

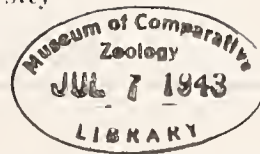
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CASSIDIDAE



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THE GENERA *CYPRÆCASSIS*, *MORUM*, *SCONSIA* AND *DALIUM* IN THE WESTERN ATLANTIC

BY

W. J. CLENCH AND R. T. ABBOTT

The following genera are all small in number of species. *Cypræcassis* and *Morum* have a few species, mainly in the Indo-Pacific region, while *Sconsia* and *Dalium* possess but a single species each, both limited to the West Indian area in the Western Atlantic region.

Cypræcassis testiculus is a fairly common shell throughout its range; *Morum oniscus* is fairly common as a beach shell in the West Indies, though quite rare in southern Florida. The remaining species are all very rare and *Dalium solidum* is known only from two or three specimens obtained by the *Blake* in deep water off Grenada Island, Lesser Antilles.

Cypræcassis Stutchbury

Cypræcassis Stutchbury 1837, Mag. Nat. Hist. (n.s.) 1, p. 214; *ibid.* p. 470; Sowerby, *ibid.* p. 366; Lewis, *ibid.* p. 387.

Genotype, *Cassis rufa* Linné

Shell subcylindrical to oval with a depressed spire. Aperture rather narrow with the parietal wall plicate its entire length. Outer or palatal lip reflected, thickened and supporting along its inner margin a few to many single or paired teeth or short plicae. The shells are generally mottled with red, reddish brown or brown. They rarely produce more than one lip during life though occasional specimens do possess at least one varix. This is in sharp contrast to the many varices that are found on several species in the genus *Cassis*.

Cypræcassis testiculus Linné, Plate 1 and Plate 3, fig. 1-3

Buccinum testiculus Linné 1758, Syst. Nat. ed. 10, p. 736 (Jamaica).

Description. Adult shells varying from 25 to 75 mm. (1 to 3 inches) in length, solid, and with a reticulated sculpture. Whorls 7 to 8. Color an orange brown with white and purplish brown blotches unevenly disposed over the body whorl. Blotches often crescent shaped. Tip of spire often tinged with pink or dull orange. Parietal wall an orange-cream glaze with two or three wide streaks of bright orange. Inner side of parietal wall wrinkled with irregular white teeth or plicae. Outer lip thick, slightly recurved and bearing about 20 prominent white teeth on its inner margin. Lip an orange-cream glaze with a dozen or more dull orange streaks running from the teeth across to the outer edge of the lip where they are terminated by a series of roughly square blackish brown dots. Interior of aperture a light orange-brown. Suture slightly indented. Nuclear whorls smooth, remaining whorls of spire sculptured by numerous, fine, spiral threads. Body whorl closely sculptured by small longitudinal ridges which are crossed by a dozen or more spiral grooves, thus producing a reticulated surface. Sometimes the shoulder of the body whorl bears ridges which are slightly longer and larger than others. Animal of moderate size

with foot slightly longer than the shell. Entire animal colored a light brownish orange, with the underside of the foot smeared with a darker shade of orange. No periostracum. Operculum not found in the live material so far studied.

	length	width	
(large)	75	48 mm.	Jamaica
(average)	56	37	Lake Worth, Boynton, Florida
(small)	20	13	Boca de Cangrejos, San Juan, Puerto Rico

Types. We select the illustration of Gaultieri, referred to by Linné, (1742, Index Testarum Conchyliorum, plate 39, fig. C) as the type figure. Linné's type locality is Jamaica.

Common name. Reticulated Helmet Shell.

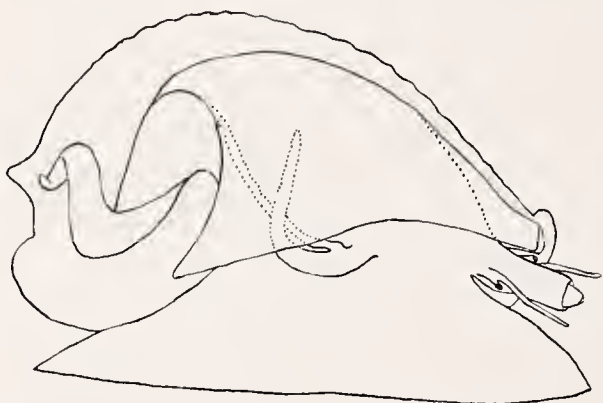


Plate 1. *Cypraeacassis testiculus* Linné

Line drawing to show position of soft parts in the shell. (Cable Beach, Guantánamo Bay, Cuba). R.T. Abbott, del.

