

**Article III.—NOTES UPON FISHES RECEIVED AT
THE NEW YORK AQUARIUM, WITH DESCRIPTION
OF A NEW SPECIES OF SNAPPER FROM
BERMUDA.**

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In a paper upon New York Fishes, published in this Bulletin for 1897, pp. 327-375, the writer gave the name of the Unspotted Mascalonge as *Lucius lucius immaculatus* instead of *Lucius masquinongy immaculatus*; the Chautauqua Lake species is a true Mascalonge and not a Pike.

The present article treats of fishes received since the previous paper¹ went to press, and includes some species not belonging to the fauna of New York. Among them is the very beautiful Silk Snapper of Bermuda, which appears to have been erroneously identified heretofore with the Red Snapper of the Gulf of Mexico (*Neomænis blackfordi* Goode & Bean) or with the *Neomænis buccanella* C. & V., which is a member of the West Indian fauna. The species is believed to be undescribed and may receive the name :

***Neomænis hastingsi*, new species.**

This is, apparently, the Silk Snapper of the Bermuda fishermen, and, if we may judge from numerous individuals now living in the Aquarium, it does not much exceed one foot in length. The species is named for General Russell Hastings, of Soncy, Bermuda, through whose instrumentality the recent biological investigation of the islands by the New York University and the New York Aquarium was undertaken.

¹ As in the case of the former paper, a large part of the material here referred to has been presented by the Park Commissioners to the American Museum of Natural History.

Head, 3; depth, 3; least depth of caudal peduncle 9 in length of type to caudal base; D. X, 14; A. III, 8; V. I, 5; P. 16; scales, 8 or 9-65-17. Maxillary reaching scarcely past front of eye; 3 in head. Vomerine teeth in an arrow-shaped patch with a backward extension which is fully one-third as long as the eye. Canines in upper jaw very feeble; two or three posterior teeth of mandible are weak canines. Seven rows of scales on cheeks; nine rows on gill-covers. Least interorbital width equal to eye, which is $1\frac{1}{3}$ in snout and 4 in head. Gill-rakers, 7 + 9; the one in the angle conspicuously longest, $\frac{3}{8}$ inch long, or about one-half length of eye. First dorsal spine 7 in head; fifth and longest spine about three in head; last dorsal spine equal to eye in length. Longest ray of soft dorsal equal to maxilla, or 3 in head. First anal spine 8, the second and third about 4 in head, the second slightly longer than third. The anal base nearly $2\frac{1}{2}$ in head; third and longest anal ray about equal to anal base. The pectoral extends to the vent. The ventral does not reach the vent by a space one-half as long as the eye.

Colors in Life.—Ground color vermilion, the upper parts overlaid with coppery brown, lower parts vermilion. Four or five narrow golden stripes below lateral line. Caudal dark brown with a narrow black margin. Anal dusky, the spines and the membranes of last two rays pale. A narrow black blotch at pectoral base. Ventral pale, somewhat mingled with dusky. Membranes of spinous and soft dorsal uniformly dark. Snout copper color. Eye lemon yellow; pupil blue black. Many scales, especially on front of body, with a minute brown dot at base. Brownish spots on scales forming many oblique streaks above lateral line. Some living examples show a faint dark lateral blotch much like that of *N. synagris*, and similarly placed.

In spirits the body is pink with the upper parts brownish; the dusky color remains on the anal and the black blotch at base of pectoral. The black margin of caudal becomes merged with the general dark color of the fin.

MEASUREMENTS.

Length to tip of caudal.....	11 $\frac{1}{2}$ in.
Length to caudal base.....	9 $\frac{7}{8}$ in.
Least depth caudal peduncle.....	1 $\frac{1}{16}$ in.
Depth of body.....	3 $\frac{1}{8}$ in.
Head.....	3 $\frac{1}{2}$ in.
Eye.....	$\frac{1}{4}$ in.
Snout.....	1 $\frac{3}{8}$ in.
Maxilla.....	1 $\frac{1}{8}$ in.
Mandible.....	1 $\frac{1}{8}$ in.
Ventral.....	1 $\frac{1}{8}$ in.
Pectoral.....	2 $\frac{3}{8}$ in.
First dorsal spine.....	$\frac{1}{2}$ in.
Fifth " ".....	1 $\frac{1}{16}$ in.
Tenth " ".....	$\frac{1}{16}$ in.

