specimens, postnuclear whorls 11 in holotype, convex, with 8 ribs on 2nd postnuclear whorl, the axial ribs rapidly increasing to 10 or 11 on later whorls; ribs in earliest whorls crossed by fine spiral cords, of which the two middle ones are strongest; in later whorls the number of spiral cords increases by intercalation; beginning with the 6th whorl the ribs become angulately knobbed at the periphery; spiral sculpture crossed by very fine axial, somewhat irregular, growth lines marked (in fresh specimens) by fine periostracal lamellae which are sharply spinose at the spiral cords, giving the whole shell a densely and microscopically hirsute covering; suture closely appressed. Body whorl with 10–12 ribs that are strongly and angulately nodose

at the periphery, crossed by spiral cords of varying strength, in fresh specimens covered by hairy periostracum as described above; in complete specimens the neck (enclosing the straight, relatively nar-

rowly open anterior canal) noticeably longer than the aperture and sculptured by strong, oblique spiral cords. Aperture ovate, posteriorly acuminate, inner lip gently concave, the parietal wall curving



FIGURE 6.—*Fusinus galathea bountyi*, new subspecies: A, holotype (USNM 707230), 121.7 mm; B, paratype (USNM 707231), 117.4 mm.

gently into the smooth columellar portion; outer edge of parietal callus or inductura free and (in old specimens) thickened and conspicuously detached from lower part of body whorl and upper end of the neck; outer lip thickened within, marked by spiral lirae, outer edge denticulate. Operculum unguiculate, with apical nucleus and growth lines that are strongly angulate along the midline.

Radula (Figure 7): Central tooth small, with a straight horizontal base, straight inclined sides, and a rounded top; a strong, pointed, parallel-sided central cusp projects below the base, flanked on each side by another cusp of similar size and shape; also with a small pointed cusp on each outer corner of the base. Lateral teeth large, arcuate, with 15 prominent, pointed cusps, the inner one moderately large and almost straight, the outer one small and curved, the intermediate ones large, long, and rather straight except for those toward the outer edge which are incurved at their tips.

MATERIAL.—*Holotype*: About 1 mile off NW coast of Pitcairn Island, in 30 fms on dead coral and rubble bottom; 19 October 1967; PIT-VI:11; USNM 707230.

Paratypes: Three-fourths mile off Bounty Bay, Pitcairn, in 26–35 fms on bottom of large coral stones and rubble; 19 October 1967; PIT-VII:1; WAM 135–72. Off NW coast of Pitcairn, in 55–65 fm on bottom of stones and coral rubble; 20 October 1967; PIT-VI:19; USNM 707231. Off NW coast of Pitcairn, 40–60 fms; 20 October 1967; PIT-VI:15; BPBM 218709.

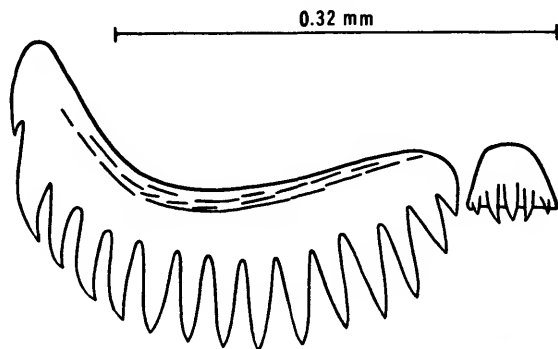


FIGURE 7.—*Fusinus galathea* *bountyi*, new subspecies: half-row of radula.

