

# BULLETIN

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# MUSEUM OF COMPARATIVE ZOÖLOGY

AT

HARVARD COLLEGE, IN CAMBRIDGE.

VOL. XII.

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## XXIX.

*Report on the Mollusca, by W. H. DALL. — Part I. Brachiopoda and Pelecypoda.*

IN 1878, the mollusks of the "Blake" were intrusted to me for examination and report, and a Preliminary Note upon them appeared in August of that year (Bull. Mus. Comp. Zoöl., Vol. V. No. 6, pp. 60-62).

The following season a second instalment was received, and, in February, 1880, after a cursory examination of the material, I was enabled to furnish Prof. Agassiz with a short *résumé* of the general conclusions which seemed to result from the data obtained by that examination (Bull. M. C. Z., Vol. VI. No. 3, pp. 85-93).

My time during ordinary working hours being absorbed by official duties, and the entire period from February, 1880, to January, 1881, being occupied by field-work on the Pacific coast, progress has necessarily been slow; the more so, as nearly all the material consists of specimens so small as to require reiterated scrutiny under a glass to determine their characters. To separate and label the specimens contained in nearly two hundred different lots, to select specimens for figuring and to scrutinize and revise the drawings, to search the literature relating to mollusks for the scattered data in relation to such as are native to the region in question, and to accurately describe such species as seemed to be new, has been the task before me, to be carried out in the scanty leisure afforded by such evenings and holidays as were not necessarily otherwise employed. The delay in completing the work, it will be seen, has been inevitable under the circumstances, and my thanks are due to Prof. Agassiz, and others interested, for the patience with which they have kept these circumstances in mind.

Bulletin of the Museum of Comparative Zoölogy,  
AT HARVARD COLLEGE.  
VOL. XVIII.

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REPORTS ON THE RESULTS OF DREDGING, UNDER THE SUPER-  
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(1877-78) AND IN THE CARIBBEAN SEA (1879-80), BY THE U. S.  
COAST SURVEY STEAMER "BLAKE," LIEUT.-COMMANDER C. D.  
SIGSBEE, U. S. N., AND COMMANDER J. R. BARTLETT, U. S. N.,  
COMMANDING.

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Superintendents of the U. S. Coast and Geodetic Survey.]

XXIX.—REPORT ON THE MOLLUSCA.

By W. H. DALL.

PART II.—GASTROPODA AND SCAPHOPODA.

WITH THIRTY-ONE PLATES.

CAMBRIDGE:  
PRINTED FOR THE MUSEUM.  
JUNE, 1889.

*Reports on the Results of Dredging, under the Supervision of ALEXANDER AGASSIZ, in the Gulf of Mexico (1877-78) and in the Caribbean Sea (1879-80), by the U. S. Coast Survey Steamer "Blake," LIEUT.-COMMANDER C. D. SIGSBEE, U. S. N., and COMMANDER J. R. BARTLETT, U. S. N., Commanding.*

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## XXIX.

*Report on the Mollusca, by W. H. DALL. — Part II. Gastropoda and Scaphopoda.*

THE reader of this Report, for various details as to its origin, progress, and results, is referred to the introductory remarks prefixed to Part I. (Bull. Mus. Comp. Zoöl., Vol. XII, No. 6, pp. 171-186.) His attention is especially called to the remarks upon nomenclature (p. 175), and the acknowledgments for indebtedness to other scientific men and their publications.

In the present portion of the Report, the material offered by the Blake Collection has been materially supplemented by the southern dredgings of the U. S. Fish Commission Steamer "Albatross," and other material collected in the region and now in the National Museum. It was the original intention of the writer to make this Report a summary to date of deep-sea research and faunal exploration of the geographical province extending from Brazil to Cape Hatteras. But the material has been collected so rapidly, and the study of it leads to such unexpected conclusions, in many cases, that it has been impracticable to do this for all the families. A general bathymetrical review may be attempted later; the present paper contains data for any one ambitious to make the attempt at once, but the writer prefers to defer it until the results of the later dredgings of the Fish Commission and of the French expeditions are at hand, to be combined into a paper which shall represent the latest information on the subject.

However, in the following Report will be found in several instances a complete though brief review of all the species of a group known to

## FAMILY CONIDÆ.

This family, being chiefly composed of littoral or comparatively shallow water forms, is hardly represented in the Blake collections. A clean-up of a number of dead shells obtained in various places affords some notes of interest.

