1985

Report on Fish Collections From the Ouachita River Basin, Arkansas

John A. Baker
Waterways Experiment Station

Follow this and additional works at: http://scholarworks.uark.edu/jaas
Part of the Aquaculture and Fisheries Commons

Recommended Citation
Available at: http://scholarworks.uark.edu/jaas/vol39/iss1/7

This article is available for use under the Creative Commons license: Attribution-NoDerivatives 4.0 International (CC BY-ND 4.0). Users are able to read, download, copy, print, distribute, search, link to the full texts of these articles, or use them for any other lawful purpose, without asking prior permission from the publisher or the author.
This Article is brought to you for free and open access by ScholarWorks@UARK. It has been accepted for inclusion in Journal of the Arkansas Academy of Science by an authorized editor of ScholarWorks@UARK. For more information, please contact scholar@uark.edu, ccmiddle@uark.edu.
REPORT ON FISH COLLECTIONS FROM THE OUACHITA RIVER BASIN, ARKANSAS

JOHN A. BAKER
U.S. Army Engineer
Waterways Experiment Station
Vicksburg, MS 39180-0631

ABSTRACT

Collections of fishes were made throughout the Ouachita River system of southern Arkansas during July and August 1983. Seventeen sites were sampled using boat and backpack electroshocker, experimental Gill nets, hoop nets, and seines. A total of 8011 fish representing 79 species and one hybrid combination was taken in the study. Comments are presented on the distribution, habitat, and ecology of fishes collected.

The Ouachita River system originates in the Ouachita, Caddo and Cossatot Mountains in southwestern Arkansas. The predominantly upland system consists of four major streams, the Caddo, Little Missouri, Ouachita and Saline rivers, and numerous smaller tributaries. No natural lakes of any size occur within the basin; however, five major impoundments have been constructed over the past 50 years, three on the Ouachita River and one each on the Caddo and Little Missouri Rivers. Some tributaries have also been dammed to produce smaller lakes.

A large number of fish studies have been conducted within the Ouachita River basin in Arkansas (Arkansas Game & Fish Commission, 1954; Dewey and Moen, 1978; Frietsche, 1982; Fruge, 1971; Harris and Douglas, 1978; Loe, 1983; Moen and Dewey, 1978; Myer, 1977; Ponder, 1983; Raymond, 1975; Reynolds, 1971; Robison and Winters, 1978; Robison et al., 1983; Stackhouse, 1982; U.S. Army Corps of Engineers, 1971; Walburg et al., 1983). The U.S. Fish & Wildlife Service (unpublished data) has also made collections in the Caddo and Ouachita Rivers for a number of years. However, these studies have either been limited to a small portion of the system or have been conducted using only one, or at most two, gear types. Seines, in particular, were the primary gear type in most of these studies. In 1983, personnel from the U.S. Army Engineer Waterways Experiment Station made fish collections throughout much of the system utilizing a wide variety of gears. The collections were made for the U.S. Army Engineer District, Vicksburg, as part of their larger Arkansas Lakes Interim Study.

STUDY AREA

The Ouachita basin as a whole has a humid subtropical climate (U.S. Army Corps of Engineers, 1979). Rainfall averages over 130 cm per year basin-wide. Summer temperatures normally range from 21 to 35 °C; winter temperatures are from ~7 to 20 °C. The typical stream flow pattern during winter and spring is one of rapid, and often large, fluctuations in discharge. During summer and fall stream flows are characteristically low, though punctuated by occasional flooding.

Three general topographic regions exist within the basin. The Mountain Province comprises roughly the area within and upstream of the five major impoundments (Fig. 1). The terrain is rugged and consists of parallel ridges separated by deep valleys. Elevations range from 120 to 600 m above mean sea level (msl). The area is primarily forested, with some pasturing and small farming activity. Streams flow mostly over limestone, shale, dolomite, and sandstone bedrock; chert gravel accumulates in the stream bed in many spots. Floodplains are narrow and poorly developed. Streams in this province are clear, relatively cool, slightly acidic to slightly basic, low in dissolved solids, low in conductance, and generally high in dissolved oxygen. Collecting sites 15-17 were located within the Mountain Province.