MEASUREMENTS (in mm).—

	Length	Width	Length of spire	Length of aperture
Holotype, USNM 707230	121.7	39.4	53.0	30.9
Paratype WAM 135-72	137.7	47.5	65.1	37.9
Paratype USNM 707231	117.4	42.9	57.5	31.0
Paratype BPBM 218709	116.3	38.1	43.6	32.0

REMARKS.—*Fusinus galathea* Powell, 1967, is based on two specimens from 15 to 75 meters off Raoul Island, Kermadec Islands (Powell, 1967: 197). Through the kindness of the director of the Auckland Institute and Museum and Dr. Winston F. Ponder of the Australian Museum I have been able to examine the holotype (Figure 8), which, although collected alive, has a somewhat worn surface. Although the present Pitcairn form is larger, the overall shell proportions and the basic sculptural pattern are the same as in the Kermadec

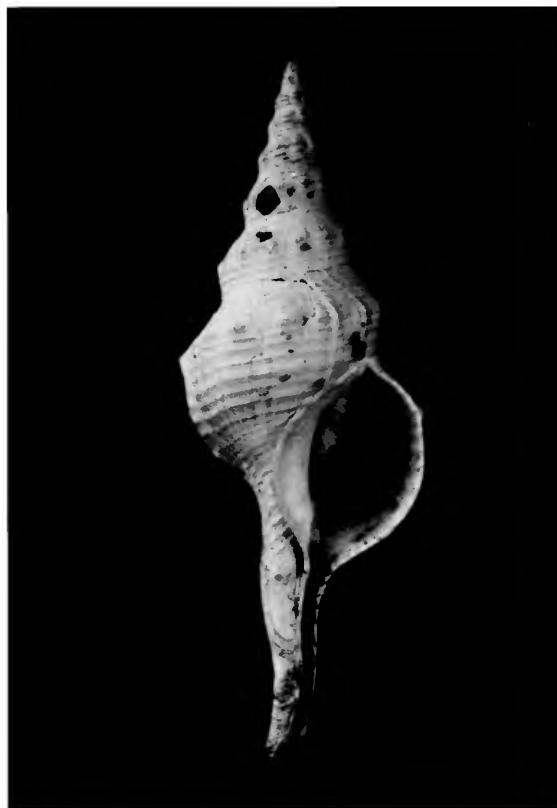


FIGURE 8.—*Fusinus galathea* Powell: holotype (University Zoological Museum Copenhagen), 96.0 mm.

species, and we are therefore considering the two as belonging to the same species complex. The axial sculpture of the specimens from Pitcairn, however, is stronger; and the tubercles on the peripheral angle are stronger and less numerous on the last three whorls but more numerous and pronounced on the early postnuclear whorls. We feel that these distinctions are sufficient to differentiate the Pitcairn Island specimens subspecifically.

Fusinus galatheae bountyi also resembles, in some ways, *F. undatus* (Gmelin, 1791), of which *F. similis* (Baird, 1873), described from New Caledonia, and *F. sandvichensis* (Sowerby, 1880) are synonyms. From *F. undatus* our new subspecies differs in possessing more numerous axial ribs on the early whorls and in the tubercles on the later whorls being more acute.

The species name commemorates the *Bounty*, the ship that brought to Pitcairn Island the ancestors of most of the present-day inhabitants. Some of our collecting was done on the bottom of Bounty Bay not far from where the remains of the ship lie.

Family MITRIDAE

Genus *Ziba* H. and A. Adams, 1853

Ziba H. and A. Adams, 1853:179.—Cernohorsky, 1970:47.

This genus, whose type-species is *Mitra carinata* Swainson from West Africa, has been placed by Cernohorsky (1970:47) in the subfamily Imbricariinae, largely because of the shell form. Cernohorsky also has compared *Ziba* with *Subcancilla* Olsson and Harbison, 1953, and *Cancilla* Swainson, 1840. The radula of the type-species is unknown; and, in our opinion, the radulae of the Indo-Pacific species tentatively assigned to *Ziba* resemble more closely those of certain groups in the Mitrinae than the radula of *Subcancilla* or of *Neocancilla* Cernohorsky, 1966. The radula of *Cancilla* is unknown. Until the radulae of the type-species of *Ziba* and *Cancilla* are known we are inclined to place *Ziba* in the Mitrinae.

