

U. S. COMMISSION OF FISH AND FISHERIES,

JOHN J. BRICE, Commissioner.

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# NOTES

ON THE

## EXTENSION OF THE RECORDED RANGE OF CERTAIN FISHES OF THE UNITED STATES COASTS.

BY

HUGH M. SMITH and WILLIAM C. KENDALL.

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## 2.—NOTES ON THE EXTENSION OF THE RECORDED RANGE OF CERTAIN FISHES OF THE UNITED STATES COASTS.

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In the Bulletin of the United States Fish Commission for 1894 notes were presented on nine marine and fresh-water fishes, the extension of whose known distribution on the Atlantic coast we were able to record. The present paper, which is based on collections and observations by assistants of the Fish Commission, is intended to embody similar information for nineteen additional fishes inhabiting the Atlantic and Pacific coasts of North America.

### **Tetronarce occidentalis** Storer. *Torpedo; Crampfish.*

This large and curious electric ray has an assigned range on the eastern coast of North America from Cape Cod to Cuba. Drs. Goode and Bean have noted<sup>1</sup> its occurrence near Thatcher Island, off Cape Ann, Massachusetts, and at Lanesville, Mass. On several occasions it has been observed farther north and east than Cape Ann. Mr. F. S. Conley, first mate of the United States Fish Commission schooner *Grampus*, states that about 1880, while on a mackerel vessel off Seguin, on the coast of Maine, in longitude 69° 40' W., he saw a torpedo caught in a purse seine with mackerel. The fish was about 3½ feet long, and severely shocked a fisherman who attempted to handle it. Mr. G. F. O. Hanson, second mate on the *Grampus*, says that in the summer of 1890, while on a vessel on La Have Bank, off Nova Scotia, in longitude about 64° W., a torpedo was taken on a line set for cod. Mr. Charles Pye, of Wood Island, Maine, states that in 1894 he caught a torpedo in his trap, and that not infrequently torpedoes have been taken in traps at Bald Head and vicinity.

### **Myxine glutinosa** Linnaeus. *Hagfish; Slime Eel.*

This fish-like vertebrate inhabits the North Atlantic Ocean, and is found on the northern coast of both Europe and America. On the shores of the United States the recorded southern limit of its range is Cape Cod, Massachusetts, although Dr. Goode states that in deep water it may occur even farther south. During the tilefish investigations of the *Grampus* in 1892 a specimen of hagfish was taken off the coast of Delaware in September. The fish was caught on a trawl line set in about 75 fathoms, in latitude 39° and longitude 72°.

<sup>1</sup> Amer. Jour. Sci. and Arts, xvii, 1879, p. 48.

**Scarus cœruleus** (Bloch). *Parrot-fish*.

This species is common in the West Indies. A single young specimen has been taken at Key West, Fla.\* The blue parrot-fish, like other members of the family, inhabits chiefly tropical waters, ordinarily lives about coral reefs, and attains a large size. Its northern range heretofore recorded is southern Florida. It is now possible to record its capture as far north as Chesapeake Bay and the Potomac River.

In the latter part of August, 1894, a pound net set in the Potomac River off St. George Island, Maryland, took a parrot-fish that weighed about 8 pounds. The fish was seen by a number of Washington people, and Dr. A. S. Helton, of that city, has given a description of the life colors. The upper parts were of a dark greenish blue, the belly white, which color extended to and included the beak; the fins were dark green, almost black. Mr. H. C. Hazard, of Washington, presented the jaws of the specimen, and stated that the fish had a dark-bluish back, somewhat like the Spanish mackerel, and white underparts. This fish was unknown to the fishermen of this region, who had never seen it before. It is reported, however, that two years before a similar fish was taken on a hook.

The jaws of this fish were sent to Prof. David S. Jordan for examination; from their shape and color and from the description of the fish he identified the specimen as *Scarus cœruleus*.