The Hill Province extends from a few miles downstream of the lakes to the vicinity of Camden (Fig. 1). This area is characterized by rolling to hilly land at elevations from 30 to 150 m msl. In the upper part of this province the rivers run over some bedrock and rock; however, they quickly drop into the Mississippi Embayment alluvium, and the rock is rapidly replaced downstream by gravels and clayey loams. Floodplains are wider and better developed here than in the Mountain Province. Stream conditions are generally similar to those upstream of the impoundments, although the lakes do cause some downstream physical and chemical effects (Walburg et al., 1983). Collecting sites located within this province are 5-14.

Downstream of Camden lies the Alluvial Lowland Province, the principal features of which, in Arkansas, is the Felsenthal Basin (U.S. Army Corps of Engineers, 1979). Relief in this area ranges from only about 10 to 25 m msl. The dominant stream substrates are hardpan clay, sand and mud. Streams in this province are warmer, more turbid, higher in dissolved materials and conductivity, and slightly lower in dissolved oxygen than streams in the former two provinces. Sites 1-4 were located in this province, with Site 4 being somewhat transitional between the Alluvial Lowland and Hill Provinces.
Report on Fish Collections From the Ouachita River Basin, Arkansas

Table 1. Summary of physical and chemical conditions recorded for 17 sampling sites within the Ouachita River drainage, Arkansas, July-August 1983.

