

THE OPHIURANS OF THE ISLAND OF CURAÇAO

BY

AUSTIN H. CLARK.

Mr. C. J. VAN DER HORST has done me the honour to entrust to me for study a very interesting collection of ophiurans, 881 specimens in all, made by himself during April and May, 1920, at Caracas Bay and Spanish Water, Curaçao.

Considering the importance of Willemstad as a sea-port and therefore its accessibility, and the cleanliness and healthfulness of the little city, it is curious that heretofore no extensive collections of ophiurans have ever been made there, and such material as has been sent to European museums has remained unrecorded.

Our knowledge of the littoral echinoderms of the Caribbean region is based almost entirely upon collections from the Bermudas, the Bahamas, Florida (especially the Tortugas), Jamaica, Porto Rico, St. Thomas, Barbados and Tobago, while most of the dredging has been done in the eastern part of the Gulf of Mexico, about the Greater Antilles, especially Cuba and Porto Rico, and southward along the Lesser Antillean chain as far as Grenada. The southern and southwestern Caribbean has been largely neglected and from that area we possess only scattering, and often dubious, records.

Between February 10th and 18th, 1884, the United States Fish Commission steamer "Albatross" was at Willemstad or working off the coast of Curaçao, and the naturalist of the ship, Dr. JAMES E. BENEDICT, and his assistant, Mr. WILLARD NYE, made extensive collections about the shores of the harbour. Among other things they brought back more than 160 specimens representing 11 species of ophiurans one of which, *Ophiomyxa flaccida*, is not included in the present collection. In addition to this they secured by dredging off the coast *Ophiocamax fasciculata*.

Most of the species obtained by Dr. BENEDICT and Mr. NYE were listed in 1914 by Professor KOEHLER (A Contribution to the Study of Ophiurans of the United States National Museum; Bulletin 84, U. S. National Museum, 1914, VII + 173 pages; 18 plates; quarto).

As these are the only ophiurans from Curaçao other than those in the present collection of which I have any definite knowledge and there appear to be no published records except for those in Professor KOEHLER's memoir I am listing them in the following pages for the sake of completeness.

The ophiurans known from Curaçao are the following:

	VAN DER HORST collection.	BENEDICT and NYE.
<i>Ophiomyxa flaccida</i>	—	15
<i>Astrophytum muricatum</i>	2	—
<i>Ophiocamax fasciculata</i>	—	25
<i>Amphiura stimpsoni</i>	3	—
<i>Amphipholis gracillima</i>	1	—
<i>Amphipholis squamata</i>	1	—
<i>Ophiostigma isacanthum</i>	10	1
<i>Ophiactis savignii</i>	53	many
<i>Ophiothrix suensonii</i>	2	—

	VAN DER HORST collection.	BENEDICT and NYE.
<i>Ophiothrix lineata</i>	1	—
<i>Ophiothrix oerstedii</i>	5	—
<i>Ophiothrix angulata</i>	582	53
<i>Ophionereis olivacea</i>	14	—
<i>Ophionereis reticulata</i>	12	8
<i>Ophiocoma echinata</i>	92	8
<i>Ophiocoma riisei</i>	7	5
<i>Ophiocoma pumila</i>	53	1
<i>Ophioderma cinereum</i>	24	40
<i>Ophioderma rubicunda</i>	2	—
<i>Ophioderma brevicauda</i>	7	—
<i>Ophioderma appressa</i>	5	—
<i>Ophiozona impressa</i>	5	4
Total number of individuals	881	160
Total number of species	20	11

Annotated List of the Species.

Family OPHIOMYXIDAE.

Ophiomyxa flaccida (Say).

Ophiomyxa flaccida KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 162.

During their visit to Curaçao the naturalists of the "Albatross" secured fifteen specimens of this species in the harbour at Willemstad (Cat. Nos. 7465 and 33557, U. S. National Museum).

Family GORGONOCEPHALIDAE.

Astrophytum muricatum (Lamarck).

