

SUMMARY OF THE SCIENTIFIC RESULTS OF THE FISH COMMISSION EXPEDITION TO PORTO RICO.

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The expedition of the United States Fish Commission steamer *Fish Hawk* to Porto Rico in the winter of 1898-99 had for its primary object a general study of the aquatic resources of that island. The fishes and fisheries naturally received most attention, but every opportunity was embraced to make extensive collections in all other groups of aquatic animals. A considerable collection of algae was also made.

As stated in the preface to this Bulletin, these collections were assigned, for study and report, to specialists in the various groups. Seventeen reports have been received from those who kindly undertook the critical study of the collections assigned them. These reports were each first published as separate pamphlets, and all are now brought together in the two volumes constituting the Bulletin of the Fish Commission for 1900.

Owing to conditions lying without the control of the Commission, no reports have been received from the specialists to whom the few remaining groups were assigned.

The *Fish Hawk* arrived in the harbor of San Juan, Porto Rico, on the morning of January 2, 1899, and the investigations were begun by the naturalists on the afternoon of that day. From San Juan the vessel cruised entirely around the island, making stops of one to several days each at Aguadilla, Mayaguez, Puerto Real de Cabo Rojo, Ponce, Arroyo, Hucares, Fajardo, Isabel Segunda on Vieques Island, and at Ensenada Honda, Culebra Island. Two trips were made to St. Thomas for coal. With these places as centers of operation, work was done by the vessel and by shore parties at various places in the vicinity of each. Expeditions were made by shore parties to Arecibo, Bayamon, Caguas, Yauco, Aibonito, and El Yunque.

Returning to San Juan February 21, the investigations were brought to a close, and at noon of the next day the *Fish Hawk* sailed for Key West.

The number of days spent about the island was therefore fifty-two, but the actual number of days during which investigations could be carried on was only about thirty-eight. When the brief time devoted to the investigations is considered, the results are highly satisfactory, as is shown by the summary here given.

The results have been published in 20 different articles or special reports, covering a total of nearly 1,000 pages, with 51 colored plates, 75 other plates, 195 text figures, and 3 maps.

An examination of the several reports shows that the collections made by the expedition contain a total of 1,582 species of animals, among which are 9 new genera and 194 new species. The number of species obtained in each group, and the number of new genera and species in each, are shown in the following tabular statement:

Group.	Total number of species listed.	Number of new genera.	Number of new species.
Fishes	291	3	33
Mollusks	653		42
Brachyurans and macrurans	221	2	27
Anomurans	53	1	9
Stomatopods	5		2
Isopods	17	2	8
Cirripeds	4		
Polychaetous annelids	85		32
Leeches	2	1	2
Nemerteans	8		3
Echinoderms	87		8
Aleyonarians	26		5
Stony corals	32		2
Actinians	13		1
Sponges	49		20
Foraminifera	36		
	1,582	9	194

The following is a complete list of the papers resulting from the *Fish Hawk* expedition, together with a list of all the new genera and species described in each. Following each title is given the actual date of publication of each paper in which new species are described, and following each new name is given the page upon which it occurs in the original paper:

- WILCOX, W. A.—Notes on the Foreign Fishery Trade and Local Fisheries of Porto Rico. <Rept. U. S. Fish Com. for 1899, pp. 1 to 34, plates 1 to 6.
- EVERMANN, BARTON WARREN, and MARSH, MILLARD CALEB.—Descriptions of new genera and species of Fishes from Porto Rico. <Report U. S. Fish Com. for 1899, pp. 351 to 362. Date of publication, December 19, 1899.

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EVERMANN, BARTON WARREN.—General report on the investigations in Porto Rico of the United States Fish Commission steamer *Fish Hawk* in 1899. <Bull. U. S. Fish Com. for 1900, part 1, pp. 1 to 26.

WILCOX, WILLIAM A.—The Fisheries and Fish Trade of Porto Rico. <Bull. U. S. Fish Com. for 1900, part 1, pp. 27 to 48, with 5 text illustrations.

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EVERMANN, BARTON WARREN, and MARSH, MILLARD CALEB.—The Fishes of Porto Rico. <Bull. U. S. Fish Com. for 1900, part 1, pp. 49 to 350, colored plates 1 to 49, 3 maps, and 142 text figures. Date of publication, December 29, 1900.

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RATHBUN, MARY J.—The Brachyura and Macrura of Porto Rico. <Bull. U. S. Fish Com. for 1900, part 2, pp. 1 to 127 and 129* to 137*, colored plates 1 and 2, 24 text figures. Date of publication, November 28, 1901.

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^a This species was described by Doctors Gill and Smith in Science, new series, vol. XI, No. 286, p. 973, June 22, 1900, from a specimen obtained by Mr. George M. Gray at San Geronimo, Porto Rico.

BIGELOW, ROBERT PAYNE.—The Stomatopoda of Porto Rico. <Bull. U. S. Fish Com. for 1900, part 2, pp. 149 to 160, 13 text figures. Date of publication, October 4, 1901.

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TREADWELL, AARON L.—The Polychætous Annelids of Porto Rico. <Bull. U. S. Fish. Com. for 1900, vol. 2, pp. 181 to 210, 81 text figures. Date of publication, October 4, 1901.

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