<table>
<thead>
<tr>
<th>Site</th>
<th>Water Temperature (°C)</th>
<th>Turbidity (NTU)</th>
<th>D.O. (mg/l)</th>
<th>Conductivity (microhm/ cm)</th>
<th>pH</th>
<th>Flow (cfs)</th>
<th>Current Speed (cm/sec)</th>
<th>Maximum Depth (m)</th>
<th>Width (m)</th>
<th>Substrates*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29</td>
<td>28</td>
<td>5.3</td>
<td>110</td>
<td>6.8</td>
<td>5350</td>
<td>40</td>
<td>10.6</td>
<td>75-90</td>
<td>Clay&gt; mud&gt; sand-mud</td>
</tr>
<tr>
<td>2</td>
<td>31</td>
<td>38</td>
<td>5.4</td>
<td>185</td>
<td>6.6</td>
<td>0</td>
<td>0</td>
<td>5.5</td>
<td>23-45</td>
<td>Clay&gt; mud</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>33</td>
<td>5.4</td>
<td>105</td>
<td>6.3</td>
<td>5350</td>
<td>40</td>
<td>10.5</td>
<td>75-90</td>
<td>Clay&gt; mud&gt; sand-mud</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>40</td>
<td>6.3</td>
<td>81</td>
<td>7.0</td>
<td>7300</td>
<td>46</td>
<td>9.0</td>
<td>70-95</td>
<td>Clay&gt; sand&gt; mud&gt; gravel</td>
</tr>
<tr>
<td>5</td>
<td>25</td>
<td>35</td>
<td>7.0</td>
<td>100</td>
<td>6.5</td>
<td>1400</td>
<td>69</td>
<td>3.7</td>
<td>45-53</td>
<td>Gravel&gt; sand&gt; mud-sand</td>
</tr>
<tr>
<td>6</td>
<td>25</td>
<td>22</td>
<td>7.2</td>
<td>70</td>
<td>7.1</td>
<td>404</td>
<td>60</td>
<td>2.4</td>
<td>23-45</td>
<td>Gravel&gt; sand</td>
</tr>
<tr>
<td>7</td>
<td>18</td>
<td>25</td>
<td>7.6</td>
<td>77</td>
<td>6.4</td>
<td>3540</td>
<td>56</td>
<td>4.6</td>
<td>43-61</td>
<td>Gravel&gt; sand&gt; mud</td>
</tr>
<tr>
<td>8</td>
<td>28</td>
<td>11</td>
<td>7.2</td>
<td>55</td>
<td>7.0</td>
<td>164</td>
<td>38</td>
<td>2.4</td>
<td>15-30</td>
<td>Rock&gt; gravel&gt; mud</td>
</tr>
<tr>
<td>9</td>
<td>18</td>
<td>22</td>
<td>7.1</td>
<td>70</td>
<td>6.7</td>
<td>2350</td>
<td>65</td>
<td>2.4</td>
<td>30-45</td>
<td>Rock&gt; gravel&gt; sand</td>
</tr>
<tr>
<td>10</td>
<td>17</td>
<td>18</td>
<td>7.0</td>
<td>72</td>
<td>6.8</td>
<td>1744</td>
<td>66</td>
<td>2.4</td>
<td>30-45</td>
<td>Rock&gt; gravel&gt; sand</td>
</tr>
<tr>
<td>11</td>
<td>23</td>
<td>33</td>
<td>7.5</td>
<td>46</td>
<td>7.1</td>
<td>899</td>
<td>63</td>
<td>4.6</td>
<td>25-35</td>
<td>Gravel&gt; sand&gt; rock</td>
</tr>
<tr>
<td>12</td>
<td>22</td>
<td>35</td>
<td>7.6</td>
<td>38</td>
<td>7.1</td>
<td>707</td>
<td>50</td>
<td>2.7</td>
<td>23-31</td>
<td>Gravel&gt; rock&gt; sand</td>
</tr>
<tr>
<td>13</td>
<td>27</td>
<td>37</td>
<td>6.3</td>
<td>92</td>
<td>6.4</td>
<td>150</td>
<td>21</td>
<td>3.0</td>
<td>15-21</td>
<td>Clay&gt; mud&gt; sand&gt; gravel</td>
</tr>
<tr>
<td>14</td>
<td>23</td>
<td>23</td>
<td>7.3</td>
<td>10</td>
<td>7.1</td>
<td>10</td>
<td>23</td>
<td>3.0</td>
<td>30-38</td>
<td>Bedrock&gt; rock&gt; gravel</td>
</tr>
<tr>
<td>15</td>
<td>28</td>
<td>27</td>
<td>7.3</td>
<td>63</td>
<td>6.0</td>
<td>75</td>
<td>13</td>
<td>3.7</td>
<td>9-35</td>
<td>Bedrock&gt; rock&gt; gravel</td>
</tr>
<tr>
<td>16</td>
<td>31</td>
<td>14</td>
<td>8.3</td>
<td>133</td>
<td>6.5</td>
<td>225</td>
<td>23</td>
<td>3.5</td>
<td>10-35</td>
<td>Bedrock&gt; rock&gt; gravel</td>
</tr>
<tr>
<td>17</td>
<td>28</td>
<td>14</td>
<td>6.9</td>
<td>80</td>
<td>6.4</td>
<td>300</td>
<td>32</td>
<td>2.7</td>
<td>23-38</td>
<td>Bedrock&gt; rock&gt; gravel&gt; sand</td>
</tr>
</tbody>
</table>

* Substrates listed in descending order of abundance.

METHODS AND MATERIALS

Seventeen collecting sites were selected to represent the range of conditions found in the mainstem streams within the basin, with the exception of the Saline River, on which no impoundments exist (Fig. 1). At each site approximately a 2 km length of stream was delineated within this distance. Sampling began on 13 July and was completed on 17 August 1983. An attempt was made to sample each site during a relatively low-flow period. However, flow at several of the sites is regulated to a large degree by releases from the upstream impoundments. Remmel Dam releases a minimum of 7 m³/ sec into the Ouachita River; DeGray Dam releases ca. 4.25 m³/ sec into the Cache River; Narrows Dam provides no minimum releases into the Little Missouri River. All sites below these three dams are also subject to unpredictable releases for hydropower generation.

