

Vol 14

LIST OF SHELLS COLLECTED ON THE WEST COAST OF SOUTH AMERICA, PRINCIPALLY BETWEEN LATITUDES $7^{\circ} 30'$ S., AND $8^{\circ} 49'$ N., BY DR. W. H. JONES, SURGEON, U. S. NAVY.

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In the year 1884 the national collection was enriched by the addition of various material collected by Dr. W. H. Jones, of the U. S. Navy, while connected with the U. S. S. *Wachusett*. This acceptable contribution to the Museum included an interesting collection of molluscan forms obtained by Dr. Jones at various points on the west coast of South, Central, and North America, and at the Galapagos Islands. Though a great part of the shells were picked up on the beaches and in poor condition, yet so limited is our knowledge of the distribution of west South American species that the collection has its special value for the information it furnishes upon this point. The preparation for the exhibit of mollusks at the New Orleans Exposition and the pressure of current routine work has been such as to delay the compilation of this list at an earlier day.

Dr. Jones collected in the year 1884, at the following places, at the dates given in his notes, as follows:

Stevens Bay, Chatham Island, Galapagos group, in August; also at Manta and Bahia (Bahia Panguapi), Ecuador, in the same month; at Payta, Peru, in September; at Pacasmayo, also in Peru, in the following month of October. Dr. Jones collected a few species in Panama Bay and on the coast of Lower California, either in the same or some preceding year, while acting as surgeon of the U. S. S. *Narragansett*. Of the Pacasmayo shells he says:

Most of them were found in sand on the side of the cliff from 10 to 20 feet above high-water mark, and but little beach-washed, being mostly weather-worn. The collection shows the comparative abundance of the different species. Recent [fresh] shells very scarce and but few found on the beach. Beach sandy, water deepening gradually; heavy surf; cliffs 50 to 150 feet high, of sand and cobble stones (beach-washed); in many places forming a solid rock of conglomerate.

In numerous instances Dr. Jones's collection carries the species to points much farther south than heretofore published.

The principal localities referred to in this list are, commencing at the south:

Valparaiso, Chile, latitude 33° S.
 Pacasmayo, Peru, latitude $7^{\circ} 30'$ S.
 Payta, Peru, latitude $5^{\circ} 15'$ S.
 Guayaquil, Ecuador, latitude $2^{\circ} 11'$ S.
 Manta, Ecuador, latitude 1° S.
 Chatham Island, Galapagos, latitude 1° S.
 Bahia (Panguapi), Ecuador, latitude 3° N.
 Panama, Colombia, latitude $8^{\circ} 49'$ N.
 Cape St. Lucas, Lower California, latitude $23^{\circ} 4'$ N.
 Mazatlan, Gulf of California, latitude $23^{\circ} 20'$ N.
 Guaymas, Gulf of California, latitude 28° N.
 San Diego, California, latitude $33^{\circ} 12'$ N.

CLASS PELECYPODA.

1. *Ostrea* ? *iridescens* Gray.

Two valves, probably of the above species; subfossil.
 Manta.

2. *Anomia lampe* Gray.

One junior with both valves perfect; seventeen of the left or imperforate valve, of various sizes and colors from silvery white to bright orange.

Payta.

3. *Spondylus princeps* Brod.

Two odd valves.
 Panama.

4. *Pecten* ? *tumbezensis* Orbigny.

Three valves (25 to 27 ribs) ovate rather than circular in outline. Probably Orbigny's species.

Payta.

5. *Pecten ventricosus* Sby.

+*P. tumidus* Sby. = *P. inca* Orb. C. B. Adams.

Several odd valves easily referable to this species.
 Payta; Panama.

6. *Pecten subnodosus* Gray.

Odd valves.
 Manta.

7. *Pecten purpuratus* Lam.

One large perfect valve.
 Manta.

8. *Pecten (Vola) dentata* Sby.

A single valve (the flat one).

Payta.

This species extends northward to Monterey, California.

9. *Avicula sterna* Gould.

Fragment of one valve.

Payta.

10. *Mytilus unguatus* Linn.

Three perfect examples and many odd valves.

Pacasmayo.

11. *Mytilus cuneiformis* Rve.

=*M. angustanus* Lam.

Perfect examples and odd valves. Manta; Pacasmayo; Chatham Island, Galapagos.

