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New Distributional Records of Fishes from the Lower Ouachita River System in Arkansas

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ABSTRACT

Fishes collected from the lower Ouachita River system in Arkansas during 1971-1974 are reported. As a result of these collections six species were added to the Ouachita River system ichthyofauna of Arkansas including an undescribed species of *Notropis*, *Hybopsis aestivalis* (Girard), *Ictiobus bubalus* (Rafinesque), *Fundulus chrysotus* (Gunther), *Lepomis symmetricus* (Forbes) and *Etheostoma fusiforme barratti* (Holbrook). New distributional records for *Ichthyomyzon gagei* (Hubbs and Trautman), *Notropis maculatus* (Hay), *N. lutrensis* (Baird and Girard), *Erimyzon sucetta* (Lacepede), *Fundulus notti* (Agassiz) and *Lepomis marginatus* (Holbrook) within the system also are presented.

INTRODUCTION

During recent extensive field collecting in the faunistically neglected lower Ouachita River system in Arkansas, new distributional records were attained for several species not previously documented from this region and additional documentation was made for others in the system for which only one or two records were extant. This work expands and clarifies knowledge of the distribution of certain Arkansas fishes in this poorly known fish distributional region.

Within Arkansas, the upper Ouachita River system has been studied much more thoroughly than the lower reaches (Fruge, 1971; Reynolds, 1971; pers. obser.), although much work remains to be done in both areas. Buchanan (1973) included locality records from the lower Ouachita River system extracted primarily from collections housed at Northeast Louisiana University and Southern State College, in addition to a few previous literature records. Herein, the lower Ouachita River system is the area drained by the river south of Camden where the main channel has entered its lowland course. Included are its main tributaries, the Saline River and Bayou Bartholomew, in addition to all smaller streams draining directly into the main river. New distributional records thus refer only to the Arkansas portion of the Ouachita River system.

METHODS AND MATERIALS

All material is housed in the Southern State College Vertebrate Collection. Except for the Grand Marais Lake collection, all collections were made with 10- and 20-ft seines of ¼ inch mesh. Unless otherwise noted all collections were made by the writer and Southern State College students. Use of scientific and common names follows that of Bailey et al. (1970).

ACKNOWLEDGEMENTS

Appreciation is expressed to Dr. David Etnier, University of Tennessee, and his Regional Faunas class who assisted in collecting several of the new records herein and also to Dr. Bill Davis, Louisiana Tech University, who examined the *Hybopsis aestivalis* specimen. Larry Calhoun, Larry Weaver and Stephen Pelt contributed significantly to this publication with their constant enthusiasm and hard work in the field.

RESULTS AND DISCUSSION

During the period 1971-1974 fishes were collected from the incompletely studied lower Ouachita River system in Arkansas. The new distributional records from this three-year period of sampling are reported. As a result of these collections six species were added to the known Ouachita River system ichthyofauna including an undescribed species of *Notropis*, *Hybopsis aestivalis* (Girard), *Ictiobus bubalus* (Rafinesque), *Fundulus chrysotus* (Gunther), *Lepomis symmetricus* (Forbes) and *Etheostoma fusiforme barratti* (Holbrook). In addition new distributional records for *Ichthyomyzon gagei* (Hubbs and Trautman), *Notropis maculatus* (Hay), *N. lutrensis* (Baird and Girard), *Erimyzon sucetta* (Lacepede), *Fundulus notti* (Agassiz) and *Lepomis marginatus* (Holbrook) were established from throughout the lower Ouachita drainage.

The new distributional data on fishes in the Ouachita River system illustrate the relatively poor knowledge of this important Coastal Plain area in Arkansas. That seven of the new records came from a single site is illustrative of the potential this area holds for ichthyologists. Ongoing ichthyofaunal surveys in this area by several graduate students at Northeast Louisiana University should add greatly to knowledge of the fishes of the lower Ouachita River drainage in Arkansas.

New distributional data are provided for the following species.