Five gear types were used to collect fishes. A Smith-Root boat-mounted electroshocker provided 180-250 volts pulsed-ac current at 3.7 amps. One hour of electroshocking was conducted at each site with the exceptions of sites 8, 13 and 15, where a lack of sufficient deep water prevented completion of a full hour of sampling. Three experimental Gill nets (45.7 m X 2.4 m, mesh ranging from 2.54-8.89 cm) were fished for 24 hours at all sites except 8 and 14-17, where only two nets could be set. Six, 0.9-m diameter, 2.54-m mesh hoop nets were set at each site. The unbaited nets were placed along the shoreline in the vicinity of underwater structure (logs, large rocks, dropoffs) whenever possible. Six hauls were made at each site using a 4.6 m X 1.2 m, 0.3-cm mesh seine. Hauls were made in as many different habitats as possible. At Sites 14-17 seining was often difficult due to the roughness of the substrate. At these four sites additional samples were taken using a Smith-Root Type VIII backpack electroshocker and employing the seine as a blocknet immediately downstream. The backpack unit delivered 0.3-0.7 amps at 250-450 volts DC.

Most fish collected by boat electroshocker, hoop nets and Gill nets were identified, measured and weighed in the field. All fish taken with the seine and backpack electroshocker, and all small fish collected with other gears, were immediately preserved in 10% formalin for identification and work-up in the lab. A set of voucher specimens was also preserved for most larger species. Fish were fixed for at least two weeks in formalin and stored in 45% isopropanol. All preserved material has been deposited in the Museum of Zoology, Northeast Louisiana University, Monroe.

Water temperature, conductivity, pH, dissolved oxygen concentration, and turbidity were measured in the field on the first day of sampling. Surface current velocity, water depth, and substrate type were determined at several points across the width of the stream in the upper, middle, and lower parts of each site. Flow was determined from near-
ANOTATED LIST OF SPECIES

A total of 8011 fish representing 79 species and one hybrid was collected from the 17 sites. The following discussion details the distribution of each species within the drainage and presents brief ecological notes where possible. Scientific and common names follow Robins et al. (1980) unless otherwise noted. Additional information pertaining to the study sites or fishes collected may be obtained directly from the author.

**Petromyzontidae (Lampreys)**

*Ichthyomyzon casaneus* Girard. Chestnut lamprey. Total, 1. A single lamprey larva was collected from a shallow gravel riffle at Site 15.

**Polyodontidae (Paddlefishes)**

*Polyodon spathula* (Walbaum). Paddlefish. Total, 4. Sites 4, 7, 8, 9. A single paddlefish was collected from each of the four sites by gill net.

**Amiidae (Bowfins)**


**Lepisosteidae (Gars)**

*Lepisosteus oculatus* (Winchell). Spotted gar. Total, 40. Sites 2, 3, 5, 6, 8, 9, 10, 12, 13, 14, 17. Widespread throughout the drainage but most abundant in lowland Sites 2 and 3.

*Lepisosteus osseus* (Linnaeus). Longnose gar. Total, 36. Sites 1-7, 9, 13, 17. Several longnose gar were observed at Site 16 but none were captured. Widespread, but unlike spotted gar the longnose gar showed no particular center of abundance.


*Lepisosteus spatula* Lacepede. Alligator gar. Total, 1. A single adult specimen was taken at Site 3 on the lower Ouachita River.

**Anguillidae (Eels)**

*Anguilla rostrata* (Lesueur). American eel. Total, 26. Sites 5, 6, 8, 9, 10, 12, 14. American eels were commonly taken at Hill Province sites downstream of the lakes. Most common by far at Site 14 in the Lake Greeson tailwater.

**Esocidae (Pikes)**

*Esox americanus vermicultus* Lesueur. Grass pickerel. Total, 1. Site 4. Taken only once in a backwater seine haul.