## Genus CONUS LINNÉ.

## Conus Mazei DESHAYES.

*C. Mazei* Deshayes, Journ. de Conchyl., XXII. p. 64, pl. i. fig. 1, 1874. Tryon, Man., *Conus*, p. 39, pl. ii. fig. 10 (bad), 1884.

? *C. gracilis* Sowerby, P. Z. S. 1875, p. 125, pl. xxiv. fig. 6.

Station 262, 92 fms., Grenada, bottom of coral and shells; Barbados, 100 fms.; Station 132, 115 fms., Santa Cruz, bottom rock and broken shells, bottom temperature 65° F.

This remarkable cone, recalling in its normal painting *Scaphella Junonia*, as observed by Deshayes, was not obtained by the Blake in perfect condition except for a few young specimens; broken specimens, however, nearly as large as the figured type, are included in the collection, and afford the following observations.

The middle surface of the species is not always, nor it would seem generally, smooth as in the type. None of the Blake specimens are smooth. All are strongly and rather uniformly sulcate all over; the revolving ribs flat and smooth, broadest in the middle of the whorl, while the narrower sulcations are prettily reticulated by raised, close transverse threads. The nucleus is small, smooth, glassy, and rather loosely coiled, in three turns.

The nine revolving series of squarish brown spots may be faint, or even absent. There may exist with them a series of three obscure pale bands beginning at the carina, and alternating with cloudy brownish bands with the color more or less distributed in the shape of ill-defined transverse narrow flammules. The spots may be superposed on this, or absent. It may also be nearly uniform brown with whitish spots. The anterior end of the columella may also be of a darkish brown. The width varies in proportion to the length. The young shells are proportionately wider. The nearest relative of *C. Mazei* appears to be *C. Orbignyi* Audouin (*planicostatus* Sowerby), which apparently differs from the above mentioned banded variety, chiefly in being wider. Sowerby's *C. gracilis* may perhaps be an unusually brown specimen, though of this I am not confident.

## Conus cedonulli LAMARCK.

*C. cedonulli* Lamarck, Reeve, Conch. Icon. *Conus*, pl. ix. fig. 46 f.

Two small specimens from Barbados; Station 290, in 73 fms., coarse coral bottom, temperature at the bottom 71° F.

**Conus proteus** Hwass.

*C. proteus* Hwass (1791), Tryon, Man. *Conus*, p. 12.

*C. spurius* Auct. as of Gmelin.

*C. leoninus* Hwass, 1791.

*C. ochraceus* Lam., + *C. breviculus* Sow., + *C. armillatus* C. B. Adams, *vide* Tryon, *l. c.*

One small specimen, painted almost exactly like *Scaphella Junonia* and hardly to be recognized as identical with the adult, except by comparison with a series, was obtained on the west coast of Florida in 19 fins.

**Conus Pealii** GREEN.

*Conus Pealii* Green, Trans. Alb. Inst., I. p. 123, pl. iii. fig. 3, 1830; Thes. Conch., figs. 393, 394.

*Conus Stearnsii* Conrad, Am. Journ. Conch., V. p. 104, pl. x. fig. 1, 1869.

*Conus candidus* Kiener, Coq. Viv., tab. xxvii. fig. 1, *vide* Tryon, *l. c.*

This shell has been confounded with *C. floridanus* Gabb by Sowerby, and by many collectors. It is not rare on the west coast of Florida and the Keys. It prefers grassy ground in shallow water. Of late years it has been found by Jewett, Stearns, Velie, and others. Mr. Conrad redescribed it in ignorance of Green's paper on American cones.

*Conus Pealii* is generally about three quarters of an inch in length, the breadth, at the sharply keeled shoulder, less than half the length; smooth behind, grooved on the anterior half; with gradate, slightly excavated or channelled spire, marked only by arched lines of growth; livid gray color, with chestnut blotches, the sides articulated with numerous narrow fillets of brown and white, the brown spots always smaller, sometimes obsolete, the white sometimes merely translucent, brightest on the keel; the interior of the mouth white and dark brown; epidermis smooth and extremely thin, the sides nearly right lines, the middle of the outer lip arched forward.

*C. Pealii* was not collected by the Blake, but I have introduced a notice of it here on account of its relation to some of the other species mentioned, and because it has been so generally misunderstood.

**Conus Agassizii** DALL.**Plate IX. Figs. 8, 8 a.**

*Conus Agassizii* Dall, Report on Moll. Blake, Part i. pl. ix. figs. 8, 8 a, and expl. to plate, Sept., 1886.