Ninth soft dorsal ray	$1\frac{1}{8}$ in.
First anal spine.....	$\frac{7}{8}$ in.
Second "	$\frac{1}{8}$ in.
Third "	$\frac{1}{8}$ in.
Third anal ray.....	$1\frac{3}{8}$ in.
Anal base.....	$1\frac{7}{8}$ in.

I am indebted to Mr. Barton A. Bean, of the U. S. National Museum, Washington, D. C., for the following comparative notes on *N. buccanella*, from alcoholic examples: In a specimen 12 inches long the depth of body is $3\frac{1}{2}$ inches; head, $3\frac{1}{2}$; eye, $\frac{7}{8}$; pectoral, $3\frac{1}{8}$; depth of caudal peduncle, $1\frac{1}{8}$. The pectoral extends almost to the anal origin. Scales, 6-53-16. He regards *N. hastingsi* as nearer to *N. vivanus*, from which, however, it differs in several important particulars.

Numerous individuals of this new species were obtained early in July, 1897, at Hamilton, Bermuda, by the Biological Expedition of New York University, and all but the type are still living.

Neomænis synagris (Linnaeus).—SPOT SNAPPER.

This fine species was forwarded from Hamilton, Bermuda, in moderate numbers in July, 1897, by the New York University Expedition, and the example described below died on Nov. 4, 1897.

B. VII; D. X, 12; A. III, 8; V. I, 5; scales, 7-48-13. The vomerine teeth are in an arrow-shaped patch, with a very short and narrow backward extension. The second anal spine is shorter than the third, $\frac{3}{4}$ inch long. Third anal spine, $\frac{7}{8}$ inch. The first dorsal spine, $\frac{3}{8}$ inch; fourth, $1\frac{1}{8}$ inches; fifth soft dorsal ray, $1\frac{1}{4}$ inches.

The following are some additional measurements:

Length.....	11 in.
Depth of body.....	3 in.
Length of head.....	$3\frac{1}{4}$ in.
Least depth of caudal peduncle.....	1 in.
Length of snout.....	$1\frac{1}{8}$ in.
Length of eye.....	$\frac{9}{8}$ in.
Length of upper jaw.....	$1\frac{1}{8}$ in.
Length of maxilla.....	1 in.
Length of mandible.....	$1\frac{3}{8}$ in.

A black spot just above lateral line under beginning of soft dorsal, $\frac{7}{8}$ inch long. About 7 horizontal yellow stripes between lateral line and ventral margin. Several broken yellow stripes above lateral line. All these stripes continued more or less upon the head, three of them across the cheeks. A narrow vermilion margin to caudal fin. Entire dorsal with two stripes of yellow, the upper one at the margin of the membrane, the lower one not far above the base of the fin. A narrow black line at the tip of the membrane between first four or five rays of the soft dorsal. Ventrals and anal chiefly yellow. Maxilla with a streak of yellow along upper part. Two narrow yellow streaks on snout in front of eye.

Coregonus labradoricus *Richardson.*—LABRADOR WHITE-FISH.

Late in December, 1897, Mr. H. J. Beemer, of Montreal, Canada, sent to the Aquarium two Winninich and a Whitefish from Lake St. John in charge of Mr. R. E. Follett. The Winninich are still living, but the Whitefish died from injuries received in transportation. As this is the typical form of Labrador Whitefish, and has a different appearance from the species as found in the Adirondack lakes, it is well to give some additional notes. The single example is 16 inches long; it is a female with minute eggs. The lingual teeth are very evident to the touch. The fish resembles the Tullibee in shape. D. 11; A. 10; scales, 12-79-10; gill-rakers, 10 + 16.

MEASUREMENTS.

Length, including caudal.....	16	in.
Length of middle caudal rays (from end of scales).....	1	in.
Length of longest caudal ray.....	$2\frac{3}{4}$	in.
Depth of body at dorsal.....	$3\frac{5}{8}$	in.
Least depth of caudal peduncle.....	$1\frac{1}{4}$	in.
Length of head.....	3	in.
Length of snout.....	$\frac{3}{4}$	in.
Diameter of eye.....	$\frac{5}{16}$	in.
Length of maxilla.....	$1\frac{3}{8}$	in.
Length of mandible.....	$1\frac{1}{8}$	in.
Distance from snout to dorsal origin.....	$6\frac{1}{8}$	in.
Length of dorsal base.....	2	in.
Length of longest dorsal ray.....	$2\frac{7}{8}$	in.
Length of last dorsal ray.....	$\frac{5}{8}$	in.
Distance from snout to ventral origin.....	$7\frac{9}{16}$	in.
Length of ventral.....	$2\frac{3}{8}$	in.
Length of ventral appendage.....	$\frac{5}{8}$	in.
Distance from snout to anal origin.....	$11\frac{1}{8}$	in.
Length of anal base.....	$1\frac{9}{16}$	in.
Length of longest anal ray.....	$1\frac{1}{8}$	in.