Ziba cernohorskyi, new species

FIGURE 9; FRONTISPIECE: FIGURE 13

DIAGNOSIS.—Shell of moderate size, 32.6 mm in

length, elongately biconic, body whorl subsuturally obtusely angulate, with incised spiral lines, crossed in early whorls by equidistant axial grooves. It has somewhat the shape of *Ziba bacillum* (Lamarck, 1811) and *Z. astyagis* (Dohrn, 1860), and, on the body whorl, the sculpture of *Z. turtoni* (E. A. Smith, 1890), but is more strongly shouldered.

RANGE.—Off Pitcairn Island, in 45–55 fms, coral and rubble bottom.

DESCRIPTION.—*Shell*: Moderate size, 32.6 mm in length, elongately biconic, with spire somewhat shorter than apertural length, early whorls rather straight-sided with deeply impressed, subcanaliculate sutures, later whorls increasingly convexly shouldered. Protoconch missing, 8.25 whorls remaining, early whorls with straight, strong, broad, and flattened axial ribs, about 20 in first complete whorl, crossed by 4 spiral grooves that form elongate punctations at the intersections with the intersectional punctations rounder and smaller, the intersecting equal grooves forming relatively large, flat rectangles; in the last 0.25 of the penultimate whorl, the axial grooves become irregular and obscure, and on the body whorl they disappear, leaving only 15 spiral grooves which at the base become broader between rugose ridges; the uppermost grooves below the shoulder with some irregular punctations, especially near the lip; siphonal fasciole rather pronounced, with a narrow pseudumbilicus present between it and the edge of the columellar lip callus. Aperture narrow, elongate, rather rectilinear; six folds on the columellar lip, the uppermost the largest, the others gradually diminishing in size towards the base; anterior canal short and broad, siphonal sinus distinct; outer lip simple, very slightly thickened internally and marked there by weak denticulations at the termini of the external spiral grooves. Lower half of early whorls pale grayish yellow, upper half white; body whorl grayish yellow except for white area below suture and on base, with scattered, irregular white spots and flammules in the grayish yellow area; a deep orange-yellow band present in middle of the body whorl.

Radula (Figure 9): The radular ribbon creamy white, 4.7 mm in length and 1.1 mm in width, and with 53 fully formed rows of teeth and 2 nascentes. The median tooth with nine rather slender cusps, gradually decreasing outward in size. Laterals elongate and multicuspid.



FIGURE 9.—*Ziba cernohorskyi*, new species: half-row of radula.

MATERIAL.—*Holotype*: Off NW corner of Pitcairn Island, 45–55 fms; 19 October 1967; PIT-VI: 5; USNM 707239.

MEASUREMENTS (in mm).—Length, 32.7; width, 12.3; aperture length, 19.5.

REMARKS.—This unique shell appears best placed for the time being in the genus *Ziba* H. and A. Adams, 1853 (Cernohorsky, 1970:47). As mentioned above, it resembles in shape some specimens of *Z. bacillum* (Lamarck) and *Z. rufilirata* (Adams and Reeve, 1850) but is broader and more strongly shouldered and is not as strongly spirally sculptured. The spiral grooving of the body whorl resembles that of *Z. fulgetrum* (Reeve, 1844), but the latter species has strong spiral cords in the early whorls. These three species are tentatively placed in *Ziba* by Cernohorsky (1970:47).

The radula rather closely resembles that of *Mitra (Mitra) fulvescens* Broderip, 1836 (Cernohorsky, 1970:13, fig. 46), but in some ways is also intermediate between the radulae figured by Cernohorsky (1970:16, figs. 83, 84) for ?*Ziba flammaea* (Quoy and Gaimard, 1833) and ?*Z. bacillum* (Lamarck, 1811).

This new species is named for Walter O. Cernohorsky, of the Auckland Institute and Museum, in tribute to his outstanding work on the Mitridae and Indo-Pacific gastropods in general.

