

**Article XX.—FISHES FROM SOUTH TRINIDAD ISLET.**

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On April 8, 1913, during the course of the expedition to the island of South Georgia, conducted by the American Museum of Natural History and the Brooklyn Museum, Mr. Murphy made a small collection of fishes at Trinidad Islet in the South Atlantic (latitude  $20^{\circ} 30' S.$ , longitude  $29^{\circ} 22' W.$ ). This collection is now in the American Museum of Natural History, where it has been critically studied by Mr. Nichols. Nine species are represented, all characteristic of the tropical Atlantic fauna, though, not counting an embryonic shark which may belong to an undescribed species, one specimen should be described as a new species and another is at least a new race.

Knight, in the 'Cruise of the Falcon' (London, 1887) and the 'Cruise of the Alerte' (London, 1907), refers to the abundance of fish at Trinidad, but in only one instance can the vernacular names which he uses be fixed with any degree of certainty upon a definite species, viz., *Coryphæna hippurus*. In the 'Falcon,' p. 302, he writes: "I was aware that the sea round any desert isle . . . always teemed with fish, but I had no idea that any portion of ocean ever swarmed with life to such a marvellous extent as is the case round this islet" [Trinidad]. Again, p. 303: "There were eight distinct varieties of fish, [exclusive of sharks] . . . crowding the waters around our hull."

We know of only one technical list of Trinidad fishes previously published,—that of George Murray in the Geographical Journal, 1902, page 434. This list, with five Atlantic fishes, named also three Indian species — *Muraena punctatofasciata* Bleeker, *Epinephelus merra* Bl., and *Glyphidodon* [*Abudefduf*] *bengalensis* Bl. The great distance separating India from Trinidad, and more especially the cold northward flowing current of the eastern South Atlantic, make it very unlikely that fishes would be common to both places without also occurring in the West Indies, and we have little hesitation in referring the two species last recorded to closely allied Atlantic forms, *Epinephelus adscensionis* (Osbeck) and *Abudefduf saxatilis* (Linné). The first of the three named is perhaps referable to the Atlantic *Echidna catenata* (Bloch), with which Bleeker at first confused the East Indian fish which he later described as *Muraena punctatofasciata*. In the following list are included the species mentioned by Murray as well as those in the present collection.

**Ginglymostoma cirratum** (Gmelin).

These sharks were found common, and the head of one collected. Their mouths contained leeches of the genus *Piscicola*. Among the Portuguese sailors they were called "Gata," and their liver oil had high medicinal repute. The otoliths of this and other sharks are used by Portuguese islanders and West Indians as a diuretic.

**Carcharhinus** sp.

The collection contains an embryo shark of this genus, very likely belonging to an undescribed species. Its pectorals are very long and bluntly rounded, and its fins boldly black tipped.

It is 670 mm. in total length and 480 mm. to the base of the caudal fin. Snout moderately rounded. First dorsal high, the distance from its origin to apex contained 5.5 times in the total length of the fish, including caudal; inserted a short distance back of the axil of the pectoral. Second dorsal and anal small, moderately produced behind, of about the same length, the anal slightly higher, with a broadly rounded apex. Pectoral narrow and very long, not reaching base of ventral by a distance about equal to the diameter of the eye, its greatest breadth contained about 2.4 in its length, its apex very broadly rounded. Mouth wide, its distance from tip of snout contained 1.5 in the distance between the corners of the mouth. Teeth of both jaws narrow, on broader bases. Those of the upper jaw slightly oblique, coarsely and bluntly serrate except at apex. Those of lower jaw slightly narrower, more erect, and scarcely — if at all — serrate. Color gray, ventral surface and lower side of pectorals whitish. Caudal pale, thickly freckled with gray. Upper edge of the caudal, narrow apical edge of the first dorsal, terminal blotches on lower caudal lobe, second dorsal, anal, ventral, and pectoral respectively, also a blotch on the peduncle at the base of the upper caudal lobe, black.

The mother was about 2 meters long.

**? Echinidna catenata** (Bloch).

*Muraena punctatofasciata* MURRAY, Geographical Journal, 1902, p. 434.

**Hemirhamphus brasiliensis** (Linné).

Four specimens, 345 to 385 mm. in total length. All about the surface of the water near shore were schools of these silvery fish. The Portuguese sailors threw scraps of fat into the water and caught many of them in their hands.

**Holocentrus ascensionis** (Osbeck).

One specimen.

***Caranx lugubris* Poey.**

The single specimen obtained, 445 mm. long to notch of caudal fin, has short pectorals (about equal to head) and scaly soft dorsal and anal fins, and may be separable from, though close to, *lugubris*, of which we consider *ascensionis* (Bloch & Schneider), and Cuvier & Valenciennes, a synonym.

