

AMERICAN MUSEUM NOVITATES

Number 168

Published by
THE AMERICAN MUSEUM OF NATURAL HISTORY
New York City

April 23, 1925

59.7,57N(75.6)

NOTROPIS CUMMINGSI, A NEW MINNOW FROM WILMINGTON, NORTH CAROLINA

BY G. S. MYERS

The last two weeks in May, 1924, were spent in collecting and studying the reptiles, amphibians, and fishes of the vicinity of Wilmington, North Carolina. I made my headquarters at the houseboat of Mr. and Mrs. J. H. Cummings, to whose kind help the success of my trip is entirely due.¹ Although chief attention was paid to herpetology, the most interesting discovery was that of the pretty little minnow here described.

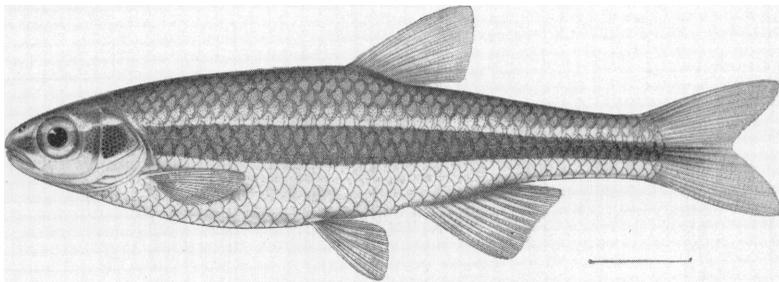


Fig. 1. *Notropis cummingsi* Myers. Paratype, 41 mm. to caudal base.

***Notropis cummingsi*, new species**

Head $4\frac{1}{3}$ to $4\frac{3}{5}$ in length to caudal base. Depth 4 to $4\frac{2}{5}$. Dorsal with a short, almost hidden, simple ray (sometimes absent); a long one; an articulated, unbranched ray rather closely adnate to the foregoing; and $6\frac{1}{2}$ to $7\frac{1}{2}$ branched rays. Anal with a short, almost hidden, simple ray; a longer one; an articulated, unbranched ray rather closely adnate to it; and $8\frac{1}{2}$ to $10\frac{1}{2}$ branched rays. Pelvic fins with an unbranched, articulated ray, and 5 branched ones. Pectorals with an unbranched, articulated ray, and 12 branched ones. Scales 38 to 40 in the lateral line to base of caudal, one or two more on the latter; 18 to 20 between the dorsal and the naked occiput; 10 or 11 in a transverse series between the dorsal and pelvic fins, the lateral line row being the seventh below the dorsal. Snout as long as or shorter than the eye, which is $2\frac{3}{4}$ (young) to $3\frac{3}{4}$ in head; width of head $1\frac{1}{5}$ in the

¹Thanks are also due to Mr. and Mrs. J. B. Echols for kind assistance in collecting on Oak Island, Federal Point, and to Mr. and Mrs. M. W. Devine and Miss Susan M. Devine for help in collecting on their estate at Wrightsville Sound.

same; depth of head at occiput $1\frac{1}{8}$; maxillary 4; interorbital space 3; height of dorsal fin $1\frac{1}{8}$; height of anal fin $1\frac{1}{8}$; least depth of caudal peduncle $2\frac{1}{8}$; length of pectoral fin $1\frac{1}{8}$; length of pelvic fin $1\frac{1}{8}$. Body rather compressed, slender, fusiform, the abdominal profile rather deep and rounded. Caudal peduncle long, slender, compressed, its least depth $2\frac{1}{8}$ in its length, which is equal to the head length. Head small, conical, somewhat compressed at the sides; the upper and lower profiles about the same, slightly convex; the line of the upper very nearly continuous with that of the back. Snout perhaps a little more pointed than that of *N. procne*. Eye moderate, a little high in the head, slightly longer than deep, its center falling at the first $\frac{1}{8}$ in length of head. Mouth small, moderately oblique, the mandible scarcely appreciably shorter than the upper jaw when mouth is closed. Premaxillary very freely protractile downwards. Maxillary just not reaching vertical of front of orbit. Lips thin, edges of jaws firm and rather trenchant; mandible shallow, the rami but little elevated. Tongue thick and fleshy, far back in mouth. Nostrils together in a circular depression, somewhat nearer eye than snout tip, the posterior larger and half-moon-shaped, the anterior in the center of the depression, oval. Interorbital space wide, depressed, but little rounded. Preorbital large, suborbitals narrow. Vertical limb of preopercle very slightly curved, inclining down and forward. Gill-clefts open forward to below posterior border of pupil, above to very nearly opposite upper border of eye. Pharyngeal teeth long, rather thin; 4 in the outer row, these all hooked and with grinding surface developed; one, somewhat elongate-conical, in the inner series on each side. Scales moderate, mostly uniform in size, a little smaller on abdomen and caudal base, the exposed surfaces not deeper than long. Lateral line complete, sloping downward over appressed pectoral tips, reaching its lowest point over pelvic base, and bending up to the middle of peduncle over the anal fin. Unpaired fins considerably smaller than in *N. procne* (see measurements above). Caudal, measured along its upper edge, slightly shorter than head, forked for $\frac{2}{8}$ its length, the tips of the lobes well rounded in life. Dorsal fin margin not falcate, straight or slightly convex when fin is spread; when depressed it reaches scarcely $\frac{1}{8}$ distance to caudal, measuring along top of peduncle. Anal margin falcate, when depressed the tips of the anterior rays not reaching nearly so far back as the tips of the posterior rays. Pelvics large, the margins slightly convex; when depressed the fins reach past vent but not quite to anal fin. Pectorals not reaching pelvics by $\frac{3}{8}$ their own length. Dorsal originating half an orbit diameter nearer caudal base than tip of snout. Anal originating just on the vertical of end of dorsal base. Pelvics originating a scant orbit diameter before vertical of dorsal origin. In alcohol, the back brown, darkest along top of caudal peduncle, this color being mostly formed by a heavy dark edging of the scales. Beginning just above the snout tip, a light line runs through the top of the eye and along the upper part of the sides to the caudal base, this being the upper border of a wide dark band from snout to caudal, the latter end intensely dark and partially suffusing the central caudal rays with a darkish shade. Fins very slightly pigmented, mostly hyaline. A dark line where anal fin joins body, this being darker anteriorly rather than posteriorly, as represented in the drawing. A median blackish streak down center of back, faint posterior to dorsal, where it fades into the dark of the top of the peduncle. Occiput black. Sides below dark band yellowish-silvery, the metallic lustre faint. In life the colors are brilliant and beautiful. The back is dull olive-green, the narrow light line and the iris are brilliant coppery-bronze, and the wide dark band is a deep dull steel-blue.

