

***Casmaria ponderosa* subspecies
nipponensis new subspecies Abbott**

(Pl. 14, figs. 13, 14)

Range—Known only from Japan and the Bonin Islands.

Remarks—This is a very distinctive northern subspecies of Japanese cool waters which is characterized by its dull, brownish tan color, by its tan nuclear whorls and by the presence of 4 to 7 small prickles on the outer lip. These are located on the lower middle section and not at the base of the outer lip. The upper fifth of the last varix is without a brown spot. Below the suture are blurred darker-brown blotches, a feature present in the similar *C. ponderosa perryi* (Iredale) from southeast Australia, the Kermadecs, and Easter Island, and in the Polynesian *C. erinaceus kalosmodix* (Melvill). This new subspecies has been identified in the past by Japanese workers as *cernica* Sowerby, which, however, is a dwarf, light-colored form of *ponderosa* from Mauritius. *C. ponderosa perryi* (Iredale) lacks the prickles on the outer lip and has white nuclear whorls. One specimen of *nipponensis* (USNM 205464) from 103 fathoms in the Kagoshima Gulf, Japan, is a grayish tan uniform color.

A brightly-colored specimen of *nipponensis* was purchased in Okinawa by Mrs. A. Anita Scott, but I have seen no other specimens from the Ryukyu Islands.

Description—Shell 33 to 53 mm. (about 1-1/4 to 2-1/4 inches) in length, ovate to elongate-ovate, dull to somewhat shining, moderately heavy, and colored in dark tan, cream and darker-brown blotches. Nuclear whorls 4, smooth and light-tan. Postnuclear whorls smooth, except for occasional microscopic growth lines, and moderately rounded. Suture smooth, minutely indented. Color of whorls in apex tan or with a purplish tan background, and with irregular blotches of light-chestnut brown just below the suture. Body whorl with these subsutural blotches and with 4 or 5 weak, spiral bands of indistinct tan, squarish blotches. Varix at outer lip moderately to heavily developed and bearing 5 to 10 brown streaks. Outer lip with 4 to 7 tiny, sharp denticles, but none at the base. Umbilicus minutely impressed. Parietal shield absent. Columella tan-cream and with 4 to 7 weak plicae, the lowest, however, being very strong and at the base of the columella. Interior of aperture cream to

light-brown. Edge of siphonal fasciole stained light-brown. A former varix may be present one half whorl behind the last varix. Spire variable in height, from 1/3 to 3/5 the entire length of the shell. Operculum and soft parts unknown.

Measurements—

length	width	spire	no. whorls	
58.0	33.0	22.5	7.5	Figured holotype, ANSP
53.1	27.2	20.5	6+	Kii, Japan, ANSP 241636
42.7	24.1	14.5	7.0	Tanabe, Japan, MCZ 233233
39.9	22.8	12.4	7.0	Sagami, Japan, ANSP 227579
33.4	20.5	9.8	6+	Sagami, Japan, ANSP 227579

Types and Records—The type locality is Tanabe, Wakayama Prefecture, south central coast

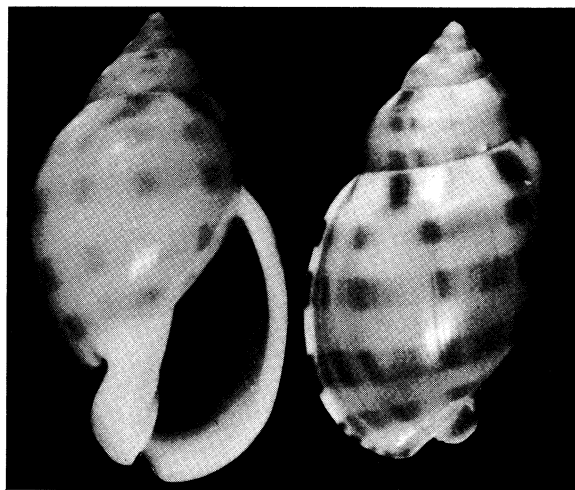


Plate 187. *Casmaria ponderosa* subspecies *perryi* (Iredale, 1912). Off Oruawharu, Great Barrier Island, North Island, New Zealand. 30.7 mm. in length. (photographs courtesy of A. W. B. Powell).

***Casmaria ponderosa subspecies perryi* (Iredale, 1912)**

(Pl. 187)

Range—Southeast Australia, New Zealand, Kermadec Islands and Easter Island.

Remarks and Description—This subspecies is the southern counterpart to the northern subspecies *nipponensis* Abbott from Japan. Both have a dull taffy-brown or tan cast, with moderately strong and elongate brown blotches just below the suture and with 3 or 4 wide, light-brown, indistinct, spiral bands on the body whorl which bear irregular squarish, brown blotches. Characteristic of the *ponderosa* group is the unspotted, upper (or posterior) end of the varix. *C. ponderosa perryi* Iredale differs from *nipponensis* in having no denticles along the lower third of the outer lip, in having a weak varix, and in having cream-colored instead of dark-tan to light pinkish tan nuclear whorls. Both subspecies exhibit variations in the relative height of the spire, some being quite drawn out. The Australian subspecies was described from the Kermadec Islands, northeast of New Zealand, by Iredale who mentions that some few specimens may have a former varix on the last half of the body whorl, a feature seen in some Japanese specimens. I find no significant differences in the slightly plicated to smooth columellae of these two subspecies. The distribution of a cool water species or subspecies from New South Wales, to the Kermadecs and Easter Island is normal for some other groups of mollusks.

of Honshu Island, Japan. The holotype is in the Academy of Natural Sciences of Philadelphia, no. 313258. Paratypes are as follows: KYUSHU ID.: Kagoshima (A. R. Cahn, coll'n., ANSP 241668). HONSHU ID.: Kii, Wakayama Pref. (A. R. Cahn, ANSP 241646; 241636); Awa, Chiba Pref. (A. R. Cahn, ANSP 241141); Chiba Pref. (A. R. Cahn, ANSP 254723); Sagami Bay (B. R. Bales coll'n., ANSP 227579; Nat. Sci. Mus. Tokyo); Tanabe, Wakayama Pref. (MCZ 233233); 103 fms., Albatross Station 4935, Kagoshima Gulf (USNM 205464).