***Coryphæna hippurus* Linné.**

The dolphin mentioned by Knight, 'Cruise of the Alerte,' p. 139, is doubtless of this species. One was taken by Mr. Murphy on April 7, within a few hours sail of Trinidad.

***Epinephelus adscensionis* (Osbeck).**

*Epinephelus merra* MURRAY, l. c.

We have one specimen 300 mm. in total length. The very large sea-

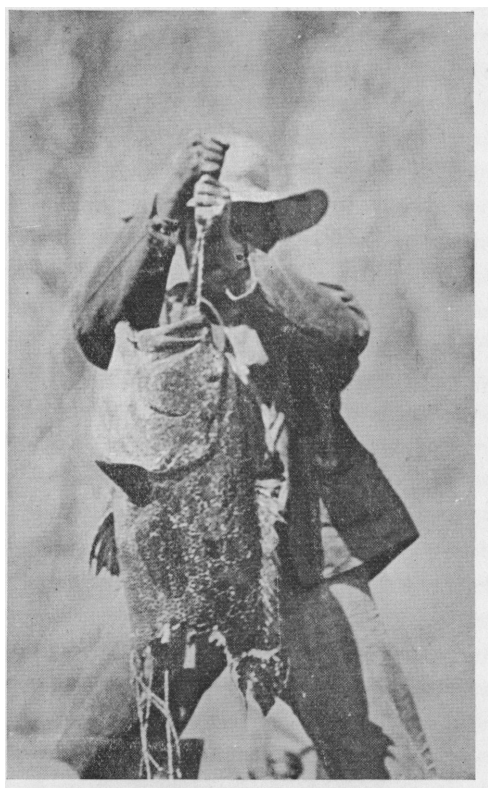


Fig. 1. A sea-bass or "Garupa" bitten in half by a shark; Trinidad Islet.

bass, of which a photograph is here published, was bitten in two by a shark while being landed. It was probably not of this species.

**Anisotremus sarugo** sp. nov.

The type and only specimen, No. 5070 American Museum of Natural History, 400 mm. long to base of caudal, has the head 2.9 in that length, depth 2.3. Eye 5 in head. Snout 2.5. Dorsal XII, 18. Anal III, 10. Scales about 50, those above lateral line in oblique series, not at all parallel with it; those between the anterior portion of the epinous dorsal and the base of the pectoral somewhat enlarged. 6 in

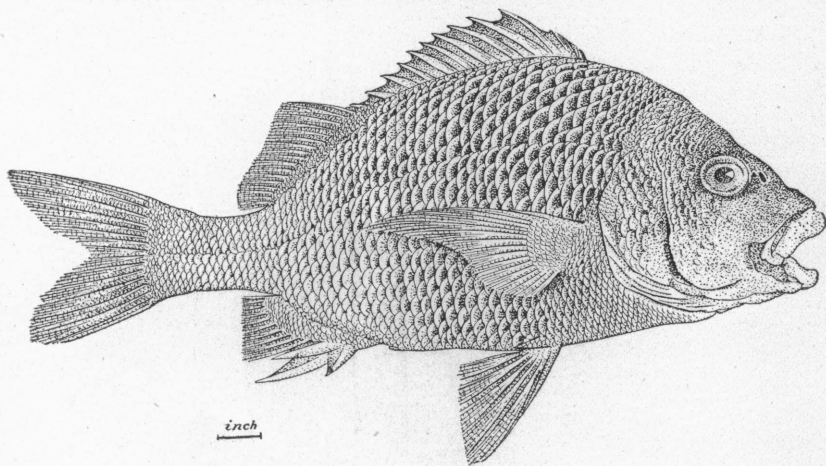


Fig. 2. *Anisotremus sarugo* sp. nov.

a vertical and 9 in an oblique series between the origin of the dorsal fin and the lateral line. Second anal spine contained 2.4 in head, fourth dorsal spine 2.4. Pectoral slightly shorter than head. Body elevated, the profile not very steep. Eye 1.5 in interorbital. Lips very thick. Maxillary not quite reaching vertical from front of eye, contained 2.8 times in head. Snout 2.4. Preopercle weakly serrate. Teeth in jaws minute in bands, a larger outer series. Gray, with dark bases to the scales.

Allied to *Anisotremus surinamensis*, from which it differs in the greater vertical fin-count, shorter anal spine, and differently shaped head. "Sarugo" was the name by which this species was known to the Portuguese sailors.

**Abudefduf saxatilis** (Linné).

*Glyphidodon bengalensis* MURRAY, l. c.

**Iridio radiatus** (Linné).

*Platyglossus cyanostigma* (CUV. & VAL.); MURRAY, l. c.

**Teuthis hepatus** Linné.

*Acanthurus chirurgus* (BLOCH); MURRAY, l. c.

