

Article VII.— FISHES NEW TO PORTO RICO.

BY JOHN TREADWELL NICHOLS.

During the past summer (July 8–August 5), the writer spent four weeks in Porto Rico studying its fish fauna, incident to a biological survey of the island being made by the New York Academy of Sciences for the insular government. It seems best to postpone full publication of results obtained until there has been opportunity for the assembling of more complete data and further study of material, but to list the 22 species, no definite record of the occurrence of which is given in 'Fishes of Porto Rico,' Evermann and Marsh (Bull. U. S. Fish Commission for 1899 [1900]), is in order. Two of these 22 species are listed as new. Through the courtesy of the United States National Museum, and of Mr. Barton A. Bean of that institution, it has been possible to compare our specimens with material in Washington.

***Galeocerdo tigrinus* Müller & Henle.**

The writer was shown a tooth of this species in San Juan. This is good, though not unimpeachable, evidence of its occurrence here. It is probably rare.

***Carassius auratus* (Linné).**

The goldfish is said to be abundant at Isabella, in the northwest corner of the island. It has been recently placed in a small pond on the Governor's estate in the hills above Guayama, where it seems to be doing well.

***Myrichthys acuminatus* (Gronow).**

A single small specimen was dredged in Condado Bay, July 21. In life the body was grayish above, pale below, everywhere with small bright yellow spots, those on the back and sides the nuclei of larger pale circles. Dorsal narrowly tipped with dark and then white; anal with white.

***Sardinella sardina* (Poey).**

This species was the abundant herring in San Juan Harbor in July. Specimens were collected July 8 and 11.

Tylosurus euryops, *Bean & Dresel.*

Small needle-fish were common in San Juan Bay. A few specimens obtained are referred to this species, after comparing a specimen with a *euryops* of approximately the same size from Jamaica in the U. S. National Museum, which is marked as the type. The species is close to *timucu* (Walbaum) of which it may possibly be the young.

Doryrhamphus sierra sp. nov.

The type, No. 4840, American Museum of Natural History, was taken in drifted weed at the mouth of the Loiza River, east of San Juan, July 25, 1914. It is 79 mm. long to base of caudal; head 5.9 in this measure; depth 5.6 in head, snout 1.7, eye 8.8, postorbital part of head 3.5. Slender, snout long, tail very slender, tapering; ridges high, sharp, serrate, a moderate, thin, finely serrate, central keel, rising on the terminal half of the snout ends abruptly before the eye. A well marked keel flanking each eye above, serrate posteriorly; a short, low, serrate scapular keel. A similar, but longer one crosses the opercle, with three low backwardly radiating keels below it;

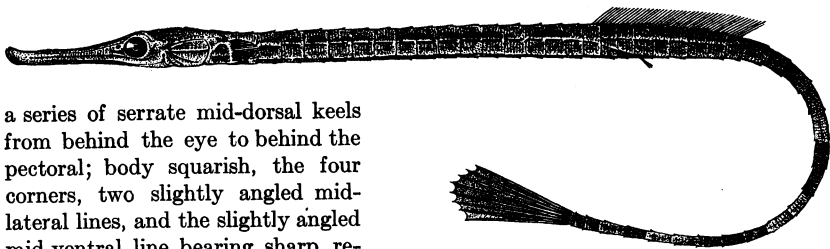


Fig. 1. *Doryrhamphus sierra* sp. nov.

a series of serrate mid-dorsal keels from behind the eye to behind the pectoral; body squarish, the four corners, two slightly angled mid-lateral lines, and the slightly angled mid-ventral line bearing sharp retrose, serrate keels, so that each ring bears seven saws, independent

from those of the next ring, with graduated teeth, increasing backward; the mid and latero-ventral keels cease at the vent, the mid-lateral slanting down to become latero-ventral on the tail; the latero-dorsal keels cease near the dorsal axil, their place on the tail being taken by a keel which arises over the mid-lateral a ring before the vent. Vent about half way between base of caudal and front of eye, rings 20 + 25. Dorsal on $2\frac{1}{2} + 5\frac{1}{2}$ rings, moderate in height, its base 1.3 in head, with about 43 rays. Caudal large, a little longer than head without snout; anal small, a little shorter than eye. Color in spirits olive, obscurely mottled lighter and darker, a dark stripe before the eye. Tail dusky with five white rings, somewhat irregular in size and placement. Dorsal colorless; caudal dusky.

Besides the type we have 13 similar specimens collected with it, No. 4841, American Museum of Natural History. When fresh, their color was blackish, tail with 4 or 5 white rings, caudal blackish, its lower margin white. The tail of one of the specimens was wasted and soft, and immediately

broken. All, including the type, are apparently ♀ ♀ juv., there being no sign of the pouch which should be present in the ♂. The vent is nearer the gill opening than the base of the caudal in every case. The caudal fin of the type is evidently broken. In a specimen in which it is intact it is longer than the snout.

Doryrhamphus lineatus (Kaup) was described from Bahia, Mexico, and Guadaloupe, possibly based on several allied species. The nomenclature will be subject to revision until a large enough series of *Doryrhamphus* from the Eastern Atlantic has been studied to determine the part played by geographical and age variations. The present specimens and species are notable for extreme roughness, slenderness, and very long caudal fin. The writer cannot bring himself to consider them the young of *lineatus*, or the same species as a larger specimen so identified from Tabasco, Mexico, No. 5165, U. S. National Museum.