This shell was at first thought to be a transitional form, uniting *C. pygmaeus* Reeve and *C. Pealii*, as the younger specimens first studied lent themselves to such a conclusion. The receipt of a large specimen collected at Bermuda (45 × 23 mm.) shows that this idea was incorrect, and that it is distinct from either of them.

The adult is elegantly spindle-shaped, falling in a little toward the keel which is more or less regularly minutely dotted with reddish brown at rather long intervals. The suture is very distinct, almost channelled. The spire is without revolving sculpture, the sinus deeply concavely arched. There are about seven strong grooves in the adult anteriorly. The very young (fig. 8 a) is deeply grooved all over, as in *C. verrucosus*. In the adolescent shell the epidermis is thin, and nearly smooth; it is a little rougher but still thin in the adult. The former has a somewhat waxen translucency, the adult is porcellanous. The young is waxen white with faint pink cloudy suffusion and yellowish ill-defined brown patches. These colors are faint at all ages and form no definite pattern, except the dots on the keel.

In the young, by transmitted light, it can be seen that there are articulated lines of opaque and more translucent character, but these have hardly any color and are lost in the adult state. The interior of the aperture is white or nearly so, the mouth is rather wide, the apex of the spire neatly pointed. The adult has about ten whorls, with a total length of 45.0, and a maximum width of 23.0 mm. The spire rises 10.0 mm. behind the aperture.

Specimens were dredged by the Blake at Station 132, in 115 fms., near Santa Cruz Island, and in 76 fms. at Station 272, Barbados. It is also found at Bermuda, where Prof. G. Brown Goode obtained a large specimen, and others have since been collected by Prof. A. Heilprin of Philadelphia.

#### **Conus Villepinii FISCHER & BERNARDI.**

*C. Villepinii* F. & B., Journ. de Conchyl., V. p. 292, t. ix. fig. 12, 1857.

Station 167, 175 fms., sand, Guadalupe, bottom temperature 55° F. Several small specimens apparently of this species, one or two of which were fresh. The type came from the islet of Marie-Galante near Guadalupe. This species has also been dredged by the U. S. Fish Commission on Little Bahama Bank in 338 fms., at Station 2655. It is very close to and possibly identical with *C. Cleryi* Reeve, which came from the northern shores of Brazil.

#### **Conus daucus HWASS.**

*C. daucus* Hwass, Encycl. Meth. Vers, I., Part ii. p. 651, 1791.

One or two dead specimens of the variety *C. Reevei* Kiener, from Station 272, 76 fms., coarse sand, Barbados.

#### **Conus centurio BORN.**

*C. centurio* Born, Mus., pl. vii. fig. 10, 1780.

A specimen from Station 127, 38 fms., sand, Santa Cruz island, is identified as belonging to this species by Mr. G. W. Tryon, Jr. It is a young shell, and



might perhaps be referred with equal probability to *C. flavescens* Gray. Bottom temperature, where found, 77° F.

*Conus centurio* is however found in the Antilles and Gulf of Mexico. A specimen was collected by the U. S. Fish Commission at Station 2373, in 25 fms., between the mouth of the Mississippi and Cedar Keys, Florida.

#### *Conus flavescens* GRAY.

*C. flavescens* Gray, Sow., Conch. Ill., fig. 68, 1841; Reeve, Conch. Icon. *Conus*, pl. xxx, fig 168, 1843.

Specimens agreeing with the above figures have been received from Governor Rawson and two other sources, from the Bahamas; though Tryon in his monograph queries Ceylon and Australia for the species. Young specimens are extremely variable in painting, but generally with a central more or less well defined paler band ornamented with a few brown blotches or dots. One is pure white with a faint purplish tinge at the anterior end of the shell. The epidermis is thin, nearly smooth, translucent. Such young shells were collected by the Blake at Santa Cruz, Station 132, 115 fms., hard bottom; Grenada, Station 247, 170 fms. ooze; and Barbados, Station 290, 73 fms., coral; bottom temperature 54–71° F. Some of them were quite fresh, and though not containing the animal when received by me, looked as if they might have been living when collected. Reeve's figure of *C. magellanicus* Hwass looks very much like some of these young shells.

Among the species which are definitely known to inhabit the Floridian region and Antilles and not previously mentioned here, are the numerous varieties of *C. pygmaeus* Reeve, one of which has been named *C. Melvilli* by the late Mr. Sowerby. *C. columba* Brug., *C. pusio* Lam., and *C. papillosus* Kiener probably belong hereabouts.