Thinking that as this fish had been found in the Potomac River it would also be taken in some of the numerous pound nets in the lower part of Chesapeake Bay, an illustration of a parrot-fish and an inquiry whether any had been caught in that region were sent to Mr. J. E. N. Sterling, of Cape Charles City, Va. He replied that from 6 to 10 fish resembling the figure and corresponding with our description were obtained in pound nets between Cape Charles and Hunger Creek in August and September, only one being caught at a time.

**Kirtlandia laciniata** (Swain). *Silverside; Silver-fish*.

This species, formerly designated as *Menidia vagrans laciniata*,† is now regarded by Jordan & Evermann as distinct from *vagrans* and has been included with the latter in the newly constituted genus *Kirtlandia* of these authorities in their current work on the fishes of North and Middle America,‡ the proof sheets of which have been examined. *Kirtlandia* is distinguished from *Menidia* by the presence of lacinate or gashed body scales and of scales on the anal and dorsal fins. The habitat of the species is given § as Virginia to South Carolina, the genus being represented on the Gulf coast by *K. vagrans*. The range of this fish is

\* Proc. U. S. Nat. Mus. 1884, p. 137.

† Synopsis of the Fishes of North America, by Jordan & Gilbert. Bull. 16, U. S. Nat. Mus., p. 908.

‡ Bulletin 47, U. S. National Museum.

§ Loc. cit.

now extended northward to Delaware Bay. In May, 1895, a number of specimens were taken at Cape Henlopen, Delaware, which are now in the Fish Commission collection.

***Epinephelus niveatus*** (Cuvier & Valenciennes). *Snowy Grouper*.

Three small groupers collected at Woods Hole, Mass., in 1895, by Mr. V. N. Edwards, of the United States Fish Commission, are identified as *Epinephelus niveatus*. Mr. Edwards writes that during the summer of 1895 he saw 8 or 10 other specimens that had been caught in lobster pots at Cuttyhunk, Menemsha, and Edgartown. In his long-continued observations in the Woods Hole region he had never known of the previous occurrence of this species in that vicinity.

Two of the foregoing specimens,  $2\frac{3}{4}$  and  $1\frac{1}{4}$  inches long, respectively, taken September 23, 1895, are now before us. The larger example presents the following colors in alcohol: Body and head, reddish brown; body with 4 longitudinal rows of small pale-blue spots (smaller than pupil), one row along base of dorsal fin, one along lateral line, and two below line; caudal and pectorals white, anal and dorsal dark, ventrals black. The body color of the smaller fish is very dark brown, almost black; the pale spots are scarcely distinguishable; the anal, ventral, and dorsal fins are jet black, with the exception of the edge of the soft dorsal, which is white; caudal and pectoral fins white.

Mr. Edwards contributes the following note on the life colors of the specimens collected or observed by him; the body spots, which Mr. Edwards states are lemon yellow, have heretofore\* been referred to as light blue or bluish white in color, which is the case in alcoholic specimens: Body, chocolate brown; pectoral and caudal fins, lemon yellow; a large black spot on caudal peduncle; spots on body, lemon yellow; on some specimens there were 16 to 18 spots, on others 35 to 40; in some examples there were twice as many spots on one side of the body as on the other.

This is a tropical species. Its normal range is the West Indies to Brazil. On a number of occasions, however, it has been obtained in Rhode Island waters. In 1861, under the name *Hyporthodus flavicauda*, Dr. Gill described † a young specimen of this species taken at Newport, R. I. In 1879 Drs. Goode and Bean recorded ‡ the capture of another specimen at the same place in 1877.

Three additional specimens of this species from Rhode Island are in the United States National Museum; one (No. 32320),  $2\frac{1}{2}$  inches long, is from Tiverton, the other two (No. 39161), 3 and  $3\frac{1}{4}$  inches long, were taken at Point Judith.

\*Synopsis of Fishes of North America, by Jordan & Gilbert.—Catalogue of the Perciform Fishes in the British Museum, by G. A. Boulenger.

†Proc. Acad. Nat. Sci. Phila. 1861, p. 98.

‡Amer. Jour. Sci. and Arts, xvii, 1879, p. 45.