Myripristis jacobus *Cuvier & Valenciennes.*

Two specimens, doubtless from Condado Bay, were obtained from boys at Santurce, one collected July 21, the other at about that date.

Nomeus gronovii (*Gmelin*).

A small specimen captured under a *Physalia* which was drifting on the beach near the mouth of the Loiza River, July 25. As *Physalia* is common about the island, *Nomeus* is probably so also.

Bathystoma aurolineatum *Cuvier & Valenciennes.*

Three specimens of *Bathystoma* obtained at the Ponce market July 31, are referable to *aurolineatum*, not to *rimator* or *striatum*, the species previously recorded from Porto Rico.

Calamus pennatula *Guichenot.*

Three specimens of *Calamus* from Ponce market July 31, are referred to this species. They have been compared with specimens in the American Museum of Natural History which I identify as *bajonado* and *providens*, and they do not agree with the description of the type of *kendalli*.

Xystæma havana *Nichols.*

Two specimens detected among Gerrids obtained from boys who said they were captured at Fort San Geronimo. It is difficult to differentiate this form from species of *Eucinostomus* without dissection.

Eupomacentrus atrocyaneus (*Poey*).

Among other fishes of this genus obtained from boys at Santurce July 20, doubtless caught in San Juan Bay, is one more slender specimen with different fin and body outlines, No. 4911, American Museum of Natural History, which is referred to *atrocyaneus* (*Poey*), erroneously synonymized with *fuscus* (*Cuvier & Valenciennes*).

Eupomacentrus chrysus *Bean.*

A single specimen was captured July 15 near shore in shallow water beside an old iron hulk not far from San Antonio bridge. It agrees well with the type description and figure of the species. In life it had the following colors: orange-yellow all over; back dorsal and anal edged with dusky which extended down the sides in narrow bars; large dark-blue oval on base of soft dorsal, extending onto back, edged with light-blue. Smaller, similar circular ocellus on peduncle; dark-blue spot at base of pectoral; iris dusky.

Abudefduf analagus (*Gill*).

A single specimen about 170 mm. in total length, from Condado Rocks, July 18, has been compared with the type of *analagus* in the United States National Museum, a fish of about the same size, of which it is almost the counterpart.

Thalassoma nitidum (*Günther*).

Small individuals were very common in tide pools and close to shore among the rocks in the vicinity of San Juan; several were obtained.

Thalassoma bifasciatum (*Bloch*).

A single specimen obtained at Santurce from boys, July 21.

Monacanthus tuckeri Bean.

A single small specimen about $1\frac{1}{2}$ in. long, dredged in Condado Bay, near the inlet, July 21, 1914. Color in life olive, paler below; large pale-blue reticulations on lower side anteriorly; pelvic flap with bright yellow margin; pectoral, dorsal and anal fins rose-colored; caudal with an inky black central spot, and pale bars along the upper and lower margins.

Callionymus calliurus Eigenmann & Eigenmann.

A single small specimen about one inch long dredged in Condado Bay July 21, is the first of this family to be recorded from Porto Rico.

Gobius translucens sp. nov.

The type and only specimen obtained, No. 4802, American Museum of Natural History, was taken in perhaps 12 feet of water close to the shore near the San Antonio Bridge, San Juan, July 15, 1914. It is 27 mm. long to base of caudal; head 3.3 in this measure; depth 4.4; eye 3 in head; snout 4; maxillary 2.6, extending to under front of pupil; lower jaw slightly projecting; interorbital space very narrow, concave; profile low, gently arched above, rather straight below; a row of small, rather wide-set conical teeth in jaws; gill openings wide; scales rather large, ctenoid, 23 in a longitudinal series; dorsal VI-10, anal 10; fins all moderate. Longest dorsal spine 1.4 in head, longest dorsal ray 2.; pectoral about equal to head. The caudal, which is broken, was evidently somewhat pointed, probably slightly shorter than head; united ventrals 1.3. In spirits straw color, the sides with two series of diffuse vertical brownish marks, the lower of these extending straight to the base of the caudal, the upper reaching the back near the axil of the soft dorsal and forming three or four saddle-like marks on the peduncle. Nine strong dark spots on the mid line of the back, the first just back of the eye, the last in the axil of the soft dorsal, in the front of the first above mentioned "saddle"; a strong dark stripe from the eye to the shoulder, a faint narrow, more or less parallel one above it, best marked posteriorly. A narrow, dark streak passes from the snout below the eye and backward, and a streak connects a dark bar at the end of the maxillary with a dark triangle on the opercle; two black spots connected by a black vertical bar on the base of the caudal; scales of the body with a tendency to dark margins and pale centers.

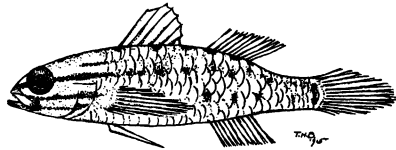


Fig. 2. *Gobius translucens* sp. nov.

This fish is close to *G. glaucofrænum* (Gill). The color pattern alone would differentiate it, however, unless there is more variation than supposed in the small gobies allied to this form.

Gobius boleosoma *Jordan & Gilbert.*

Common in shallows Condado Bay and vicinity. A number collected.

Blennius cristatus *Linné.*

A few obtained with *Salariichthys textilis*, Condado Rocks, July 14. Probably rather common.

Salariichthys textilis (*Quoy & Gaimard*).

Abundant in shallow sea-washed pools at Condado Rocks. A number obtained July 14.