Remarks. This species has a wide distribution but is never found in large numbers, though it is inclined to favor certain localities. It is found usually around reef water where it can migrate from the deeper water to lay its eggs in the warmer and shallower regions. The eggs are the size of swollen grains of rice and are laid under small rocks or under large broken shells in greenish brown clusters of a hundred or so capsules. The size of adults varies considerably in the same locality, some shells reaching maturity when an inch long, others reaching a length of three inches. The smaller are generally the males.

Range. Bermuda, southern Florida, the West Indies, southern Mexico and south to Brasil. Hatteras, North Carolina (Dall 1889). Also the tropical coast of West Africa.

Records. FLORIDA: Boynton Beach; Lake Worth; Tortugas (all T. McGinty); Pelican Shoals, Key West (J. Schwengel). BERMUDA: (A. J. Peile 1926). BAHAMAS: Walter Cay, Little Abaco Id.; Cherokee Sound, Great Abaco Id.; Smith Point, Grand Bahama Id.; Cat Cay, Bimini Ids.; Governors Harbour, Eleuthera Id.; Orange Creek, Cat Id.; Little San Salvador Id.; Clarendon, Long Id.; Watlings Id.; Abrahams Bay, Mariguana Id.; Matthewtown, Great Inagua Id. (all MCZ). CUBA: Veradero; Mota, Oriente Prov. (both ANSP); Cayo Francés, Caibarién (P. J. Bermúdez); Habana; Cayo la Farola, Sagua la Grande; Castillo de Jagua, Cienfuegos; Guantánamo Naval Base (all MCZ). HISPANIOLA: Jacmel (ANSP); Cap Haitien; Gonave Id.; Monte Cristi; Puerto Plata; Puerto Sosúa; Santa Bárbara de Samaná (all MCZ); Port Blanco (H. Hurst). PUERTO RICO: Aricibo (MCZ); Boca de Cangrejos (H. Vander Schalie). VIRGIN ISLANDS: St. John; St. Thomas (both MCZ); Guana Id., Tortola (M. Dewey); St. Croix (ANSP). JAMAICA: Montego Bay (MCZ); Port Antonio (ANSP). LESSER ANTILLES: Antigua; St. Kitts; Tobago (all MCZ); Bridgetown, Barbados (ANSP); Toco, Trinidad (H. G. Kugler). CARIBBEAN ISLANDS: Swan Id.; Oak Ridge, Roatan Id.; Bay Islands (MCZ). CENTRAL AMERICA: Veracruz, Mexico (M. Bourgeois); Belize, British Honduras (MCZ); Colón, Panama (ANSP). SOUTH AMERICA: Corentyne River, British Guiana (H. G. Kugler); La Guaira, Venezuela (ANSP); Manguinhos, Ilha de Itaparica, Est. Bahía; Cidade da Bahía, Brasil (both P. de Oliveira). EASTERN ATLANTIC: Cape St. John, Spanish Guinea, Africa (Carnegie Museum).

Cypraecassis testiculus, form **crumena** Bruguière, Plate 2, fig. 4

Cassidea crumena Bruguière 1789, Encyclopédie Méthodique, Vers, 1, pt. 2, p. 428 (Ascension Id. [South Atlantic]).

Buccinum plicatum Dillwyn 1817, Desc. Catalogue of Recent Shells, London, p. 588, (non Linné 1758).

Cassis testiculus Linné, var. Kiener 1835, Icon. Coquilles Vivantes 8, p. 20, pl. 4, fig. 7.

Cassis testiculus Linné, variety β . Reeve 1848, Conch. Icon. 5, *Cassis*, pl. 4, fig. 10a.

Cassis testiculus bicincta Bayer 1935, Zool. Mededeelingen 18, p. 97, text fig. 1 (Indian Ocean?).

In our opinion this is only a form of the typical species, and though rare, appears only as a sporadic example at any one locality.

It differs from typical *testiculus* by having a single or double row of short plications or ridges over the shoulder of the body whorl. All intermediates exist, however, between the finely reticulated specimens and those with fairly large plications. Bayer (l.c. above) possessed only a small specimen, but we have one that measures 75 mm. in length, which is as large as that reached by the typical form.

Range. Probably co-extensive with *C. testiculus* Linné.

Records. FLORIDA: Boynton Beach (T. McGinty). BAHAMAS: Eight Mile Rock, Grand Bahama Id.; Arthurstown, Cat Id.; Matthewtown, Gt. Inagua Id. (all MCZ). EASTERN ATLANTIC: Santiago, Cape Verde Ids. (MCZ).

