

NOTES ON A COLLECTION OF FISHES FROM THE ESCAMBIA RIVER, WITH DESCRIPTION OF A NEW SPECIES OF ZYGONECTES (ZYGONECTES ESCAMBIÆ).

By CHARLES H. BOLLMAN.

In the month of March, 1886, a small collection of fishes was made in the Escambia River by Prof. David S. Jordan and a company of students from the Indiana University, the present writer being one of the number.

About half of the species mentioned, comprising the smaller ones, were obtained at Flomaton, Ala.; either in the river at that point or in a small sluggish stream or gutter, which flows through the street of Flomaton, and enters the river about half a mile below the village. The rest of the collection, comprising the larger species, was obtained from fishermen, who caught them near the mouth of the river. The specimens studied are in the museum of the Indiana University, and duplicates of most of them have been sent to the United States National Museum.

1. *Erimyzon sucetta* Lacépède.

Two specimens.

2. *Minytrema melanops* Rafinesque.

One male obtained from a fisherman at Flomaton.

3. *Notropis venustus stigmaturus* Jordan.

Common in the river at Flomaton.

4. *Notropis xænocephalus* Jordan.

Common in the river. This and the above species were called "roaches" by a fisherman.

5. *Ericymba buccata* Cope.

Two specimens obtained in the river.

6. *Notemigonus chrysoleucus bosci* Unv. & Val.

Specimens obtained from smacks that fished near the mouth of the river.

7. *Clupea chrysochloris* Rafinesque.

A few specimens obtained.

8. *Clupea sapidissima* Wilson.

Two large specimens obtained. I find no material difference between these and northern specimens of the shad.

9. *Dorosoma cepedianum* Le Sueur.

Several specimens obtained.

10. *Zygonectes escambiae*, sp. nov. (No. 37994, U. S. N. M.)

Body elongate, moderately stout, compressed posteriorly; back slightly elevated; caudal peduncle moderate.

Head moderate, flat above, broad between the eyes; eyes large, 3 in head; mouth moderate; jaws armed with an outer series of rather long and slender teeth, behind which is a band of smaller teeth. Scales moderate.

Dorsal fin short and small, its height 2 in head, its insertion opposite that of the anal in the female, but a little more posterior in the male; anal short, rather high, $1\frac{1}{2}$ in head, ventrals just reaching vent, nearly 2 in head; pectorals $1\frac{1}{2}$ in head.

General color in life orange-brown, each scale with a black edge, these forming distinct longitudinal stripes. Upper surface of head dark; jaws, opercles, and area in front of eyes bright orange; suborbital region jet black; area above opercle extending across back orange, suffused with dusky. Under parts orange. All the fins dusky. In the females the spots on the scales are more suffused.

Head $3\frac{3}{4}$ in length; depth nearly 5.

D. 6 or 7; A. 8 or 9. Lat. l. 36; L. transv. 12.

Length of the largest specimen 45^{mm}.

This species was found to be very common in the gutter flowing through the town of Flomaton.

11. *Zygonectes cingulatus* Cuv. & Val. (No. 37995, U. S. N. M.)

Body rather short and deep, compressed posteriorly; back elevated caudal peduncle deep.

Head not large, flat, broad between the eyes; eyes moderate, $3\frac{1}{2}$ in head; mouth moderate; outer row of teeth long and slender, behind which is a band of smaller teeth; large teeth nearly equal in each jaw. Scales large. Dorsal fin short, rays moderate, $2\frac{1}{4}$ in head; anal larger than the dorsal, rays long, 2 in head; ventrals short, $2\frac{1}{2}$ in head; pectorals $1\frac{3}{4}$ in head.

General color olivaceous, scales edged with dusky, forming a few faint longitudinal stripes; about 15 faint dark vertical bars, interspaced with light orange, which is more plain posteriorly; almost everywhere numerous, small, black points. Belly orange. Fins all blood red, fading to dusky in alcohol.