Ichthyomyzon gagei Hubbs and Trautman. Southern brook lamprey.

Robison (1974a) reported the first three specimens of the southern brook lamprey collected south of the Arkansas River in the state in 1972, two of which were taken from the Ouachita River system. Additional collection yielded 36 specimens, and the status of this species was revised from uncommon occurrence in the system to fairly common, though not abundant. The following are recent collection localities of *I. gagei* in the Ouachita River system with numbers of individuals in parentheses: (1) Thomas Creek, 11.5 mi S of Malvern on Country Club Road. Secs. 21 and 22, T5S, R16W. Hot Springs Co. 9 June 1973; (15) Keisler Creek, 11.4 mi S of Malvern on Country Club Road. Secs. 15 and 16, T5S, R16W. Hot Springs Co. 9 June 1973; (1) Clear Creek, 12.5 mi S. of Malvern on Country Club Road, Sec. 23, T5S, R16W. Hot Springs Co. 9 June 1973; (13) South Fork of Saline River, ½ mi N of U.S. Hwy 70 near Nance. Sec. 18, T2S, R16W. Saline Co. 8 April 1974; (6) Ten Mile Creek at U.S. Hwy 70 bridge. Sec. 19, T2S, R16W. Saline Co. 8 April 1974.

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Hybopsis aestivalis (Girard). Speckled chub.

A single specimen (25.2 mm standard length) of *H. aestivalis* was collected on 16 August 1974 in the Boeuf River (tributary of Bayou Bartholomew) at the U.S. Hwy 82 bridge (Sec. 13, T16S, R3W), 4 mi W of Lake Village, Chicot Co. It was the first reported speckled chub from the Ouachita River system in Arkansas. The specimen was a young breeding male with developed breeding tubercles on the dorsal surface of the pectoral fins. Because of the paucity of records, meristic data are presented: anal rays 8, pectorals 16, pelvics 8. The lateral line had 37 scales with 6 scales above and 5 below the lateral line. Predorsal scale rows numbered 15. The belly was scaled and two barbels, one on each side, were present. The *H. aestivalis* taxonomic problem is a complex one. According to Dr. Bill Davis (pers. comm.) who currently is studying the species throughout its range, this specimen probably should be relegated to the subspecies, *H. a. hyostomus* (Gilbert). Lack of previous records in the Ouachita River system may be due to the lack of small gravel and sand substrates throughout much of the system, excluding the Coastal Plain area where relatively little collecting has been done to date.

Notropis lutrensis (Baird and Girard). Red shiner.

Surprisingly, until now the only record of the red shiner from the entire southeastern part of Arkansas was of two adults collected in 1938 from Caney Creek (tributary of Bayou Bartholomew), 1 mi N of Star City, Lincoln Co. (Black, 1940). Nine large collections in the Coastal Plain in June 1974 established *N. lutrensis* as the dominant cyprinid in most streams east of the Saline River including Bayou Macon, Boeuf River and Bayou Bartholomew. In many instances, *N. lutrensis* proved to be the dominant species in these sluggish, silt-laden streams.

Because *N. lutrensis* is primarily a Great Plains cyprinid species which extends eastward down the Arkansas River, Black (1940) explained its presence as probably an introduction from a flood connection of Bayou Bartholomew and the Arkansas River. In its extreme headwaters Bayou Bartholomew comes within 8 mi of the Arkansas River. However, Black (1940) was attempting to explain the presence of only two specimens. Further collecting undoubtedly would have shown *N. lutrensis* to be much more abundant. As Bayou Bartholomew once was a channel of the Arkansas River, *N. lutrensis* probably has long been an inhabitant. Entry into Bayou Bartholomew and surrounding areas also undoubtedly has taken place several times as flood connections occurred regularly between the Mississippi River (where *N. lutrensis* is common) and these drainages before levee construction.

Although Douglas (1974) did not show *N. lutrensis* in any of the aforementioned drainages in Louisiana, recent collections of this species at Monroe, Louisiana, in the main Ouachita River (N. H. Douglas, pers. comm.) suggest that it should be expected in the lower Ouachita River proper in Arkansas.