12. *Mytilus cuneiformis* Rve., variety.

Six examples.

Pacasmayo.

13. *Modiola capax* Conrad.

One valve of a large distorted specimen 4 inches long; also the opposite valve of a small shell $1\frac{1}{8}$ inches long, obliquely measured; one perfect example with epidermis intact $1\frac{3}{8}$ inches long agrees with Carpenter's specimens as well as with the description and figures.

Payta.

14. *Modiola capax* Conrad, variety.

Possibly a hybrid between *capax* and *cuneiformis*. One example.
 Payta.

15. *Arca (Byssosarca) pacifica* Sby.

Odd valves, from $4\frac{1}{8}$ to $2\frac{1}{8}$ inches in length.

Payta, Manta, and Bahia.

16. *Arca (Byssosarca) gradata* B. & S.

One fresh valve exhibiting the beautiful sculpture of this species to perfection.

Manta.

17. *Arca (Byssosarca) solida* Sby.

One valve in good condition.

Payta.

18. *Arca (Anadara) formosa* Sby.

One large valve, dimensions $5\frac{1}{8}$ by $2\frac{7}{8}$ inches.

Payta; Manta (1 valve).

54. *Parapholas acuminata* Sby.

Chatham Island, Galapagos.

One valve, beach worn; doubtfully referred to this species.

55. *Pholas* (*Barnea*) *pacifica* Stearns.

One valve.

Payta.

This species was described by me in the Proceedings of the California Academy of Sciences in 1873,* from specimens found living on the east shore of San Francisco Bay. It is the west American analogue of the east-coast *P. truncata*, which it much resembles.

It is also reported from San Pedro, California, on good authority.

Class GASTROPODA.

56. *Siphonaria costata* Sby.

A single example.

Payta.

57. *Gadinia pentagoniostoma* Sby.

A single specimen.

Manta.

58. *Bulla punctulata* A. Ad.

Numerous specimens.

Payta; Pacasmayo; Manta; Chatham Island, Galapagos.

Several specimens were obtained at the localities above named, but only a single dead shell from Pacasmayo. They all exhibit characteristics in common as well as certain differential aspects which warrant the inclusions of *B. aspersa* A. Ad. as a synonym. *B. punctulata* is certainly very close if not identical with *B. Adamsi* Mke. of the Gulf of California.

59. *Terebra* (*Myurella*) *aspera* Hinds.

One poor example.

Payta.

60. *Terebra* (*Subula*) *strigata* Sby.

= *B. elongatum* Wood.

= *T. flammea* Lesson.

= *T. zebra* Kiener.

Two specimens.

Payta.

The National Museum contains an example from Cape St. Lucas which gives the range of over 1,600 miles along the coast of the mainland as compared with the previous published localities, which include a reach of only 240 miles. It is also found at the Galapagos, according to Cuming.

* Preliminary description published in August 28, 1871.

61. *Conus brunneus* Wood.

Two beach specimens.

Manta. This species indulges in many varieties, to which as many names have been given. Nevertheless with an ample geographical series the relationship of the so-called species based on these aspects of variation to the form known as *brunneus* is made apparent. The examples collected by Dr. Jones correspond with "*C. varius* B., Galapagos, Cuming;" *vide* Reeve's monograph of the cones, plate XLI, Fig. 224.

62. *Conus lucidus* Mawe.

One example.

Chatham Island, Galapagos.

63. *Conus purpurascens* Brod.

Payta; Manta; Panama.

Several dead shells. A common and variable form widely distributed.

64. *Conus gladiator* Brod.

A single junior.

Panama.

65. *Cancellaria cassidiformis* Sby.

Beach specimens.

Payta.

66. *Cancellaria clavatula* Sby.

Two examples.

Payta.

67. *Cancellaria clavatula* Sby. variety.

Payta.

68. *Cancellaria mitriformis* Sby.

Pacasmayo.

69. *Cancellaria chrysostoma* Sby.

Nine specimens of this well-characterized species.

Payta.

70. *Oliva peruviana* Lam.

Four of the mottled and striped varieties.

Payta; Chatham Island, Galapagos (one example).

71. *Oliva kaleontina* Duclou.

Two beach shells.

Payta.

72. *Olivella columellaris* Sby.

Twelve specimens.

Payta.

Appears to be closely related to *O. semistriata* Gray.