

CAMPOSTOMA BREVIS.

 BY J. D. HASEMAN.

July 29, 1904, a class from the Indiana University Biological Station took a trip to the Wabash River to a point three miles above Wabash, Indiana. On examining the material I found, among many specimens of *Campostoma*, that seven were different from the common species, *anomalum*.

Later, I took a similar specimen from Deed's Creek, which is a small tributary to Tippecanoe River, three miles north of Winona Lake.

Type; a specimen 7.5 cm. long to base of caudal. No. — I. U.,
Wabash River.

Cotype; a specimen 9.25 cm. long to base of caudal. No. — I. U.,
Wabash River.

Cotype; a specimen 8.1 cm. long to base of caudal. No. — I. U.,
Wabash River.

Cotypes; 2 specimens 6.5 cm. long to base of caudal. No. — I. U.,
Wabash River.

Cotype; a specimen 7.8 cm. long to base of caudal. No. — I. U.,
Wabash River.

Cotype; a specimen 7 cm. long to base of caudal. No. — I. U.,
Deed's Creek.

D. 8; A. 7; scales 7-53-6; 22 scales before the dorsal; lateral line complete (50 or 51 pores) equidistant from the dorsal and ventrals; depth equals the length of the head and is contained 4.25 times in length of body; eye 4-5 in head; a large anal papilla; a breast plate between ventrals; a dark band in middle of dorsal and a faint one in anal; the alimentary canal is about $2\frac{1}{2}$ times the length of body.

The scales are more readily deciduous in *anomalum* than in the new species, and *anomalum* is a little darker and has a darker peritoneum than "brevis." The alimentary canal of the new species is not half as long as that of *anomalum* and almost twice the diameter.

COMPARISON OF BREVIS AND ANOMALUM.

	Campostoma brevis.	Campostoma anomalum.
Length of body to base of caudal	82 mm.	81.5 mm.
Length of head	19 mm.	19 mm.
Diameter of eye.....	4.5 mm.	4.5 mm.
Length of pectoral.....	14.5 mm.	16 mm.
Length of ventral.....	11.5 mm.	12 mm.
Length of anal.....	13 mm.	13 mm.
Length of dorsal.....	15.5 mm.	15.5 mm.
Length of snout.....	7 mm.	7 mm.
Rays in dorsal.....	8.	8.
Rays in anal.....	7.	7.
Scales along lateral line	56 scales and 52 pores. The 93 mm. specimen and all others have 53 scales.	53 scales and 51 pores.
Back of eye to origin of anal.....	47 mm.	47 mm.
Greatest depth of body	18 mm.	20 mm.
Diameter of alimentary canal.....	1.5 to 2 mm.	1 mm.
Length of alimentary canal.....	150 mm.	360 mm.*
Folds on or about alimentary canal ..	About 11 longitudinal folds.	About 20 circular folds.

*In a 72 mm. specimen I got the entire intestines in a continuous string, which was 530 mm. long.

The chief differences between this species and anomalum are the length, character and arrangement of the alimentary canal. It may be named brevis in allusion to its comparatively short alimentary tract. The intestines of anomalum are always dark and break quite easily, while those of the new species are white and not so fragile. The intestines of anomalum contain principally mud, while those of the new species contain practically no mud; they are also more solid and wrapped up in fatty tissue. The alimentary canal of anomalum wraps around the air bladder many times, while the alimentary canal of brevis does not go around the

air bladder more than one to two times; and the other folds are not spiral but longitudinal. The eyes are not quite as dark (in two fresh specimens I observed a reddish tinge in upper edge of the eye). Compared with *anomalum*, the tail of the new species is a little stouter and its mouth is a little larger and more terminal, and the abdomen is not so thick. It has no dark vertebral line; no distinct opercular spot; and the lateral line is more distinct and passes over and under the eyes. But as before stated, the main difference is in the alimentary canal.

Anomalum is certainly a mud-eater, while the diet of *brevis* is not altogether confined to mud; some had grassy substances in their alimentary canals. The difference is not a sexual difference. I examined several males and females of *anomalum*, and all of them had the peculiar arrangement of the alimentary canal of the typical *anomalum*. Number 8095 of Indiana University Museum is identical with the new species. It was taken in Tennessee by S. E. Meek, and was not examined internally.