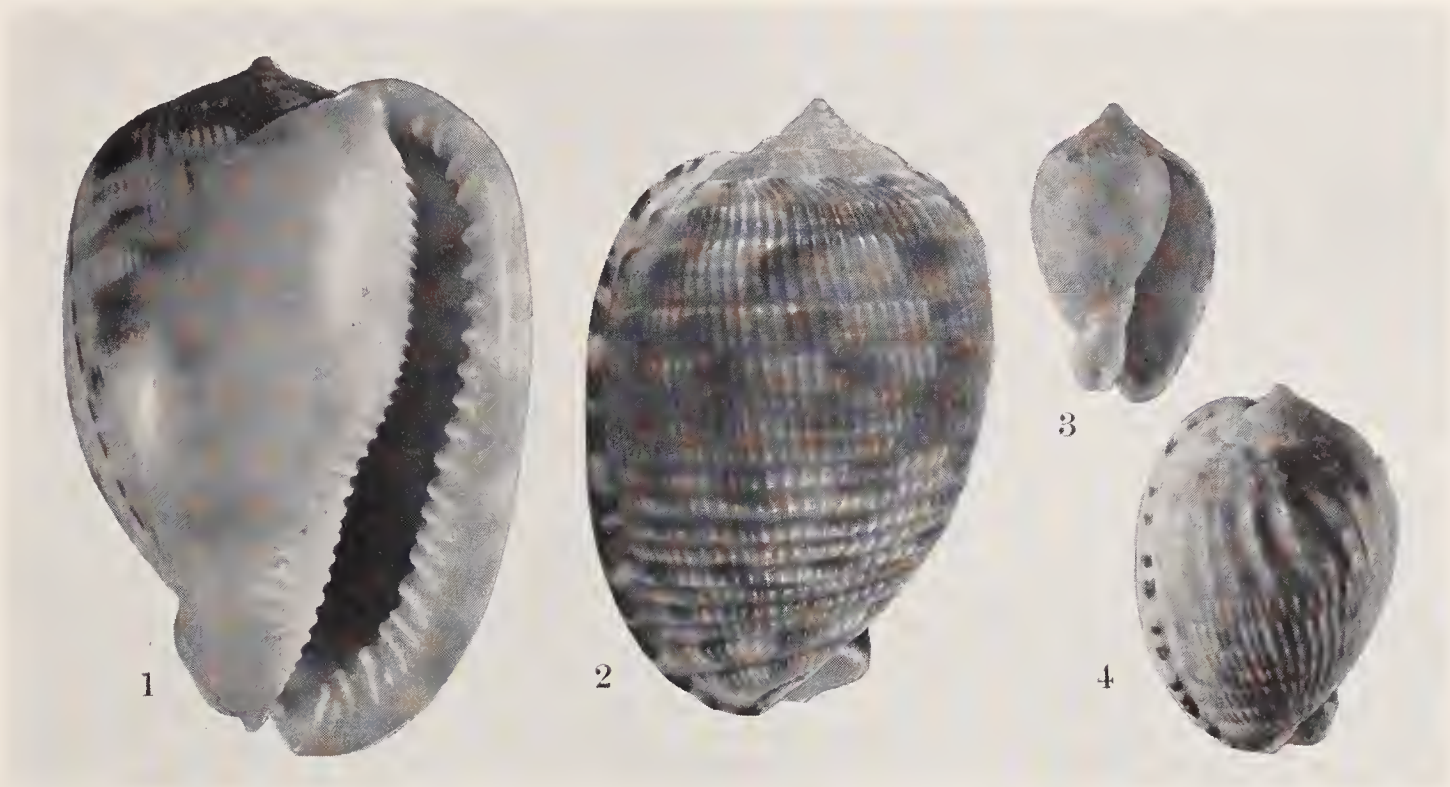


Plate 2. Fig. 1. *Cypraecassis testiculus* Linné, Veracruz, Mexico. Fig. 2. Berry Cay, Northeast Point, Cat Island, Bahamas. Fig. 3. Monte Cristi, Hispaniola (young). Fig. 4. *Cypraecassis testiculus*, form *crumena* Brug., Simms, Long Island, Bahamas. (All natural size.)

Morum Röding

Morum Röding 1798, Museum Boltenianum, p. 53 [*Lambidium* Link 1807; *Ouisia* Sowerby 1824; *Ouisidia* Swainson 1840; *Ersina* Gray 1847; *Plesioniscia* Fischer 1884; are synonyms].