Notropis maculatus (Hay). Taillight shiner.

The taillight shiner was regarded as rare in Arkansas by Robison (1974b). Black's (1940) record of two young specimens from the Saline River being the only documentation of this species in the Ouachita River system. Reynolds' (1971) subsequent survey of the fishes of the Saline River did not reveal *N. maculatus*. While conducting a fish population sample of Grand Marais Lake, an oxbow of the Ouachita River near Huttig, Union Co., on 5 August 1974, the writer and John Cloud of the Arkansas Game and Fish Commission took five specimens of *N. maculatus* in breeding color by use of

rottenone. *N. maculatus* also has been collected several times from a backwater area (Sec. 2, T16S, R14W) of the Ouachita River along U.S. Hwy 167, 12 mi SW of Hampton, Calhoun Co.

Notropis sp.

Discovery of this new undescribed species of *Notropis* from the lower Ouachita River drainage has further intensified the collecting effort directed at southward flowing streams draining into the Ouachita River proper. This very distinctive new *Notropis* is being described by Dr. Reeve M. Bailey, University of Michigan, and the writer.

To date 75 individuals have been collected from Locust Bayou (=Creek) near the town of Locust Bayou in Calhoun Co. As the description of this unreported cyprinid is in progress, no additional comments will be made at present.

Erimyzon sucetta (Lacepede). Lake chubsucker.

Only one record of the lake chubsucker was recorded previously from the Ouachita River system from Lapile Creek, 4 mi E of Strong, Union Co. (Black, 1940). Three additional records are documented herein. The first is of three young of the year specimens from the backwaters (Sec. 2, T16S, R14W) of the Ouachita River along U.S. Hwy 167, 12 mi SW of Hampton, Calhoun Co., collected on 23 May 1974; the second is of two specimens from a small, shallow, weed-choked pool (Sec. 36, T13S, R9W) along State Hwy 8, approximately 5 mi S of the junction of State Hwys 8 and 4, Bradley Co., on 23 May 1974. This site is part of the Saline River drainage. A third series of three specimens was taken from Big Cornie Creek, 5 mi E of Magnolia at U.S. Hwy 82, Columbia Co. (Sec. 17 and 20, T17S, R19W) on 20 November 1971. Dr. Etnier and class assisted in the first two collections.

Reynolds (1971) reported *Erimyzon oblongus* (Mitchell) but no *E. sucetta* in his survey of the fishes of the Saline River. The writer also has taken *E. oblongus* in the main Saline River. Though several of the specimens were small juveniles, identification was not difficult because of the characteristic darkened caudal spot and uniform dark lateral band. Juvenile specimens also tended to have a slight reddish wash to the caudal fin. Subsequent collecting at the Ouachita backwater and Saline River site has yielded additional specimens.

Ictiobus bubalus (Rafinesque). Smallmouth buffalo.

Inexplicably the common smallmouth buffalo had not been documented from the Ouachita River system although local fishermen confirm its presence throughout the system. Buchanan (1973) did not indicate *I. bubalus* in the system, nor did Reynolds (1971) indicate its presence from the Saline River, nor did Fruge (1971) record it in his survey of the Caddo River fishes.

Eighteen specimens of the smallmouth buffalo were collected during a fish population sample on Grand Marais Lake near Huttig, Union Co., on 5 August 1974 under the auspices of John Cloud of the Game and Fish Commission. Lateral-line scales in 14 individuals ranged from 36 to 39 with a mean of 37.7. *I. bubalus* proved to be the dominant catostomid collected in the oxbow lake locality and only four specimens of *I. cyprinellus* (Valenciennes) were taken.

Lepomis marginatus (Holbrook). Dollar sunfish.