Head $3\frac{1}{2}$ in length; depth $3\frac{3}{4}$. D. 7; A. 8. Lat. l. 34. L. transv. 10.

Described from seven specimens taken at the same locality and in the same ditch as the preceding. Specimens were also obtained in the gutters of Pensacola.

These appear to be identical with the types of *Fundulus cingulatus*, examined by Dr. Jordan in the museum at Paris.

12. *Esox reticulatus* Le Sueur.

Numerous young specimens obtained at Flomaton in the gutter. Two large ones were obtained from the fishermen, who caught them near the mouth of the river; called "jaek" by the fishermen.

13. *Pomoxis sparoides* Lacépède.

A few specimens obtained near the mouth of the river.

14. *Chænobryttus gulosus* Cuv. & Val.

A few specimens were obtained from the same place as the above.

15. *Lepomis megalotis* Rafinesque.

A few specimens were obtained in the gutter at Flomaton, while others were seen.

16. *Lepomis pallidus* Mitchill.

Common.

17. *Lepomis holbrooki* Cuv. & Val.

Common.

18. *Micropterus salmoides* Lacépède.

A few were obtained near the mouth of the river.

19. *Etheostoma beani* Jordan.

One large specimen obtained in the river at Flomaton.

20. *Etheostoma nigrofasciatum* Agassiz.

Seven small specimens were obtained in the river at the same place as the above.

21. *Etheostoma squamiceps* Jordan.

Head $3\frac{1}{2}$ ($4\frac{1}{5}$ in total); depth $4\frac{1}{5}$ ($5\frac{1}{5}$). D. X—9. A. II, 7. Scales 6—49—12.

Body rather robust, the back not elevated, the sides somewhat compressed, the caudal peduncle stout. Head rather short, the snout rather blunt, the anterior profile somewhat decurved. Snout as long as eye, 4 in head. Premaxillary not protractile.

Mouth small, oblique, the lower jaw somewhat included, the maxillary extending to front of eye, $3\frac{1}{2}$ in head. Teeth rather large, close set. Preopercle entire. Gill-membranes rather broadly united. Opercular spine well developed. Nape, cheek, opercles and breast covered with small scales. Body with moderate, ctenoid scales, those on belly similar. Lateral line straight, its pores wanting only on the last 4 or 5 scales.

Fins all low. Dorsal spines subequal, the longest about $3\frac{1}{2}$ in head. Soft dorsal well separated from spinous dorsal, its longest rays not quite head. Caudal fin rather large, $1\frac{2}{5}$ in head. Anal small, the longest rays $1\frac{2}{5}$ in head, the spines small. Pectorals $1\frac{1}{5}$ in head; ventrals $1\frac{1}{2}$.

Color in life dusky olive, with about ten rather diffuse blackish cross-bands, most distinct just below lateral line, along which is a longitudinal pinkish streak. Scales above with many dark punctulations, but with no distinct spots. A dark bar below eye, and a horizontal dark streak

through it. Both dorsals and caudal barred with black in fine pattern as in *E. flabellare*, but less distinctly. Lower fins pale. No red or blue markings anywhere.

The number of fin rays in this specimen is different from that in the original type of the species, with which however it seems to agree in other respects.

A single specimen 58^{mm} long was taken in a gutter at Flomaton.

22. *Roccus lineatus* Bloch.

A specimen 18 inches long obtained from fishermen. I compared this with a specimen 10 inches long from Washington market, and the chief difference was in the length of the second anal spine, which was $7\frac{1}{2}$ in head in the former, and 5 in the latter.

The name *lineatus* for this species has been recently set aside in favor of the later *saxatilis* or *septentrionalis* on the ground that the original *Sciæna lineata* of Bloch is the European species.

A recomparison of Bloch's figure (Tafel 304) with the different species of this genus convinces me that the present species was intended. The name *lineatus* must therefore stand. In this view Professor Jordan now concurs.

INDIANA UNIVERSITY, *September 20, 1886.*

Proc. N. M. 86—30

November 26, 1886.