

SKELETAL MODIFICATIONS IN RIVER CATFISHES OF ILLINOIS

BY

WILLIAM F. HOHEISEL

University of Illinois, Urbana, Illinois

Preliminary observations on the skeletons of the species of *Ameiurus*, *Ictalurus* and *Leptops* seems to indicate that these fishes can be separated out either on the basis of their skulls or their vertebral columns. The nature of these differences can be listed briefly as follows:

1) General shape of skulls: The genera *Ameiurus* and *Leptops* have broad skulls which are flattened dorso-ventrally, whereas the *Ictaluri* skulls are compressed laterally.

2) Brain case: Dorso-lateral margin broadly concave in *Ictalurus*; irregular in *Leptops* and *Ameiurus*. *Leptops* has a wedge-shaped lateral extension of the sphenotic.

3) Subcutaneous dorsal region of the skull: This median portion of the skull which is not covered with muscle is made up of the supraoccipitals, frontals, prefrontals and mesethmoids. The line of attachment of the temporal muscles gives this region a characteristic appearance and limits it laterally.

4) Vertebrae: It seems reasonably certain that they are distinctive for genera. These differences involve the pattern of the sides of the centra and also the character of the zygapophyses. The outstanding marking on the side of the vertebrae is an hour-glass pattern which varies in its shape and proportion relative to the entire centrum. The last few caudals and the more anterior vertebrae are not characteristic, so about one third of the column is needed to insure a diagnosis.

5) The "complex vertebrae" which is made up of the fused 2, 3, and 4th vertebrae, is definitely distinctive for genera and has been found to be useful in the identification of species. The median dorsal keel of the complex is progressively reduced in the genera *Leptops*, *Ictalurus* and *Ameiurus* in the order named.

The skulls of the species of the three genera separate out easily enough. The presence of one-third of the vertebral column would be sufficient for recognition of the genus of the fish and it seems likely that this is adequate for species identification especially if the complex vertebra is also present.