*Esox niger* Lesueur. Chain pickerel. Total, 9. Sites 2, 3, 8, 10, 14, 17. Widespread, but Site 8 the only area yielding more than one specimen. Several individuals close to 0.5 kg in weight.

**Clupeidae (Herrings)**

*Alosa chrysocloris* (Rafinesque). Skipjack herring. Total, 26. Sites 1, 2, 3, 5, 7, 8, 10, 13. The skipjack herring was collected in abundance only at Site 2, the Saline River.

*Dorosoma cepedianum* (Lesueur). Gizzard shad. Total, 381. Gizzard shad were taken at all sites except Site 14. This species was numerous in the Ouachita River, especially the lowland sites, and in the Caddo River above DeGray Lake. Very few gizzard shad were collected in the Little Missouri River.

*Dorosoma petenense* (Gunther). Threadfin shad. Total, 196. Sites 4, 7, 8. Threadfin shad were commonly seen at all three sites. They probably occur naturally in the lowland portions of the system; those captured at Sites 7 and 8 may have emigrated from DeGray Lake (Moen and Dewey, 1978).

**Hiodontidae (Mooneyes)**


**Catostomidae (Suckers)**

*Carpiodes carpio* (Rafinesque). River carp. Total, 3. Sites 2, 5, 10. Taken only in the Ouachita River downstream of Remmel Dam.

*Hypentelium nigricans* (Lesueur). Northern hog sucker. Total, 29. Sites 6, 9, 10, 11, 12, 15, 16, 17. Taken at many upland sites throughout the study area, but abundant only upstream of the lakes. Collected primarily in riffles and swift runs with gravel substrate.

*Ictiobus bubalus* (Rafinesque). Smallmouth buffalo. Total, 19. Sites 2, 3, 4, 5, 7, 9, 10. Most common of the buffaloes. Taken only in the Ouachita and Saline Rivers; most common in latter.


*Ictiobus niger* (Rafinesque). Black buffalo. Total, 1. A single adult specimen taken from the Ouachita River near Arkadelphia. This may represent the first valid record for this species in Arkansas.

*Minytrema melanops* (Rafinesque). Spotted sucker. Total, 27. Sites 2, 3, 6, 8, 10, 14, 15, 16, 17. Captured sporadically throughout the entire drainage; abundant only at Site 10.

*Moxostoma carinatum* (Cope). River redhorse. Total, 51. Sites 6-14, 16, 17. Common in Ouachita and Caddo rivers from Site 6 upstream; much less numerous in Little Missouri River. Taken almost exclusively from swift riffles and runs with gravel, rock, or bedrock substrates. Previous work has indicated that this species was rare. Buchanan (1973) noted only two collection sites in the drainage, and Frietsche (1982) collected only one individual in several hours of electroshocking on the Little Missouri River. This species’ apparent rarity may partly be due to the difficulty in sampling its preferred habitat.

*Moxostoma duquesnei* Lesueur. Black redhorse. Total, 47. Sites 7, 8, 9, 11, 14, 16, 17. This upland species was rare downstream of the lakes but abundant in the Caddo and Ouachita Rivers above the lakes. Not taken in the Little Missouri River upstream of Lake Greeson. Black redhorse habitat distribution paralleled that of the river redhorse, with this species being common only in swift riffles and runs with coarse substrates.
Report on Fish Collections From the Ouachita River Basin, Arkansas

Moxostoma erythrurum (Rafinesque). Golden redhorse. Total, 203. Sites 5-17. The most abundant sucker, the golden redhorse was collected at all Hill and Mountain Province sites. Common in all areas, but most abundant in Caddo River upstream of DeGray Lake. Habitat distribution complementary to that of black and river redhorses, being most common in sluggish pools and slow runs.