A single record for *L. marginatus* in the Ouachita system was given by Black (1940). Buchanan (1973) showed only one record after 1960. The post-1960 record is of two adult specimens collected by the writer from Big Cornie Creek at U.S. Hwy 82 bridge (Sec. 17 and 20, T17S, R19W) on 21

November 1971. New records for the dollar sunfish from collections made in lower Big Cornie Creek (Sec. 3, T18S, R19W) in Columbia Co., the Ouachita River backwater locality previously mentioned in Calhoun Co. and the Saline River drainage roadside pool in Bradley Co. established *L. marginatus* as an uncommon inhabitant of the lower Ouachita system. Confusion with the very similar *L. megalotis* (Rafinesque) might explain the lack of previous records, although paucity of collections is probably the prime reason.

Lepomis symmetricus Forbes. Bantam sunfish.

The bantam sunfish is uncommon in Arkansas and had been collected only once in the Ouachita River system by the writer from Big Cornie Creek at U.S. Hwy 82 in Columbia Co. The second collection of four *L. symmetricus* was taken on 23 May 1974 by the writer, D. A. Etnier and the U. T. Regional Faunas class from a roadside pool of the Saline River drainage (Sec. 36, T13S, R9W) in Bradley Co. The fish had spawned recently as depressions in the mud and leaf litter substrate were filled with numerous eggs. A third collection of three individuals was made on 16 August 1974 from the Ouachita River backwater area along U.S. Hwy 167 (Sec. 2, T16S, R14W), 12 mi S of Hampton, Calhoun Co.

Fundulus chrysotus (Günther). Golden topminnow.

The five collections of the golden topminnow reported herein taken from the lower Ouachita River system are the first recorded from the entire system. The first two specimens of *F. chrysotus* collected from the system were taken from Big Cornie Creek, Columbia Co., near the Arkansas-Louisiana state line in 1971. Additional collections include a single specimen from Holmes Creek, a tributary of Smackover Creek, in Smackover, Union Co., on 12 August 1973; three specimens from a backwater pool of the Ouachita River, 12 mi SW of Hampton, Calhoun Co., on 23 May 1974 along U.S. Hwy 167; four specimens from a roadside ditch on State Hwy 8, 5 mi S of junction of State Hwys 8 and 4 on the same date; and two specimens from Two Bayou Creek, 12 mi W of Hampton at State Hwy 4 bridge on 6 October 1974. Additional specimens have been collected on subsequent trips.

Fundulus notti (Agassiz). Starhead topminnow.

Only two records were known from the Ouachita River system, both from the upper part. Specimens reported herein from the lower Ouachita River system include two specimens of *F. notti* from the backwater area of the Ouachita River along U.S. Hwy 167 on 23 May 1974; and three specimens from a weed-choked roadside ditch (Saline River drainage) on State Hwy 8, 5 mi S of the junction of State Hwys 8 and 4 on 23 May 1974. Both sites were visited again on 16 August 1974 when four specimens were taken from the Ouachita site and 76 specimens were collected from the Saline River drainage site. In addition seven specimens were collected on 6 October 1974 from Locust Bayou at the State Hwy 4 bridge, Calhoun Co.

Populations of *F. notti* in the Ouachita River drainage are

similar to the more northern populations of *F. notti dispar* as recognized by Brown (1958) and probably will be elevated to specific status after a more thorough study on the *F. notti* complex is completed (Edward Wiley, pers. comm.).

Etheostoma fusiforme barratti (Holbrook). Scalyhead darter.

Robison (1974b) listed the scalyhead darter as rare in Arkansas with only two localities known in the state. *E. fusiforme* never previously had been taken from the Ouachita River system. The first specimens, one adult and four juveniles, were collected from a backwater area of the main Ouachita River along U.S. Hwy 167, 12 mi S of Hampton, Calhoun Co. on 23 May 1974 by the writer, D.A. Etnier and the U. T. Regional Faunas class. The habitat was approximately 6-8 inches deep with a mud and sand bottom covered with dead and decaying leaves, fallen limbs and sticks. The site was visited four times subsequently and 21 additional specimens were taken.

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