**Balistes vetula trinitatis** subsp. nov.

The type and only specimen in our collection, No. 5071, American Museum of Natural History, is 385 mm. long to base of caudal. Head contained 2.7 times in this measure, depth 1.9. Thickness of body contained 2 times in the head, eye 5.0. Head pointed, dorsal and ventral outlines similar. From the origin of the spinous dorsal to the tip of the snout is a straight, slanting line. The corresponding ventral contour is almost equally straight. Soft dorsal falcate, ending in a double filament. The filamentous portion about equals the non-filamentous height of the fin, each contained about 1.3 in the head. The anal is high, bluntly pointed, its longest ray 1.4. The corners of the caudal are produced in filaments, that of the upper the longer.

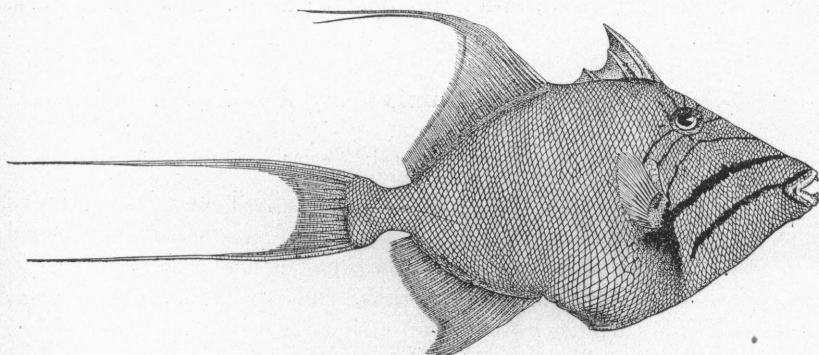


Fig. 3. *Balistes vetula trinitatis* subsp. nov.

Dorsal III — 29. Anal 27. Scales about 62. A line drawn from the origin of the soft dorsal to the origin of the anal would cut the lengthwise axis of the body a distance before the base of the caudal contained 2.5 times in the length to base of caudal. The depth of the head at the posterior angle of the maxillary fold is contained 2.3 in the head. The color is much as in *B. vetula*, but not exactly the same. A black (bright blue in the fresh specimen) stripe crossing snout sends a loop around chin and extends backward along side of throat to under eye. A second stripe, narrow where it crosses snout, broadens on the side of head, extends to base of pectoral fin, which it touches, and thence forming an obtuse angle, extends to a lower point than that reached by the first stripe.

Close to *Balistes vetula* as occurring in the West Indian fauna, but more pointed anteriorly than any specimen of that species seen by us. The second stripe on the head, instead of forming a regular curve which does not touch the base of the pectoral fin, as in *vetula*, touches the base of this fin at the

apex of an obtuse angle; it is also rather broader and less regular posteriorly. In our judgment this form is only worthy of sub-specific rank. If it proves to be the same as the fish inhabiting Ascension Island, which is not impossible, it should stand as typical *vetula*, and a new name should be found for the West Indian fish.

***Canthidermis maculatus* (Bloch).**

*Balistes maculatus* BLOCH; MURRAY, l. c.

***Melichthys piceus* (Poey).**

*Balistes buniva* GÜNTHER; MURRAY, l. c.

Our collection contains a single specimen of this fish 325 mm. in total length. It was dark green, with a pale blue line at the bases of soft dorsal and anal fins.

***Labrisomus nuchipinnis* (Quoy & Gaimard).**

*Clinus nuchipinnis* QUOY & GAIMARD; MURRAY, l. c.

Aside from the species not previously described, all those here recorded occur in the West Indies. In general they are forms widely distributed in the warmer Atlantic waters, and sometimes beyond (*Caranx lugubris*, *Coryphæna hippurus*, *Abudefduf saxatilis*, *Balistes vetula*, *Canthidermis maculatus*), with a tendency to turn up at isolated islands. Ten or eleven of the sixteen species listed are known from Bermuda, namely, *Ginglymostoma cirratum*, *Echidna catenata*, *Hemirhamphus brasiliensis*, *Holocentrus ascensionis*, *Coryphæna hippurus*, *Epinephelus adscensionis*, *Balistes vetula*, *Abudefduf saxatilis*, *Iridio radiatus*, *Teuthis hepatus*, *Canthidermis maculatus*; at least four from Ascension Island, *Holocentrus ascensionis*, *Caranx lugubris*, *Epinephelus adscensionis*, *Balistes vetula*. *Hemirhamphus brasiliensis* and *Labrisomus nuchipinnis* are recorded from the Canary Islands, *Ginglymostoma cirratum* from the Cape Verdes, *Melichthys piceus* from St. Helena.

In view of differences in comparatively contiguous shore faunæ, the conformity of the Atlantic insular ichthyofauna is rather surprising, and might repay careful study.