Genotype, *Morum purpureum* Röding (= *Strombus oniscus* Linné)

This genus is composed of but few species, mainly tropical to subtropical, and found, with few exceptions, in the Indo-Pacific area. Two species occur in the tropical portion of the Western Atlantic. The shells are generally medium to small in size, with a short papilliform spire and usually a strongly nodulose sculpture. They occupy rocky or coral reefs below the low water line and are not particularly abundant.

Omiscidia Swainson (1840, Treatise on Malacology, London, p. 298, fig. 66c) was a lapsus for *Omiscis* Sowerby 1824.

Morum oniscus Linné, Plate 3, fig. 1-5

Strombus oniscus Linné 1767, Syst. Nat. ed. 12, p. 1210, No. 502 (locality unknown).

Cypraea conoïlea Scopoli 1786, Deliciae Florae et Faunae Insubricae pt. 2, p. 78, pl. 24, fig. 3 (no locality).

Morum purpureum Röding 1798, Museum Boltenianum, p. 53, no. 672 [no locality; refers directly to *S. oniscus* Linné].

Omiscis triseriata Menke 1830, Synopsis Methodica Molluscorum, 2nd ed. p. 64 [no locality; refers directly to *S. oniscus* Linné].

Description. Shell reaching about 25 mm. in length, subcylindrical and roughly sculptured with blunt tubercles. Whorls 7; the first two or three nuclear whorls are papilliform, forming a sharp point at the top of the low spire. Color varying from a white background with fine brown or gray specklings to a graying background with large mottlings of black-brown. Dead, wave-worn specimens are mottled with a light chestnut-brown. Tip of spire usually white, rarely tinged with deep rose. Columella and lip white, the latter often flecked on its outer edge with brown. Parietal wall thickened with a translucent glaze which is often ingrained with numerous white dots. Sometimes these dots are developed into minutely raised pustules. Interior of aperture white. Outer lip is thickened and bears a row of about 15 small teeth on the inner side. Suture slightly indented and wavy, somewhat overlapped by the whorl below. Three bands of rounded blunt nodules usually 7 to 8 to the row, run spirally on the body whorl. A series of coarse small spiral threads run in between these rows. In live specimens the growth lines in the periostracum cross these threads to form a minute lace-like network.

Animal of medium size with the expanded foot slightly longer than the shell. The foot is spreading with wavy edges. Underside of foot whitish. Propodium slightly triangular in shape and colored a light gray. Siphon short and an even light gray. Upperside of foot a grayish white with concentrated fine gray-black specklings. The two rather slender eye-stalks are light yellow and terminated by a small black eye and a short white feeler with