Family CONIDAE

Genus *Conus* Linnaeus, 1758

Conus marielae, new species

FIGURE 10; FRONTISPICE: FIGURES 10, 11

DIAGNOSIS.—Shell of medium size, 34–44 mm long, elongately obconic, coronate, strongly sulcate, yellowish white or white with scarlet markings which may be irregularly axially oriented or con-

fluently arranged in spiral bands; in addition, spiral ridges marked with small irregular scarlet or brownish spots. This species is closest to *Conus moluccensis* Küster, 1838, but the color markings are scarlet rather than brown, the nodose spines on the shoulder smaller and fewer in number, and there are no pustules on the spiral ridges, even on the base; the spiral ridges are flatter.

RANGE.—Marquesas Islands, in 21–46 fms, in coral and shell rubble and sand.

DESCRIPTION.—*Shell*: Medium size, 34.0 to 44.1 mm in length, elongately obconic. Protoconch elevated-pupiform, smooth, consisting of 3.5+ (tip broken) glossy, closely appressed whorls resulting in an almost flush suture. Spire broadly conic, slightly concave, consisting of 10.25 postnuclear whorls in fully grown type; spire whorls prominently nodose at the exserted shoulder. Early postnuclear whorls nodosely carinate, with fine axial riblets below the suture crossed by a few spiral sulci; these spiral sulci becoming increasingly prominent and the axial riblets diminishing in strength until on the antepenultimate and penultimate whorl the sculpture consists of three fine spiral cords (between the subsutural cord and the nodulose shoulder) crossed by rather numerous axial riblets, which under magnification are seen to be sublamellar and often marked by a fine, white line caused by a limy deposit in front of the riblet. Body whorl with 12 to 15 nodes on the sharply angled shoulder, below the shoulder slightly convex and rest of whorl straight-sided. Sculpture consisting of a series of irregularly spaced spiral grooves resulting in flattened spiral ridges of varying widths, which towards the base become more rounded or subangulate. The grooves show obscure axial riblets usually marked by a fine, microscopic, rather deciduous, white lamellae; these lamellae more prominent in the basal grooves. The flat spiral ridges not marked by pustules or beading of any kind. Fasciole marked by numerous rounded cords. Aperture narrow, slightly effuse near base; outer lip not thickened, rendered scalloped by the spiral sculpture. Color white, variously marked with shades of orange-red to moderate reddish orange or dark reddish orange (Kelly and Judd, 1965) in fresh shells, both in spirally arranged small spots, irregularly alternating with white and pale brown, and in larger blotches which may be axially oriented as well as

arranged in 2 spiral bands with a 3rd band sometimes present beneath the suture. In fresh specimens a thin, brown periostracum gives the basal white color a yellowish cast.

Animal: White, speckled with blackish brown, with a concentration of this color behind anterior edge of foot and at tip of siphon; dorsal surface of proboscis blackish brown.

MATERIAL.—*Holotype*: One-half mile off Baie Motu-Hee, Nuku Hiva, 35 fms; 22 September 1967; NH-XIV:1; USNM 703255.

Paratypes: One-half mile off Baie Motu-Hee, Nuku Hiva, 35 fms; 22 September 1967; NH-XIV:1; 1 specimen, WAM 317-73. Off Baie Hatuatua, Nuku Hiva, 26-32 fms; 18 September 1967; NH-VIII:1-5; 1 specimen, USNM 703256. Off Baie Anaho, Nuku Hiva, 21-25 fms; 19 September 1967; NH-XI:3; 1 specimen, USNM 703257; 1 fragment BPBM 218710.2; 1 fragment WAM 318-73. Off SW coast of Tahuata, 45 fms; 28 September 1967; TH-I:1; 1 specimen, BPBM 218710; 1 fragment, USNM 703258; 1 fragment, WAM 319-73. Off SW coast of Tahuata, 41-46 fms; TH-I; 2 specimens, USNM 703259; 2 specimens, BPBM 218710.1; 3 specimens, WAM 320-73. Off W coast of Ua Pou, 40-45 fms; 23 September 1967; UP-II:4, 1 specimen, MHNP. Off W coast of Fatu Hiva, S of Baie

Hanavave, 42-43 fms; 25 September 1967; FH-I:1; 1 specimen, WAM 321-73.