Moxostoma poeciliurum (Jordan). Blacktail redhorse. Total, 16. Sites 5,6,7,8,11,12,14,16. Sporadic throughout uplands; only taken above the lakes in the Caddo River. Habitat appears to be deeper, slower pools and runs.

Cyprinidae (Minnows and Carps)

Campostoma anomalum pullum Agassiz. Central stoneorffer. Total, 172. Sites 9,10,12-17. Common in riffles throughout upper one-half of system; most abundant upstream of Lakes Ouachita and Greeson.


Hybognathus nuchalis Agassiz. Mississippi silvery minnow. Total, 100. Sites 1-4. Common species of lowlands; collected along sand bars over substrates of silt and mud.

Hybopsis x-punctata Hubbs and Crowe. Gravel chub. Total, 14. Sites 5,6,8,9,10,16,17. Rare inhabitant of uplands; found in deep, swift riffles and runs with coarse substrates. May be more abundant than collecting indicates due to difficulty in sampling its preferred habitat.


Notropis atherinoides Rafinesque. Emerald shiner. Total, 82. Sites 1-6, 9,11,12,13. Common species of lowland sites; sporadically collected at numerous more upstream sites but not taken above the lakes.

Notropis boops Gilbert. Bigeye shiner. Total, 1232. Sites 3-17. Most abundant cyprinid, and one of most ubiquitous species in upland parts of system. Taken mostly from pools and runs having moderate current; however, at Site 15 the greatest numbers were collected from swift, shallow riffles.

Notropis chrysocepha1us isolepis Hubbs and Brown. Striped shiner. Total, 57. Sites 4,8,11-16. Rare at Ouachita and Caddo River sites; more common in Little Missouri River drainage, including the Antoine River, where it was most abundant. Taken from pools with moderate current.


Notropis fumeus Everman. Ribbon shiner. Total, 374. Sites 1,2,3. Lowland species, most abundant at Sites 2, Saline River.

Notropis rubellus (Agassiz). Rosyface shiner. Total, 54. Site 17. Common inhabitant of deeper riffles, and pools below riffles, over gravel substrates. Ouachita River fish represent disjunct, southern population of this northern species (Gilbert and Burgess, 1980). This population has black peritoneum in contrast to others, in which the peritoneum is silver with black speckles.

Notropis texanus (Girard). Weed shiner. Total, 146. Sites 1,2,3. Common lowland species.

Notropis umbratilis cyanoccephalus (Girard). Redfin shiner. Total, 78. Sites 5,11-17. Upland species; below the lakes only at Little Missouri River drainage sites. Pool inhabitant.

Notropis venustus venustus (Girard). Western blacktail shiner. Total, 680. Sites 1-7,9,11,12,13. Most common lowland minnow, the blacktail shiner also ranged well into the Hill Province where it was occasionally abundant. Not taken above the lakes.


Pimephales notatus (Rafinesque). Bluntnose minnow. Total, 83. Sites 5,6,11,13,14,15,16. Common only at Sites 14 and 15, in the Little Missouri River. Taken from gravel riffles and the pools below the riffles.

Pimephales tenellus (Girard). Slim minnow. Total, 1. A single specimen of this rare cyprinid was taken from a riffle at Site 17.

Pimephales vigilax (Baird and Girard). Bullhead minnow. Total, 16 Sites 1,2,11,13. Uncommon.

Ictaluridae (Freshwater catfishes)

Ictalus natalis (Lesueur). Yellow bullhead. Total, 3. Sites 4,16. Rare. The two fish at Site 16 were collected from beneath a leg embedded in the gravel of a swift riffle.

Ictalus punctatus (Rafinesque). Channel catfish. Total, 88. Sites 2,4,9,11-14,16,17. Collected throughout the drainage. Most common in Ouachita and Caddo Rivers at Sites 5, 8, and 17; rare in Little Missouri River.

Noturus nocturnus Jordan and Gilbert. Freckled madtom. Total, 57. Sites 15,16,17. Collected only upstream of the lakes; most individuals from upper Ouachita River, where this species was common in shallow, gravel-bottomed riffles.