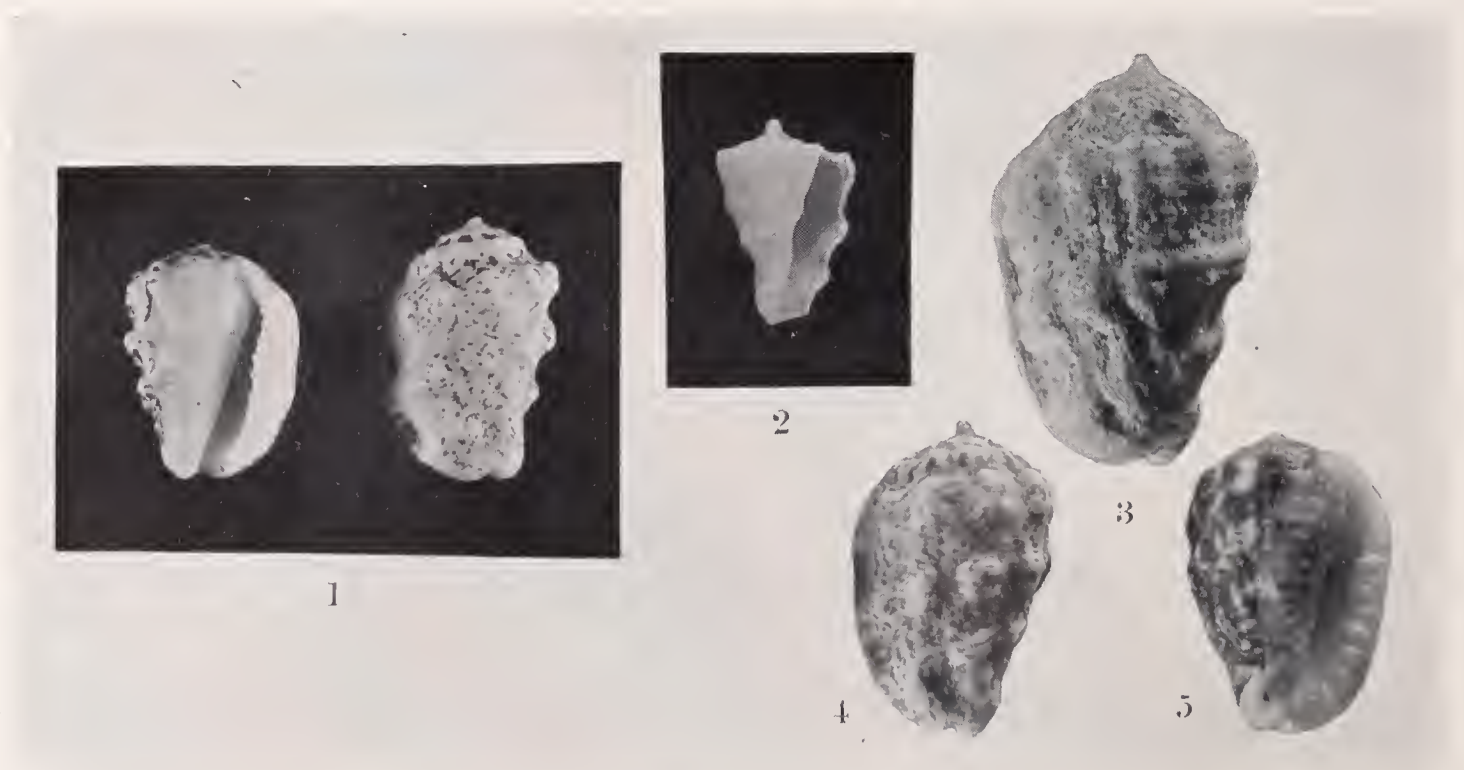


Plate 3. *Morum oniscus* Linné

Fig. 1. Eight Mile Rock, Grand Bahama Id., Bahamas. Fig. 2. Bermuda (young).
Figs. 3-4. St. Thomas, Virgin Islands. Fig. 5. Antigua, Lesser Antilles. (All $1\frac{1}{2}\times$.)

gray circular stripes. Operculum exceedingly small, possessing a marginal nucleus and having rather strong concentric growth lines. Periostracum a thin, grayish velvet.

	length	width	
(large)	27	19 mm.	St. Thomas, Virgin Islands
(average)	21	14	Antigua Id., Lesser Antilles
(small)	14	11	Alicetown, North Bimini Id., Bahamas

Types. Linné refers to A. Seba 1761 (Locuplet, Rerum. Nat. 3, pl. 55, fig. 23a-g), which are here selected as type figures. As Linné gave no locality, we designate St. Thomas Island, Virgin Islands, as the type locality.

Common name. Atlantic Wood-louse.

Remarks. This handsome little shell is frequently encountered on the West Indian beaches where it is washed up from the reefs. It prefers to live in the sheltered waters of reefs where there is a continuous supply of pure ocean water. During the day it seeks shelter under slabs of coral rock, usually in water from three to ten feet in depth. It is a fairly active creature, and not at all shy like most night travellers.

The variety *lamarekii* Deshayes is, in our opinion, an absolute synonym of *Morum tuberosum* Reeve of the Eastern Pacific area (Western Panama). Its size, coloration and shape agree in all details with specimens that we possess from the western Panamic area.¹

Tryon (1885, Man. of Conch. (1) 7, p. 282) has listed *O. strombiformis* Reeve as occurring in the West Indies, though unknown to him. The locality was unknown to Reeve (1842, Proc. Zool. Soc. London, p. 91; 1842, Conch. Syst. 2, pl. 253, fig. 1). It was described from the Cuming collection and may have been a species he had obtained from the Philippines.

Range. Lower Florida Keys, Bahamas, throughout the West Indies and south to Brasil.

Records. FLORIDA: Boynton Beach; Middle Sambo Shoals, Key West (both T. McGinty). BAHAMAS: West End, Grand Bahama Id.; Alicetown, North Bimini Ids.; Harbour Island, Eleuthera; Simms, Long Id.; Arthurstown, Cat Id.; Little San Salvador; Watling Id.; Matthewtown, Great Inagua (all MCZ). CUBA: Cayo Francés, Caibarién; Castillo de Jagua, Cienfuegos; Blue Beach, Guantánamo Naval Base (all MCZ); Cayo la Farola, Sagua la Grande (J. P. Bermúdez). HISPANIOLA: Cap Haitien; Miragoane (both W.J. Eyerdam); Monte Cristi (MCZ). PUERTO RICO: San Juan (MCZ). VIRGIN ISLANDS: St. Thomas; St. John (both MCZ); Guana Id., Tortola; The Baths, Virgin Gorda (both M. Dewey). LESSER ANTILLES: Antigua (MCZ). CARRIBBEAN ISLANDS: Swan Id. (MCZ). BRASIL: Ilha de Itaparica, Est. da Bahía; Farol da Barra, Cidade da Bahía (both P. de Oliveira).