MEASUREMENTS (in mm).—

	Length	Width
Holotype, USNM 703255	40.3	19.0
Paratypes:		
No. 1, WAM 317-73	41.6	21.1
No. 2, BPBM 218710.1	37.8	18.5
No. 3, MNHP	38.9	19.5
No. 4, USNM 703256	39.3	19.3
No. 5, USNM 703257	44.1	22.2
No. 6, WAM 318-73	23.9	12.5
No. 7, WAM 319-73	29.5	14.2

REMARKS.—This beautiful species is most closely related to *Conus moluccensis* Küster, 1838, of which I have seen nine specimens through the kindness of the authorities of the Rijksmuseum van Natuurlijke Historie in Leiden, the Zoologisch Museum in Amsterdam, the Delaware Museum of Natural History, and the American Museum of Natural History. To my knowledge this species is known only from the Moluccas and Ambon, in eastern Indonesia, and differs from *C. marielae* in being mottled with brown rather than with reddish orange, the spiral cords are narrower and the intervening grooves wider, and the cords bear pustules, generally whitish in color, that sometimes are found over most of body whorls but always on the

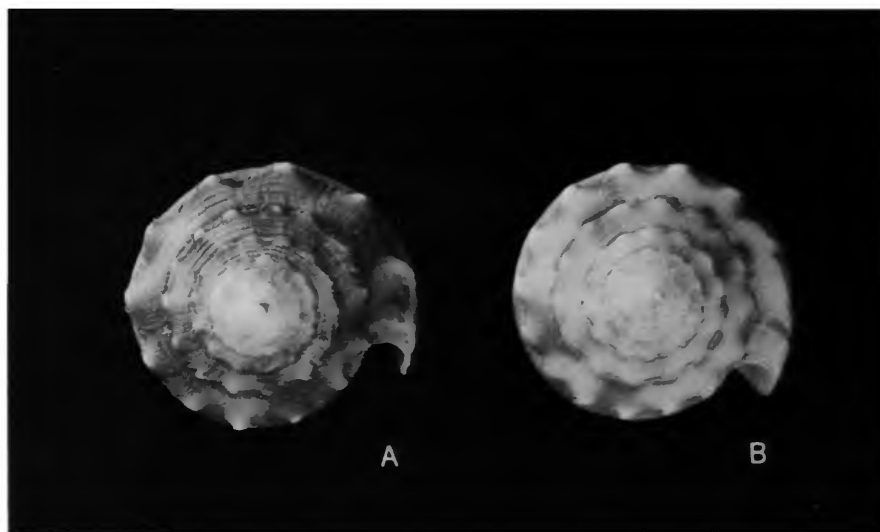


FIGURE 10.—*Conus marielae*, new species: A, B, apical views of holotype (USNM 703255) and paratype (USNM 703256), respectively.

basal cords. In addition, the subspinose nodes on the shoulder angle are fewer in number than in *C. marieli*. *Conus proximus* Sowerby II, 1859 (*C. pulcher* A. Adams, 1853, not Lightfoot, 1786, is a synonym), is a distinct species, and it is what Cernohorsky (1971:222, pl. 57, fig. 423) errone-

ously calls *moluccensis*. This species, which I have seen only from Moluccas, Papua-New Guinea, New Caledonia, and Fiji, differs from the true *Conus moluccensis* and *C. marielae* in having the spiral ridges marked by interrupted brown to reddish brown lines.

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