Caracas Bay; on a gorgonian; April 7, 1920; 1 small specimen; May 22, 1920; 1 large specimen with the disc 60 mm. in diameter.

Family OPHIACANTHIDAE.

Ophiocamax fasciculata Lyman.

Ophiocamax fasciculata KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 114.

"Albatross" Station 2125; 11° 43' 00" N. lat., 69° 09' 30" W. long.; 380 metres; February 8, 1884. 25 specimens (Cat. No. 7415, U. S. National Museum).

Family AMPHIURIDAE.

Amphiura stimpsoni Lütken.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 3 specimens.

Amphipholis gracillima (Stimpson).

Spanish Water; April 17, 1920; 1 specimen.

Amphipholis squamata (Delle Chiaje).

Caracas Bay; under stones; May 3, 1920; 1 specimen.

Ophiostigma isacanthum Lyman.

Ophiostigma isacanthum KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 154.

Caracas Bay; under stones; May 8, 1920; 1 specimen.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 1 specimen. Sieved out from sand; May 4, 1920; 7 specimens. May 18, 1920; 1 specimen.

The naturalists of the "Albatross" collected a single specimen of this species at Willemstad, Curaçao (Cat. No. 15395).

Ophiactis savignii (Müller and Troschel).

Ophiactis savignii KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 154.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 1 specimen. From a sponge; April 29, 1920; 52 specimens.

The "Albatross" brought back numerous examples of this species from Willemstad, Curaçao (Cat. No. 15437, U. S. National Museum).

Family OPHIOTRICHIDAE.

Ophiothrix suensonii Lütken.

Caracas Bay; from a gorgonian; April 10, 1920; 2 specimens. From a sponge; 1 specimen. May 3, 1920; 2 specimens.

Ophiothrix lineata Lyman.

Caracas Bay; from *Maeandrina*; April 7, 1920; 1 specimen with the disc 4 mm. in diameter.

Ophiothrix oerstedii Lütken.

Caracas Bay; May 1, 1920; 1 specimen.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 2 specimens. From *Porites porites*; April 13, 1920; 1 specimen. From coral; April 13, 1920; 2 specimens. April 17, 1920; 1 specimen.

Ophiothrix angulata (Say).

Ophiothrix angulata KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 160.

Caracas Bay; from a sponge; April 10, 1920; 1 specimen. Under stones; April 15, 1920; 1 small specimen. May 5, 1920; 1 specimen. Under stones; May 8, 1920; 4 specimens. From coral; May 9, 1920; 3 specimens. From coral; May 13, 1920; 1 specimen. May 19, 1920; 1 specimen. No data; 8 specimens.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 324 specimens. Sieved out from sand; April 4, 1920; 5 specimens. From mangrove roots; April 5, 1920; 2 specimens. From mangrove roots; April 8, 1920; 8 specimens. April 12, 1920; 2 specimens. From *Porites porites*; April 13, 1920; 41 specimens. From coral; April 13, 1920; 44 specimens. From sand; April 16, 1920; 1 small specimen. April 17, 1920; 2 specimens. From between the branches of *Porites furcata*; April 19, 1920; 63 specimens. From a large sponge; April 19, 1920; 58 specimens. April 26, 1920; 2 specimens. From a sponge; April 29, 1920; 6 specimens. May 4, 1920; 3 specimens. May 5, 1920; 1 specimen.

The "Albatross" secured 53 specimens of this species at Willemstad, Curaçao (Cat. No. 15349, U. S. National Museum).

Family OPHIOCHITONIDAE.

Ophionereis olivacea H. L. Clark.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 12 specimens. From *Siderastrea*; April 29, 1920; 2 specimens.

Ophionereis reticulata (Say).

Ophionereis reticulata KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 155.

Caracas Bay; under stones; May 8, 1920; 2 specimens.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 5 specimens. April 12, 1920; 1 specimen. April 17, 1920; 1 specimen. From *Porites porites*; April 19, 1920; 1 specimen. Sieved out from sand; May 4, 1920; 2 specimens.