Noturus taylori Douglas. Caddo madtom. Total, 1. A single juvenile of this species was collected from a riffle at Site 16.

Pylodictis olivarius (Rafinesque). Flathead catfish. Total, 21. Sites 2,3,4,10,12,13,15,17. Collected sporadically throughout the system, this large, predatory catfish was common only at Site 17, in the Ouachita River upstream of Lake Ouachita. Reproduction was evident here, as a number of juveniles were collected.

Cyprinodontidae (Killifishes)

Fundulus catusatus (Storer). Northern studdish. Total, 31. Sites 7,15,16,17. The northern studdish was common only at Site 16, in the Caddo River above DeGray Lake, where it was taken primarily from slow runs and pools.

Fundulus olivaceus (Storer). Blackspotted topminnow. Total, 102. Sites 1-6,9,11,13,14,16,17. Widely distributed throughout the study area, this species was abundant only in the Saline River, Site 2. Although the sibling species F. notatus was expected, it was not collected during the study.

Poeciliidae (Mosquito fishes)

 Gambusia affinis (Baird and Girard). Mosquitofish. Total, 39. Sites 2,4,10,11,12,13. The mosquitofish was collected in the Lowland and Hill Provinces but not above the lakes in the Mountain Province. It was taken only in sluggish habitats, as is characteristic of this speci-
Atherinidae (Silversides)

Lambdinaeus sicculus (Cope). Brook silverside. Total, 1873. Sites 1-13, 15-17. The brook silverside was collected throughout the system with the exception of Site 14. This species was most abundant at the lowland sites, particularly Site 2 in the lower Saline River, and at Site 8, the Caddo River downstream of DeGray Lake.

Menidia beryllina (Cope). Inland silverside. Total, 2. This large river species was collected only at Site 4.

Centrarchidae (Sunfishes)

Ambloplites ruthius (Viosca). Shadow bass. Total, 13. Sites 6,7,8,11,16,17. Sporadically collected at a number of upland sites; most common at Site 8. Although this species was not collected by us at Site 12, its presence was confirmed by examination of the stomach contents of a large flathead catfish, which had consumed two adult shadow bass. This species was usually encountered next to large rocks in riverbank pools with some current.


Lepomis gulosus (Cuvier). Warmouth. Total, 2. Sites 2,3. Rare, taken only from backwaters.

Lepomis macrochirus Rafinesque. Bluegill. Total, 165. Sites 1-14,16,17. This ubiquitous species was collected at all but a single site. It was most numerous at the lowland Sites 1-3 and at sites just downstream of two of the lakes (Sites 8, 14).

Lepomis megalotis Rafinesque. Longear sunfish. Total, 439. Sites 1-17. L. megalotis was the most common centrarchid collected. Generally more abundant in the Hill and Mountain Provinces than in the lowlands; especially numerous in the Caddo River below DeGray Lake and at all sites above the lakes.

Lepomis microlophus (Gunter). Redear sunfish. Total, 19. Sites 1,2,3,10,16. Sporadically collected throughout the drainage, common only in the lower Saline River site.

Lepomis punctatus (Valenciennes). Spotted sunfish. Total, 7. Sites 2,7,10. Most taken in weedy backwater at Site 10.


Micropterus punctulatus (Rafinesque). Spotted bass. Total, 65. Sites 3,9,11,12,13,15,16,17. Most abundant of the basses, this species was ubiquitous within the system and was collected at most sites. Not taken in the Saline River or immediately downstream of Lakes Catherine or Greers (Sites 10, 14).

Micropterus salmoides (Lacepede). Largemouth bass. Total, 53. Sites 1-16. Widespread throughout the drainage; most abundant at lowland sites, and at Sites 8 and 14 downstream of DeGray and Narrows Dams, respectively. Though commonly sympatric with spotted bass, the abundances of these species exhibited a highly significant negative correlation (r = -0.55, n = 17, p < .01).