***Morum dennisoni* Reeve, Plate 4, fig. 5**

Oniscia dennisoni Reeve 1842, Conch. System. 2, p. 211, pl. 53, fig. 5-6 [no locality]; *ibid.* 1842 [1843] Proc. Zool. Soc. London, 10, p. 91 [locality unknown]; Beau 1857 [1858] Catalogue des Coquilles Recueillies á la Guadeloupe et ses Dépendances, Revue Coloniale, p. 8 (Guadeloupe).

¹ A review of this species has resulted in the following synonymy:

Oniscia tuberosa Sowerby 1824, Genera of Shells, *Oniscia*, p. 2 [nomen nudum].

Morum tuberosum Reeve 1842, Conchologia Systematica 2, p. 211, pl. 253, fig. 2-4.

Oniscis lamarekii Deshayes 1844, [in] Lamarek, Anim. s. Vert. 10, p. 12, no. 1; (*non lamarekii* Lesson 1840).

Morum xanthostoma Adams 1853, Proc. Zool. Soc. London, p. 174. [This refers to a yellow-lipped form which appears sporadically in any large series of this species.]

Description. Shell reaching a length of 42 mm.; it is imperforate, solid and strong. Whorls 7, shouldered, and formed below the shoulder angle. General color a grayish white, with irregular patches of brown appearing most abundantly on the spire and along the outer margin of the lip. Smaller patches and dots of color over the body whorl in a faint spiral arrangement. Spire somewhat depressed and produced at an angle of 95°. Aperture oblique and rather narrow. Outer lip reflected, thickened and possessing a series of "teeth" along its entire inner margin. Inner lip or parietal wall with a rather thick pad or callus which is covered with a series of small and somewhat raised whitish dots. The callus is more or less evenly colored a light reddish brown. Sculpture consisting of a series of axial, blade-like ridges along which are developed a number of small knobs. On the shoulder of each whorl these knobs are larger and more pointed. All of these knobs are disposed in a spiral pattern as well. Between these nodulose ridges there are a series of very fine axially arranged threads. Operculum not observed.

height	width	whorls	
41.6	25.3 mm.	7	off Sandy Bay, Barbados

Types. Probably in the British Museum. As the locality was unknown to Reeve, we select that of Guadeloupe Id., Lesser Antilles, to be the type locality. This is based upon Beau's record of its occurrence on this island.

Remarks. Little can be added to what is known regarding this species. The three records would indicate a wide distribution in the West Indies in fairly deep water. Beau cited this species in a list with no additional information.

Range. The West Indies in general, in fairly deep water.

Records. LESSER ANTILLES: Guadeloupe (Beau 1858); off Sandy Bay, Barbados in 75-100 fathoms, *Hassler Voyage*, 1871 (MCZ). MEXICO: Arrowsmith Bank, Yucatán in 130 fathoms (Dall 1889).

Sconsia Gray

Sconsia Gray 1847, Proc. Zool. Soc. London, **15**, p. 137.

Genotype, *Cassidaria striata* Lamarck

Shell oval to fusiform and sculptured with fine spiral, incised lines. Color pattern generally in the form of spiral rows of rather large yellowish brown squares; occasionally, however, these may form bar or flame-like markings. One or more varices may occur.

For a review of the fossil American species see Pilsbry 1921, Proc. Acad. Nat. Sci. Philadelphia, pp. 361-362.

Sconsia striata Lamarck, Plate 4, fig. 1-4

Cassidaria striata Lamarck 1816, Encyclopédie Méthodique, Vers, **3**, p. 3, [plate reference], pl. 405, fig. 2a-b (no locality).

Sconsia grayi A. Adams 1854 [1855] Proc. Zool. Soc. London, **22**, p. 136, pl. 28, fig. 6 (locality unknown).

Sconsia barbudensis Higgins and Marrat 1877, Proc. Liter. Phil. Soc. Liverpool, **31**, p. 411, pl. 1, fig. 1 (15 fathoms, off Barbuda [Lesser Antilles]).