The "Albatross" brought back from Willemstad, Curaçao, 8 specimens of this species (Cat. N° 15372, U. S. National Museum).

Family OPHIOCOMIDAE.

Ophiocoma echinata (Lamarck).

Ophiocoma echinata KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 159.

Caracas Bay; May 1, 1920; 4 specimens. Under stones; May 3, 1920; 5 specimens, two of which are very small. May 5, 1920; 1 specimen. May 6, 1920; 2 specimens. Under stones; May 8, 1920; 9 specimens.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 54 specimens. April 10, 1920; 1 specimen. From *Porites porites*; April 13, 1920; 2 specimens. From coral; April 13, 1920; 2 specimens. From a large sponge; April 19, 1920; 3 specimens. From *Porites porites*; April 19, 1920; 5 specimens. From *Porites furcata*; April 19, 1920; 3 specimens. May 18, 1920; 1 specimen.

Eight specimens of this species were collected at Willemstad, Curaçao, by the "Albatross" (Cat. N° 15378, U. S. National Museum).

Ophiocoma riisei Lütken.

Ophiocoma riisei KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 159.

Caracas Bay; from coral; April 7, 1920; 1 specimen. April 7, 1920; 1 large specimen. Under stones; May 8, 1920; 2 specimens, the larger with the disc 25 mm. in diameter. No data; 1 specimen.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 1 specimen. April 29, 1920; 1 specimen.

Five examples of this species from Willemstad, Curaçao, are in the "Albatross" collections (Cat. N° 7463, U. S. National Museum).

Ophiocoma pumila Lütken.

Ophiocoma pumila KOEHLER, Bulletin 84, 1914, U. S. National Museum, p. 160.

Caracas Bay; May 1, 1920; 5 six-armed young. Under stones; May 8, 1920; 3 specimens. From sand; May 13, 1920; 14 very small specimens, one with seven, the remainder with six arms. No data; 2 specimens.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 14 specimens. April 3, 1920; 12 specimens, 11 of which are six-armed young. From *Porites porites*; April 13, 1920; 1 specimen. With coral; April 13, 1920; 1 specimen. From a large sponge; April 19, 1920; 1 specimen.

The "Albatross" collection includes a single specimen of this species from Willemstad, Curaçao (Cat. N° 15285, U. S. National Museum).

Family OPHIODERMATIDAE.

Ophioderma cinereum Müller and Troschel.

Caracas Bay; from coral; April 28, 1920; 1 specimen. Under stones; May 8, 1920; 3 specimens. No data; 2 specimens.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 13 specimens. From coral; April 13, 1920; 1 specimen. From a large sponge; April 19, 1920; 1 specimen. From *Siderastrea*; April 29, 1920; 1 specimen. May 5, 1920; 2 specimens.

The naturalists of the "Albatross" collected 40 specimens of this species at Willemstad, Curaçao (Cat. Nos 7462, 15377 and 33556, U. S. National Museum).

Ophioderma rubicunda (Lyman).

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 1 specimen.
From between stones; May 11, 1920; 1 specimen.

Ophioderma brevicauda (Lyman).

Spanish Water; April 3, 1920; 1 small specimen. From between stones; May 11, 1920; 6 specimens.

Ophioderma appressa (Say).

Caracas Bay; under stones; April 8, 1920; 1 specimen. May 1, 1920; 2 specimens.
Spanish Water; between stones; May 11, 1920; 1 specimen. May 20, 1920; 1 specimen.

Family OPHIOLEPIDIDAE.

Ophiozона impressa (Lütken).

Caracas Bay; May 9, 1920; 1 specimen.

Spanish Water; from between branches of *Porites furcata* and from *Porites porites*; 1 specimen.
April 3, 1920; 1 small specimen. From a large sponge; April 19, 1920. May 5, 1920; 1 specimen.

There are 4 specimens of this species from Willemstad, Curaçao, in the U. S. National Museum among the "Albatross" collections (Cat. Nos 15284, 33480, U. S. National Museum).