Measurements (mm.)—

length	width	no. whorls	
52.5	27.0	9	Queensland, Australia
43	24	—	type, fide Iredale, 1912
41.7	24.5	7+	Queensland, Australia
30.7	17.0	—	Gt. Barrier Id., N.Z., fide Powell, 1967

Synonymy—

- 1911 *Cassidea cernica* Sowerby, Iredale, Proc. Mal. Soc. London, vol. 9, p. 73 (Kermadecs).
 1912 *Cassidea perryi* Iredale, Proc. Mal. Soc. London, vol. 10, p. 227, pl. 9, fig. 17 (Sunday Is., Kermadec Islands).
 1967 *Casmaria perryi* (Iredale), Powell, Records Auck. Inst. Mus., vol. 6, no. 3, p. 186, pl. 36.

Types—The type locality is Sunday Island, Kermadec Islands, northeast of New Zealand. The holotype was deposited by Iredale in the Canterbury Museum, New Zealand.

Records—AUSTRALIA: Tuncurry Beach, New South Wales (Thornley, 1954, Proc. Royal Zool. Soc. N.S.W., for 1952-53, p. 33); 40 fms., off Caloundra, southern Queensland (T. A. Garrard, coll'n.); Point Cartwright, Queensland (Nat. Mus. Vict. F23207). NEW ZEALAND: on rocks just below low tide, Oruawharu, Great Barrier Island, North Island (Mrs. G. Mitchener, leg. 1965). KERMADEC IDS.: Sunday Island (Iredale, 1912, p. 227). EASTER ISLAND: (USNM).

***Casmaria ponderosa subspecies atlantica* Clench, 1944**

(Pl. 14, figs. 15, 16)

Range—Lower Florida Keys, the Bahamas and Caribbean.

Remarks—This rare Caribbean subspecies is scarcely differentiated from certain specimens of *C. ponderosa* form *cernica* Sowerby, 1888, from the Indian Ocean. The shell of *atlantica* is slightly lighter in weight and the spots are more numerous in the four spiral series on the middle of the body whorl. I have never seen noduled specimens. This subspecies was treated in full by Clench in 1944 when he described it as a species and likened it to *Casmaria vibex* Linné (= *erinaceus* Linné, smooth form), rather than to the *ponderosa* group.

Young smooth forms of *Phalium granulatum* resemble this species, but *atlantica* is narrower, has a minute brown line on the suture of the first whorl, lacks reticulated sculpturing on the early whorls and has 5 to 9 minute prickles on the lower half of the outer lip.

Synonymy—

- 1935 *Phalium erinaceum* var. *vibex* Linné, Bayer, Zoologische Mededeel., vol. 18, p. 112.
 1944 *Casmaria atlantica* Clench, Johnsonia, vol. 1, no. 16, p. 3 (Puerto Sosua, Hispaniola).

Records—FLORIDA: 190 feet depth, off Destin, Florida (Frank Warder, coll'n.); 4-5 miles N.N.E. of The Elbow, Key Largo, in 50-83 fathoms (L. A. Burry, MCZ). BAHAMAS: Bimini (Corinne Edwards, 1967); Abrahams Bay, Mariguana Id.; Matthewtown, Great Inagua Id. (both MCZ); New Providence Id. (ANSP). CUBA: outer beaches, Guantanamo Naval Base (Kathy Carson and Pauli La Plante, 1967, ANSP). HISPANIOLA: Monte Cristi; Puerto Sosua (type locality) (both MCZ). VENEZUELA: near Caracas (Ch. Bayer, 1935, p. 112).



Plate 14

- Figs. 1-6. *Casmaria ponderosa* (Gmelin, 1791). 1 and 2, plicate or *nodulosa* Gmelin form, Atiue, Tahiti Id., Society Islands. 3 and 4, smooth form, Ryukyu Islands. 5, subspecies *unicolor* Dautzenberg from Eilat, Red Sea. 6, striped form, *turgida* Reeve, 1848, Bohol Id., Philippines.
- 7-12. *Casmaria erinaceus* (Linné, 1758). 7, malformed specimen of form *vibex* (Linné, 1758), with extra varix; Bohol Id., Philippines. 8, typical form from Aeri Ids., Geelvink Bay, Dutch New Guinea. 9, striped form of form *vibex* (Linné, 1758), central Philippines. 10, typical *erinaceus* form, Cuyo Id., Philippines. 11, Polynesian form with sub-sutural flames, Tutuila Id., Samoa. 12, striped

- form *erinaceus* (Linné), Bougainville Id.
- 13,14. *Casmaria erinaceus nipponensis* Abbott, new subspecies. 13, holotype, Tanabe, Honshu Id., Japan. 14, paratype, Wakayama, Japan.
- 15,16. *Casmaria erinaceus atlantica* Clench, 1944. 15, Bimini Id., Bahamas. 16, paratype, MCZ 134574, Matthew Town, Great Inagua Id., Bahamas.
17. *Casmaria erinaceus* subspecies *kalosmodix* (Melvill, 1883). Pearl and Hermes Reef, Hawaiian Islands.
18. *Casmaria ponderosa* form *cernica* (Sowerby, 1888). Mauritius.

(all natural size)