The species is named for Mrs. J. H. Cummings, in recognition of her investigation of the Wilmington fauna and flora.

The type specimens are from upper Burnt Mill Creek, Wilmington, North Carolina, May 19, 1924, collector G. S. Myers. Most of them were caught in two large schools, one of which was directly under the wooden railroad-bridge, the other just below. They were not found below this, in the sluggish portion of the stream. The specimens vary from 24 to 48.5 mm. in length to caudal base, the latter being considerably above the average size for the species. Other fishes observed or taken in upper Burnt Mill Creek with *Notropis cummingsi* were as follows: an *Esox*, deep chocolate-brown with a narrow bright yellow line from snout to tailroot; *Gambusia affinis holbrookii*, which avoided entirely the swift current of the brook and was found only in a few places where there were little inlets of still or slowly eddying water; *Boleosoma nigrum*, to be expected in a clear swift brook like the present one but not hitherto recorded from this part of the state; and an unidentified centrarchid of which I obtained no specimens.

Upper Burnt Mill Creek is the only swift brook and the only one not stained with brown swamp water that I found near Wilmington (excepting a tiny clear-water stream running into the upper end of Greenfield Lake, near the road). It is not a large stream in its upper portion, where I collected the *Notropis*, being in most places but six to twelve feet wide. Much lower down it is considerably larger, and, despite the pollution of a cotton-mill, teems with *Gambusia* and *Heterandria formosa*. The pollution has killed off the aquatic vegetation to an alarming extent, however. *Notropis cummingsi* and *Boleosoma* in all probability do not occur in the brown water, and *Heterandria* avoids it almost entirely. The *Gambusia* in clear water grow to a much larger size than those in the brown-water streams, the difference being very striking. Other fishes apparently cannot exist except in brown water, notably *Mesogonistius chætodon*, although it will survive in aquaria with ordinary water. In the New Jersey Pine Barrens, *Mesogonistius* is abundant in the cedar-stained creeks, similar to those at Wilmington, yet but a few miles away, in the clear-water streams, it is absent. The fish is found in the Delaware, but probably only because numerous brown creeks empty into it along the Jersey side.

In the description, *Notropis procne* has been taken as a basis for some comparisons, but only for convenience. The relations of *N. cummingsi* are somewhat obscure. *Procne* differs from it in the formula of the pharyngeals, but I can scarcely believe that *cummingsi* is more

closely related to the silvery *N. hudsonius euryopus* (nearest which it would fall in Jordan and Evermann's synopsis) than to such similar-appearing forms as *procne*, *bifrenatus*, and *chalybæus*. The numerous species of *Notropis* need revision badly, and until such time as the classification is more natural, the affinities of *cummingsi* cannot be more specifically determined.

The largest specimen of *Notropis cummingsi* is designated as the holotype and is in the American Museum (No. 8391). Paratypes are in the United States National Museum, Washington, the Academy of Natural Sciences of Philadelphia, and the Museum of Zoölogy of the University of Michigan, Ann Arbor. The remaining specimens are in my own collection.

It may be mentioned that specimens of *Notropis cummingsi* that I brought to New York alive lived well in still-water aquaria. This is unusual for species taken in swift water.

A full account of the results of the Wilmington trip, both herpetological and ichthyological, is in preparation.¹ A large part of the material has been presented to the American Museum.

The drawing illustrating this paper is one of the last ever made by Mr. W. S. Atkinson of Stanford University, one of the finest scientific illustrators in America, if not of the world. Mr. Atkinson's death occurred in January of this year.

¹In Copeia, No. 131, June 1924, pp. 59-62, is an account of the amphibians and reptiles sent me by Mrs. Cummings before I visited Wilmington.