Description. Shell rather solid, imperforate, rather shining and reaching a length of about 60 mm. Whorls 8, regularly increasing in size. Nuclear whorls smooth and glass-like. Color a china-white to irregularly pale buff, overlaid with spots or axial lines of brown. The spots may be fairly regular and arranged somewhat in spiral order, while other specimens have these brownish spots coalescing to form irregular axial bars of color, sometimes complete as bars of color on the body whorl or complete above the mid-area

and continued as spots below the mid-area. Periostracum not apparent on the specimens at hand. Spire acute, somewhat produced, usually flat-sided, though occasional specimens show a fair convexity of the whorls. The spire is cast at an angle of 75° . Aperture oblique, somewhat spindle-shaped and rather narrow. Outer lip slightly reflexed, expanding upwardly on the penultimate whorl, thickened and possessing a series of regular palatal teeth. These may be developed only along the lower and inner margin of the outer lip, though most of the young specimens show these teeth developed along the entire margin. Parietal wall or inner lip glazed without an apparent callus. As in the outer lip, the columellar teeth or plicae are limited in the older specimens to the lower portion or to the columella itself; young specimens, however, have these short plications extending along the entire inner lip to the juncture with the outer lip. Sculpture of numerous spiral grooves crossed by very fine growth lines. The sculptural pattern, however, is distinctly spiral and not reticulated. Varices generally limited to two and then not overly conspicuous. Canal short and oblique, giving a moderate truncation to the thickened columella. Suture slightly indented and slightly inset.

	length	width	whorls	
(large)	58	30 mm.	8	off Punta Alegre, Camagüey, Cuba
(average)	52	29	$7\frac{3}{4}$	off Matanzas Bay, Cuba

Types. The type figures are those of Lamarek as given in the first reference above under this species. As figures, they are poor, but they do represent this species and genus