**Centropristis striatus** (Linnæus). *Black Sea-bass; Blackfish.*

The assigned distribution of this species is Cape Ann, Massachusetts, to northern Florida.\* The range is now known to reach the western part of the coast of Maine. On July 7, 1896, a specimen was obtained in a trap at Wood Island, Casco Bay, Maine, and Mr. Charles Pye, the owner of the trap, reports that he catches more or less sea bass each year. It is possible that this species ranges as far south as Key West. A fish locally known about that place as "tallywag" or "tallowag" has been identified by Dr. Jordan and several other persons as a sea bass; it is said by the fishermen to be very rare.

**Seriola dumerili** (Risso). *Amber-fish; Amber-jack.*

The range of this species in the western Atlantic Ocean is given\* as West Indies north to Key West and Pensacola. The Fish Commission collection contains two specimens of *Seriola* from Woods Hole, Mass., which Professor Evermann concurs with us in identifying as *dumerili*.

The larger example, 13 inches long, was collected August 15, 1892. It presents the following features, some of which serve to distinguish this species from *S. lalandi*, the fish it most closely resembles: Depth 3, head  $3\frac{1}{2}$ , eye  $4\frac{3}{4}$ . D. VII-1, 32; A. II-1, 19. Head longer than deep, the profile not steep. Dorsal and anal not falcate. Color in alcohol: body faint dusky above, pale yellowish below, fins all plain.

The smaller specimen,  $7\frac{3}{4}$  inches long, was taken September 12, 1892. Depth  $3\frac{1}{4}$ , head  $3\frac{1}{2}$ , eye  $5\frac{1}{2}$ . D. VII-1, 32; A. II-1, 19. Color in spirits: dark on back, pale below; 6 broad black vertical bands across body, the first behind gill opening, the last on caudal peduncle; a broad dark band from front of eye to dorsal; a dark area on margin of preopercle; spinous dorsal black; portion of soft dorsal above second pale interspace and third dark crossband black with pale-tipped rays; other part of soft dorsal and anal pale, with fourth and fifth vertical body bands continued on them; pectorals pale; ventrals black, with white rays; caudal dusky yellowish at base, grading into black on lobes, the latter with pale tips.

**Bothus maculatus** (Mitchill). *Window-pane; Sand Flounder.*

A specimen of this fish was taken in a weir at Freeport, Me., Casco Bay, in the fall of 1891. It was seen and identified by one of the writers, but was not preserved. In July, 1896, a dozen or more specimens were obtained in traps at Wood Island, Casco Bay. The fish is known as "plaice" in that vicinity. The range usually ascribed to it is the Atlantic coast of the United States from Cape Cod to South Carolina.† It appears, however, that as early as 1873 specimens now in the National Museum were collected in Casco Bay (U. S. N. M. No.

\* A Check-list of the Fishes of North and Middle America, by Jordan & Evermann. Report U. S. Fish Commission, 1895.

† See a Review of the Flounders and Soles (Pleuronectidæ) of America and Europe. By David S. Jordan and David K. Goss. Rept. U. S. Fish Com. 1886, pp. 225-342.

13911) and later at Bucksport, on the Penobscot River (No. 22273); and it is reported that in 1880 a specimen was taken in Passamaquoddy Bay.\*

**Pseudopleuronectes americanus** (Walbaum). *Winter Flounder;*  
*Mud Dab; Common Flatfish.*

The recorded range of this species is Labrador to Chesapeake Bay.† It is very abundant on the coast of southern Massachusetts and the Middle States, but not common in the Chesapeake. Dr. Goode states that "small quantities are brought to Washington in winter from the mouth of the Chesapeake."

The Fish Commission has recently received from Messrs. J. F. Miller & Son, of Asheville, N. C., a specimen of winter flounder about a foot in length, which was shipped to them in February from Newbern, N. C., among a lot of other food-fishes taken in the vicinity of that place. Newbern is on the Neuse River, about 30 miles above its entrance into Pamlico Sound.

This species has previously been reported from Beaufort, N. C., by Dr. H. C. Yarrow.‡ Mr. Barton A. Bean, assistant curator of fishes in the United States National Museum, states that there is in the museum collection a specimen (No. 5271) of this species from Savannah, Ga., collected by Prof. L. Agassiz.