*Conus floridanus* Gabb was named *floridensis* by Mr. Sowerby, who mixed it up with *C. Pealii*. *C. verrucosus* and *C. mus* are among the commoner Antillean species, and I have, from various parts of this region, *C. nebulosus* Sol., which indulges in some extraordinary variations, *C. achatinus* Lam., and, most interesting of all, *Conus Delesserti* Recluz, from a variety of stations. This last is a Red Sea species, closely related to *C. centurio* as is *C. daucus* to *C. flavescens*.

A beautiful species with very much the color of *roseo-tinctus* Sowerby, but with the form and size of *subcarinatus* Sowerby (see Thes. Conch. *Conus*, pl. xxv. figs 604 and 615), the dark streaks longer and darker than in *roseo-tinctus* and always followed by an equivalent pale area, a thickish epidermis, and the top of the whorls excavated and striated, was dredged in 27 fms., near the coast of Yucatan, by the Fish Commission, and has been named by me *Conus amphivurgus*.

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SMITHSONIAN INSTITUTION:  
UNITED STATES NATIONAL MUSEUM.

# BULLETIN

OF THE

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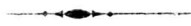
No. 37.

A PRELIMINARY CATALOGUE OF THE SHELL-BEARING MARINE  
MOLLUSKS AND BRACHIOPODS OF THE SOUTHEASTERN  
COAST OF THE UNITED STATES, WITH ILLUS-  
TRATIONS OF MANY OF THE SPECIES.

BY

WILLIAM HEALEY DALL, A. M.,

*Honorary Curator Department of Mollusks, U. S. National Museum.*



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1889.

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## INTRODUCTION.

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This work is intended to assist students of the Mollusca in the United States, by bringing together for their use a large number of excellent figures of species belonging to or illustrating the fauna of the southern and southeastern coasts of the United States, from Cape Hatteras south to the Straits of Florida and west to Mexico, with the adjacent waters.

These figures are explained and connected by a catalogue of the mollusks known to inhabit that region, either from the presence of authenticated specimens in the National Museum or on the authority of reputable naturalists who have collected in the region and whose specimens have been seen or reliably identified.

This catalogue, arranged for convenience in tabular form, includes not only the species which are illustrated on the plates but all other species common to the region, as far as known.

Hitherto there has been no catalogue which covered just this ground. There are several catalogues of marine species of particular West Indian islands. There are several lists of Floridian shells, the fullest and best being that just completed in the Proceedings of the Davenport Academy of Sciences by Mr. Charles T. Simpson. These all refer, however, to a much more restricted field than the present list, and the nomenclature in some cases is more or less inaccurate, as of course must be the case with all lists, each of which, in spite of its inevitable imperfections, should show some advance over its predecessors. This is all that the writer would claim for the present catalogue, which, owing to peculiar circumstances, has been rather hurriedly decided upon and rapidly prepared.

In order that the number of columns in the table should be compressed within the space of two opposite pages and yet admit of the use of briefer type, it has been necessary to limit the number of stations in the geographical series so that each column should represent a stretch of coast and seaward from it the archibenthal area or continental slope beyond the fifty-fathom line to the oceanic floor. Then various puzzling questions arose in attempting to decide which column should be used in certain cases; as, for instance, in specimens dredged in the path of the Gulf Stream between Cuba and the Florida Keys. They might with equal propriety be assigned to the "Florida Keys" or to the "West Indies" column, or to both. In all cases the facts have been

PLATE IX.

- Fig. 1, 1 a. *Yoldia liorhina* Dall; 13.1. Page 248.  
“ 2, 2 a. *Yoldia solenoides* Dall; 12.5. Page 248.  
“ 3. *Leda Carpenteri* Dall; 10.5. Page 249.  
“ 4. *Pleurotoma serga* Dall; 9.0.  
“ 5. *Pleurotoma (Mangilia) citronella* Dall; 4.0.  
“ 6. *Pleurotoma (Mangilia) Pourtalesii* Dall; 17.0.  
“ 7, 7 a. *Xylophaga abyssorum* Dall; 4.0. Page 317.  
“ 8. *Conus Agassizii* Dall; 30.0; adult.  
“ 8 a. Same, young shell; 9.0.  
“ 9. *Pleurotoma (Daphnella) leucophlegma* Dall; 10.25.  
“ 10. *Pleurotoma (Daphnella) limacina* Dall; 11.0.

