

favorable time would make an immense school or schools, if consolidated. The fishermen report them in small bunches outside and offshore. I have never seen one in the spring which would measure over six inches, and the greater number measure less than that; all the fishermen confirm this.

They seem to stay in brackish water until they get accustomed to the change, and lose their parasite,\* and then go directly into the fresh water. About May 27, I hauled a seine in a fresh-water stream near the head of the bay, and caught nearly a barrel of *Brevoortia patronus*. Their color was darker, and I did not find any parasites in their mouths. Their stomachs were full of food, but I could find no traces of spawn or milt. I do not know exactly when they return from fresh water, but last October Major Staples and I caught about two dozen in a gill-net with a mesh of  $3\frac{1}{2}$  inches. I remember that they were gilled very hard, and therefore judge that they must have been quite large. I am quite positive that they belonged to the same species.

PENSACOLA, FLA., June 6, 1878.

**A NOTE UPON THE BLACK GROUPER (*EPINEPHELUS NIGRITUS* (HOLBROOK) GILL) OF THE SOUTHERN COAST.**

**By G. BROWN GOODE and TARLETON H. BEAN.**

Among the specimens from Pensacola sent by Mr. Stearns, there is the "Jew-fish" of West Florida, said to attain the weight of three or four hundred pounds.

The specimen (No. 21,329) measures in length 29 inches, and weighs 16 pounds. It was described while in a fresh condition.

SYNONYMY.

*Serranus-nigrilus*, HOLBROOK, Ichthyology of South Carolina, p. 173, pl. xxv, fig. 2.—GÜNTHER, Catalogue of the Acauthopterygian Fishes in the Collection of the British Museum, I, 1859, p. 134.

*Epinephelus nigrilus*, GILL, Proceedings of the Academy of Natural Sciences of Philadelphia, 1865, p. 105; Report of the U. S. Commissioner of Fish and Fisheries for 1871-72, 1873, p. 806; Catalogue of the Fishes of the East Coast of North America, 1873, p. 23.

DESCRIPTION.

*Diagnosis*.—Body oblong, thick, tapering very gradually from the insertion of the dorsal and the end of the ventral. Its greatest height (behind ventrals) is contained three and one-sixth times in total length (caudal included) and about equal to length of head. The height of body at ventrals is slightly greater than one-third of total length with-

\*This species is infested by the same parasite which is so common in the mouths of the common Menhaden in Southern waters, the *Cymothoa prægustator* (Latrobe) Say.

out caudal, double the greatest width of the body, and three times the least height of tail.

Head a trifle longer than greatest height of body and slightly less than twice the length of the pectoral. The width of the interorbital area is half that of the head, and nearly double the diameter of the eye. The length of the snout is about equal to that of the operculum. The preoperculum is finely serrated on its posterior limb, slightly produced at the angle, the edge of which is obtusely rounded, and armed with stronger denticulations. Upon the inferior limb in front of the angle is one stout spine. Lips scaleless. Maxillary with a few minute scales arranged in a narrow band. Length of the upper jaw nearly half the length of head and quite half the greatest height of the body. Length of mandible about double that of the operculum. Length of mandible slightly more than that of pectoral.

Eye circular, its diameter nearly nine times in length of head and nearly twice in width of interorbital space. Its anterior margin is midway between the tip of the snout and the posterior edge of the preoperculum.

Dorsal as far from the snout as ventral, its length of base three-fourths that of the head. The length of the first spine slightly exceeds the diameter of the eye, the second spine is as long as the base of the anal fin and about equal to the longest anal ray. The length of the last spine is twice that of the first. The length of base of soft dorsal is four-fifths that of the spinous dorsal, which is exactly double the length of the longest dorsal ray. The last ray is half as long as the first ray of the anal.

The distance of the anal from the snout is three-fourths of the length of the body without caudal. Its length of base is equal to the length of the second dorsal spine. The relations of the length of the spines and rays of the anal fin are exhibited in the table of measurements.

Caudal fin rounded, its middle rays half as long as the head, the exterior rays slightly shorter.

The pectoral is very broad and rounded, its insertion considerably in advance of the end of the opercular flap. Its length slightly exceeds that of the middle caudal rays.

Ventrals broad, distant from snout three-eighths of the length of the body and as long as the pectoral. The ventral spine is as long as the last dorsal spine.

*Scales* of moderate size, with minute pectinations, truncate at the attached end. When detached, their shape is nearly oblong.

*Color*, dusky brown above, lighter below; fins darker; no traces of markings upon body or fins.

Table of Measurements.

Current number of specimen.....	21,329.	
Locality .....	Pensacola, Fla.	
	Millim.	100ths.
Extreme length..... (29 inches) ..	610	.....
Length to end of middle caudal rays.....	735	.....
Body:		
Greatest height.....		39
Greatest width.....		17
Height at ventrals.....		35
Least height of tail.....		12
Head:		
Greatest length.....		40
Greatest width.....		17½
Width of interorbital area.....		8½
Length of snout.....		10
Length of operculum.....		11
Length of maxillary.....		19½
Length of mandible.....		22½
Distance from snout to orbit.....		13½
Diameter of orbit.....		4½
Dorsal (spinous):		
Distance from snout.....		37½
Length of base.....		31
Greatest height.....		10½
Length of first spine.....		5
Length of second spine.....		16½
Length of last spine.....		10
Dorsal (soft):		
Length of base.....		24½
Length of first ray.....		14
Length of longest ray (seventh).....		15½
Length of last ray.....		7
Anal:		
Distance from snout.....		76
Length of base.....		16½
Length of first spine.....		2½
Length of second spine.....		6½
Length of third spine.....		9½
Length of first ray.....		14½
Length of longest ray (second).....		16
Length of last ray.....		9
Caudal:		
Length of middle rays.....		20½
Length of external rays.....		19½
Pectoral:		
Distance from snout.....		35
Length.....		21½
Ventral:		
Distance from snout.....		37½
Length.....		21½
Branchiostegals.....		7
Dorsal.....	X,	15
Anal.....	III,	9
Caudal.....	+ 17 +	
Pectoral.....	2,	16
Ventral.....	I,	5
Number of scales in lateral line.....		115
Number of transverse rows above lateral line.....		24
Number of transverse rows below lateral line.....		52

WASHINGTON, June 1, 1878.