Pomoxis annularis Rafinesque. White crappie. Total, 20. Sites 1,2,3, 4,7,8,10,11,13,14,17. Widespread, but rare upstream of Site 3.

Pomoxis nigromaculatus Leseur. Black crappie. Total, 25. Sites 1,2,3,4,5,7,14,16,17. Distribution and abundance similar to that of the white crappie.

Percidae (True Perches)

Ammodicrycra vivax Hay. Scaly sand darter. Total, 14. Sites 1,3,4,5. Taken over sand and sand-silt substrates.

Etheostoma blennioides newmani (Agassiz). Greenside darter. Total, 54, Sites 8,13-17. Generally common only above the lakes; found in swift riffles with rock and gravel substrate, and often with some vegetation.

Etheostoma chlorosomum (Hay). Bluntnose darter. Total, 1. Site 5. Taken from a backside pool.


Etheostoma histrion Jordan and Gilbert. Harlequin darter. Total, 2. Sites 6,14. Taken from swift riffles with rock substrate.

Etheostoma radium (Hubbs and Black). Orangedebel darter. Total, 137. Sites 8,9,10,13-17. Most abundant darter, widespread in upper Hill Province and in Mountain Province. Common below the lakes only at Sites 8 and 14; most abundant above the lakes in the Ouachita and Little Missouri Rivers. Collected primarily from swift riffles having coarse gravel substrates.


Etheostoma zonale zonale (Cope). Banded darter. Total, 53. Sites 6,8,11,15,16,17. This inhabitant of swift riffles was common only above the lakes and at the site just downstream of DeGray Lake on the Caddo River.

Percina caprodes (Rafinesque). Logperch. Total, 16. Sites 3,11,15,16,17. Common only above the lakes, where the logperch was collected from a variety of aquatic habitats, including riffles, swift runs, pools, and backwaters. One hybrid, identified as P. caprodes X P. maculata by L. M. Page of the Illinois Natural History Survey, was collected at Site 15.

Percina copepandii (Jordan). Channel darter. Total, 9. Sites 5,6,8,9,17. Not common at any site. Taken from deep, swift riffles and runs. A supplementary night seine collection made at Site 7 yielded a number of channel darters in shallow gravel riffles.

Percina nasuta (Bailey). Longnose darter. Total, 1. Site 15. A single adult specimen was taken from a swift riffle. Bruce Thompson (personal communication) has indicated that the form found in the Ouachita River is an undescribed species.

Stizostedion vitreum (Mitchell). Walleye. Total, 1. Site 7. One adult collected at this site near Arkadelphia on the Ouachita River.

Percichthyidae (Temperate Basses)

Morone chrysops (Rafinesque). White bass. Total, 1. Site 16.

Morone saxatilis (Walbaum). Striped bass. Total, 1. Site 15. This fish undoubtedly strayed from Lake Greers, although a number of very shallow riffles and runs must be negotiated to reach the sampling area.

Sciaenidae (Drums)

Aplodinotus grunniens Rafinesque. Freshwater drum. Total, 28. Sites 1,2,3,5-12. The freshwater drum, although nowhere abundant, was encountered at most sites downstream of the lakes.
Report on Fish Collections From the Ouachita River Basin, Arkansas

ACKNOWLEDGMENTS

I would like to thank Dr. Lawrence M. Page of the Illinois Natural History Survey for verifying the identities of darters collected, and Dr. Neil H. Douglas of Northeastern Louisiana University and Dr. Thomas M. Buchanan of Westark Community College for confirming many of the minnow and sucker identifications. Drs. Douglas and Buchanan also provided critical reviews of the paper and offered many helpful comments. The comments of an anonymous reviewer made the paper both shorter and more easily readable. The Vicksburg District of the U.S. Army Corps of Engineers is gratefully acknowledged for permission to publish this data.

LITERATURE CITED