**Diodon hystrix** Linnaeus. *Porcupine-fish.*

This inhabitant of the tropical seas has not heretofore been recorded north of Florida on the Atlantic coast. On August 12, 1895, Mr. V. N. Edwards, of the United States Fish Commission station at Woods Hole, Mass., took a specimen in Buzzards Bay, near the station. This example, which is now at hand, is 9½ inches long.

**Spheroides maculatus** (Bloch & Schneider). *Puffer; Swell-toad;*  
*Blower.*

Two specimens of this puffer taken in trap nets in Casco Bay, Maine, on June 26 and July 12, 1896, were observed by W. C. Kendall. Cape Ann, Massachusetts, is the northern limit of the range of this fish heretofore given.§

**Alosa sapidissima** (Wilson). *Shad.*

As the result of plants of shad fry made in the Sacramento and Columbia rivers a number of years ago, this fish has become distributed along practically the entire west coast of the United States. Within a few years it has appeared in the rivers of British Columbia, where it is annually becoming more numerous; in 1891 the first shad was

\* Fishery Industries of the United States, Section I, p. 199.

† Ibid., p. 182.

‡ Proc. Acad. Nat. Sci. Phila., 1877.

§ Check-list of Fishes of North and Middle America. Rept. U. S. F. C. 1895.

taken in Fraser River; in 1892 the fish was reported from Rivers Inlet in latitude  $51^{\circ} 30'$ .

The further extension of the shad's range to the north and west may be recorded. Mr. John C. Calbreath, of Fort Wrangell, Alaska, in a letter to the special agent of the Treasury Department for the protection of the Alaskan salmon fisheries, refers to the taking of two shad in the Stikine River in 1891. The mouth of this stream is near Wrangell Island in latitude  $56^{\circ} 30'$ . Mr. C. H. Townsend, naturalist on the United States Fish Commission steamer *Albatross*, informs us that in 1895, while at Sitka, a specimen of shad was received that had been obtained at Fort Wrangell; whether taken on Wrangell Island or in the Stikine River could not be ascertained. This specimen is now in Washington. It is a female, in fine condition,  $15\frac{1}{2}$  inches long and weighing 2 pounds.

While the existence of the shad on the Pacific coast is due to the fry planted in the Sacramento River about twenty-five years ago, the distribution of the fish from the original stream has been natural, and it seems proper to notice in this place the remote point to which the shad has voluntarily migrated. The fish has been taken as far south as San Pedro, in Los Angeles County, Cal. The Stikine River and San Pedro are about 2,700 miles apart.

**Roccus lineatus** (Bloch). *Striped bass; Rockfish.*

This species falls in the same category as the shad. Artificially introduced into the Sacramento River in 1879 and 1882, it has gradually extended its distribution north and south of the Golden Gate, although much less widely than the shad. On the north the limit of its range seems to be the Russian River, although there is no reason to doubt that in time it will be found along the entire coast of Oregon and Washington. For many years Monterey Bay marked the southern extreme of the distribution of the striped bass on the Pacific coast. In September, 1894, however, two, weighing 6 pounds each, were taken in a seine at Redondo Beach, in Los Angeles County, this point being over 350 miles south of Monterey Bay, following the coast line. The known range of this fish now embraces about 575 miles of the California coast.

**Rhombus triacanthus** (Peck). *Butter-fish.*

This species, the common butter-fish of the Atlantic coast, has an ascribed habitat extending from Maine to Florida. No account of its occurrence on the coast of Nova Scotia has been met with, and therefore the following information is believed to considerably extend the known range of the fish. On May 17, 1895, the United States Fish Commission schooner *Grampus* took two small butter-fish in a tow net, about 14 miles south of Liverpool, in latitude  $43^{\circ} 50' N.$ , longitude  $64^{\circ} 39' W.$  They were about  $\frac{3}{4}$  inch and 1 inch long, respectively. They were retained alive on the vessel for some time, but were accidentally devoured by some isopods (*Idotea*) taken at the same time.