Length of last anal ray.....	$\frac{9}{16}$ in.
Length of pectoral.....	$2\frac{1}{4}$ in.
Distance from snout to adipose fin.....	12 in.
Length of base of adipose fin.....	$\frac{18}{8}$ in.
Length of adipose fin.....	$\frac{5}{8}$ in.
Width of base of adipose fin.....	$\frac{7}{2}$ in.
Length of longest gill-raker.....	$\frac{5}{16}$ in.
Thickness of body.....	2 in.
Depth at vent.....	$2\frac{5}{8}$ in.

Mullus auratus *Jordan & Gilbert*.—RED MULLET; GOAT-FISH.

Three examples of a species of Red Mullet or Goatfish were seined at Sandy Hook, Oct. 8, 1897. Fishermen there reported it plentiful in September and October.

They died in the Aquarium, Dec. 6 and 7, when the salt water was at a temperature of $47\frac{1}{2}^{\circ}$ Fahr. They stopped feeding as soon as the water went below 50° . They were very fond of shrimp.

D. VII, I, 8; A. II, 5 or 6; V. I, 5; P. I, 15; scales, $2\frac{1}{2}$ to 3-34 to 35-7; gill-rakers, 6 + 13, the longest nearly $\frac{1}{2}$ eye, about as long as the pupil. Length, including caudal, $5\frac{1}{8}$ to $5\frac{3}{4}$ inches. Barbel, $1\frac{1}{3}$ in head.

MEASUREMENTS.

Length of largest example.....	$5\frac{3}{4}$ in.
Length to end of scales.....	$4\frac{3}{4}$ in.
Depth of body.....	$1\frac{1}{8}$ in.
Length of head.....	$1\frac{1}{16}$ in.
Length of barbel.....	$\frac{11}{16}$ in.
Least depth of caudal peduncle.....	$\frac{1}{2}$ in.
Snout to spinous dorsal.....	$1\frac{3}{4}$ in.
Spinous dorsal base.....	$\frac{5}{8}$ in.
Longest spine.....	$\frac{7}{8}$ in.
Upper jaw.....	$\frac{1}{16}$ in.
Snout (obliquely).....	$\frac{1}{2}$ in.
Eye.....	$\frac{3}{8}$ in.
Second dorsal from snout.....	$2\frac{7}{8}$ in.
Second dorsal base.....	$\frac{5}{8}$ in.
Longest ray second dorsal.....	$\frac{9}{8}$ in.
Last ray second dorsal.....	$\frac{3}{8}$ in.
Snout to anal.....	$2\frac{1}{8}$ in.
Anal base.....	$\frac{7}{8}$ in.
Longest anal ray.....	$1\frac{1}{8}$ in.
Last anal ray.....	$\frac{3}{8}$ in.
Snout to ventral.....	$1\frac{3}{8}$ in.
Length of ventral.....	1 in.
Length of pectoral.....	1 in.
Length of middle caudal rays from end of scales.....	$\frac{3}{8}$ in.
Length of external caudal rays from end of scales.....	1 in.

Color of body pale, with a pink tinge ; sides with 5 or 6 irregular scarlet blotches in life, sometimes fading out almost entirely. About 5 longitudinal golden stripes on body. A dark red stripe half as wide as the eye is long, extending from head to tail a little above the median line. Eye scarlet. Spinous dorsal with a scarlet band near the tip and two golden bands lower down, the lowermost at the base of the fin. The spaces between the bands pearl color. Tip of spinous dorsal also pearl color. Four or five narrow red bands on the second dorsal, the spaces between them pearl. All the other fins are chiefly scarlet. In spirits the body fades out to a uniform purplish brown, with traces of scarlet on the gill-covers ; the eye at this date, Jan. 20, 1898, is scarlet.