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CYPRAEA CERVINETTA KIENER AND CYPRAEA
ARABICULA LAMARCK

By WILLIAM MARCUS INGRAM
Mills College, California,

AND

HAROLD TRAPIDO
Gorgas Memorial Laboratory, Panama

The included data add information to the little recorded observations on the natural history of the Cypraeidae. Six mature

individuals of *Cypraea cervinetta* Kiener and three of *Cypraea arabicula* Lamarek were collected alive at San Francisco de Caleta, a suburb of Panama City.

The collections were made at an area where an outcropping of sea-eroded volcanic rock extends to seaward. Here there is a maximum tide fluctuation of about twenty feet so that an extensive intertidal zone of several hundred feet is present. At low tide, there are numerous tide pools in the area where certain mollusks and fish are trapped or quite naturally remain when the tide is out. The cowries referred to above were taken at the front of the low tide zone where they were either attached to rocks, or in pools mostly washed by waves even at low tide. Little or no sand is present in the area and the surf is light.

The six individuals of *C. cervinetta* Kiener show quite a variation in size, varying from 91 mm. in length to 46 mm. in width to 36 mm. in height to 61 mm. by 32 mm. by 26 mm. The intermediate stages measure with length, width, and height given respectively in millimeters: 77 + 40.5 + 31.80, 76.5 + 38 + 31, 74 + 37 + 39, 71 + 37 + 28. The three individuals of *C. arabicula* Lamarek measure: 29.5 + 19.5 + 15, 29 + 20 + 15, 29 + 18.8 + 14.

Cypraea arabicula Lamarek ranges from Mazatlan, Acapulco, Mexico, to Cape San Lucas, Lower California, to Corinto, Nicaragua, to Punta Dominical, Costa Rica, to Panama, to the Galapagos Islands. It has been listed as a Pleistocene fossil from Magdalena Bay, Lower California, by Jordan (1936); and from the upper Pleistocene of Oaxaca, Mexico, by Grant and Gale (1931) and by Palmer and Hertlein (1936).

Cypraea cervinetta Kiener is confined to the West Coast of the Americas although without doubt it is closely related to two Caribbean species, *Cypraea cervus* Linnaeus and *Cypraea zebra* Linnaeus. *C. cervinetta* ranges from Guaymas, Mazatlan, and Mendia (Sinaloa), Mexico, to La Paz and Cape San Lucas, Lower California, to Panama, to Cardalitos, Peru, to the Galapagos Islands. A young specimen, *Cypraea aff. cervinetta*, is recorded by Dall and Ochsner (1928) from the Pliocene of Seymour Island, Galapagos Islands.

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