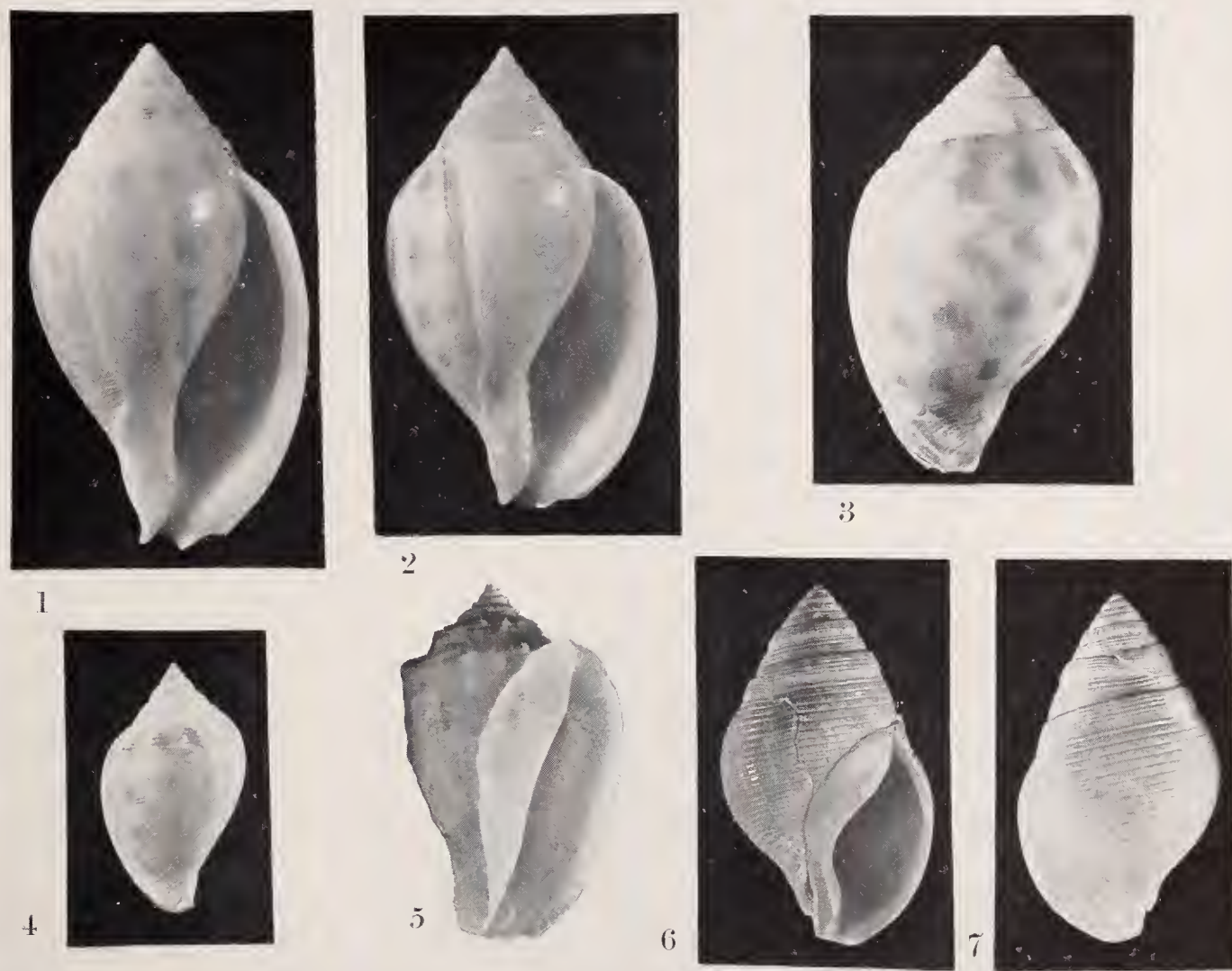


Plate 4. Figs. 1, 3 and 4. *Sconsia striata* Lam., off Punta Alegre, Camagüey Prov., Cuba. Fig. 2. *Sconsia striata* Lam., off Cayo Coco, Camagüey Prov., Cuba. Fig. 5. *Morum demissoni* Reeve, Sandy Bay, Barbados, Lesser Antilles. Figs. 6-7. *Dalium solidum* Dall, off Grenada, Lesser Antilles. (All natural size.)

which is not at all close to any other in its relationships. The type may still be in existence though so far we have been unable to trace it. As no locality was given by Lamarck, we select *Atlantis* station 2981A off Punta Alegre, Cuba, as the type locality.

Remarks. This is a remarkably beautiful shell. Its occurrence in fairly deep water has made it difficult to obtain, and as a consequence it is still very rare in collections. We have been fortunate in that the *Atlantis* dredged several specimens and we have had a very fair series to study.

Range. Deep water off Gt. Isaac Id., Bahamas, Cuba and south to Barbados (Dall 1889).

Records. All records are from the *Atlantis* dredgings. BAHAMAS: station 2951, off Gt. Isaac Id., N.W. Providence Channel (N. Lat. $26^{\circ}08'$; W. Long. $79^{\circ}02'$) in 155 fathoms. CUBA: station 3417, off Caibarién (N. Lat. $22^{\circ}50'$; W. Long. $78^{\circ}56'$) in 200 fathoms; station 2981A, off Punta Alegre (N. Lat. $22^{\circ}50'$; W. Long. $78^{\circ}50'$) in 220-230 fathoms; station 3388, off Cayo Coco (N. Lat. $22^{\circ}32'$; W. Long. $79^{\circ}09'$) in 255 fathoms; station 2963, Bahía de Cochinos, in 180-190 fathoms.

Dalium Dall

Dalium Dall 1889, Bull. Mus. Comp. Zoöl. **18**, p. 230.

Genotype, *Dalium solidum* Dall

As only one species is known, the generic characters are those of this species. Its position in the family Cassididae is still open to question. Live material and examination of the soft parts will be necessary before its exact position is at all certain.

Dalium solidum Dall, Plate 4, fig. 6-7

Dalium solidum Dall 1889, Bull. Mus. Comp. Zoöl. **18**, p. 230, pl. 19, fig. 10d (*Blake*, station 265, off Grenada [Lesser Antilles] in 576 fathoms [dead]; Thiele 1929, Hand. Syst. Weichtierkunde **1**, pt. 1, p. 279.

Description. Shell fusiform, imperforate, solid, strong and reaching a length of 41.50 mm. Whorls $6\frac{1}{4}$, slightly convex and shingled or appressed upon the whorl above. This is indicated by a slightly wider groove in the otherwise uniform incised lines in the sculpture. Color a flat white [dead specimen] though possibly faintly yellowish brown in live material. Spire somewhat extended and acute, forming an angle of 68° .¹ Aperture oblique and elliptical. Outer lip simple; parietal wall with a strong callus. Columella strong and moderately recurved, with no plicae. Canal short but fairly deep. Sculpture of numerous deeply incised spiral lines crossed by weak growth lines. No periostracum apparent. Operculum unknown.

length	width	whorls	
41.5	23.5 mm.	$6\frac{1}{4}$	Holotype

Types. Holotype, M.C.Z. no. 7656, off Grenada Island, Lesser Antilles in 576 fathoms. *Blake* voyage, 1877-1878.

Remarks. Nothing can be added to Dall's description or remarks. It has not been reported since its original discovery.

Range and records. Known only from the original locality (see under types).

¹ Dall, who originally described this specimen, called it "rather obtusely pointed." However, an obtuse spire is always greater than 90° .