**Apeltes quadracus** (Mitchill). *Four-spined Stickleback.*

In his Catalogue of the Fishes of the East Coast of North America,\* Dr. Gill gives the range of this species as New Brunswick to Florida. Jordan, in his Manual, states that it is found from New Jersey to Labrador. The taking of any specimens that indicate its occurrence as far south as Florida or anywhere south of Chesapeake Bay is not known; the most southern point from which it has heretofore been recorded is the Patapsco River, Maryland, at the head of Chesapeake Bay. Uhler & Lugger† state that this fish runs in the Patapsco River some distance beyond the tide, and cite specimens in the collection of the Maryland Academy of Sciences. This record seems to have been overlooked by recent writers.

We now record the taking of specimens of this fish by W. C. Kendall at two points in the lower Chesapeake. On July 18, 1892, numerous examples were collected at the mouth of Windmill Creek, near the mouth of Rappahannock River, Virginia. In March, 1893, the fish was found to be abundant in salt-water creeks about Hampton, Va.

This species is usually regarded as inhabiting only salt water. It is seen, however, to occur in the fresh waters of the Patapsco, and in parts of Maine it is also found in fresh water. Thus, on August 24, 1895, several specimens were obtained on Chickawaka Lake, which supplies water to Rockland; and in Meadow Brook, the outlet of the lake, numerous specimens were taken over 2 miles from salt water.

**Stenotomus chrysops** (Linnaeus). *Scup; Seuppaug; Porgy.*

Dr. Goode, in his Natural History of Aquatic Animals, says that the "northern scup rarely pass the boundary of Cape Cod; in 1878, however, 37 were taken at the Milk Island weir off Thatcher Island, Cape Ann, Massachusetts, and they appear to be increasing in abundance."

In 1895 a few scup were caught in a mackerel trap in Gloucester Harbor, and several were also reported to have been taken the previous year. Prior to that time, however, none had been observed for many years, according to the testimony of the local fishermen.

During the months of June and July, 1896, scup were common near Small Point, Casco Bay, Maine, and specimens were also taken daily between June 25 and July 14 in traps.

**Prionotus carolinus** (Linnaeus). *Sea-robin; Common Gurnard.*

Between July 4 and 14, 1896, more than 25 specimens of this fish were observed by W. C. Kendall in trap nets in Casco Bay, near Small Point, Maine. It is known as "robin" in that region. No species of sea-robin has heretofore been reported from the Maine coast. It has previously been obtained as far north as Cape Ann, Massachusetts,

\* Rept. U. S. Fish Com. 1871\*72.

† List of Fishes of Maryland. Report Maryland Fish Com. 1876, p. 121.



whence it ranges to South Carolina. None of the other representatives of this genus found on the eastern coast of the United States (*P. scitulus*, *alatus*, *strigatus*, *evolans*, *tribulus*) is recorded north of Cape Cod.

***Siphostoma louisianæ*** (Günther). *Pipefish*.

The range of this species was formerly given as Virginia to Texas.\* In their recent revision of the pipefish family,† Jordan & Evermann assign *Siphostoma louisianæ* to the coast section between North Carolina and Texas, although it now appears that the occurrence of the species in the Chesapeake Basin has been determined. Two specimens obtained by the schooner *Grampus* on July 19, 1892, in Kings Creek, at Cape Charles City, Va., are in the Fish Commission collection.

***Cryptacanthodes maculatus*** Storer. *Wrymouth or Ghostfish*.

A specimen of this rather rare fish was taken at Woods Hole, Mass., on December 18, 1896. It is 18 inches long and presents the typical coloration and markings. The southern limit of its range given in recent literature is Cape Cod.‡ The species was described by Storer in 1839 from a specimen taken on the Massachusetts coast. Linsley§ gives the fish in his Catalogue of the Fishes of Connecticut, and remarks that a spotted wrymouth 13 inches long was taken at Bridgeport in 1842. This record seems to have been overlooked in recent references to the fish.

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\* Synopsis of the Fishes of North America, 1882.

† Fishes of North and Middle America, 1896.

‡ Ibid.

§ Silliman's Journal, vol. xlvii.