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Number 34 (December 1996)

Abstract

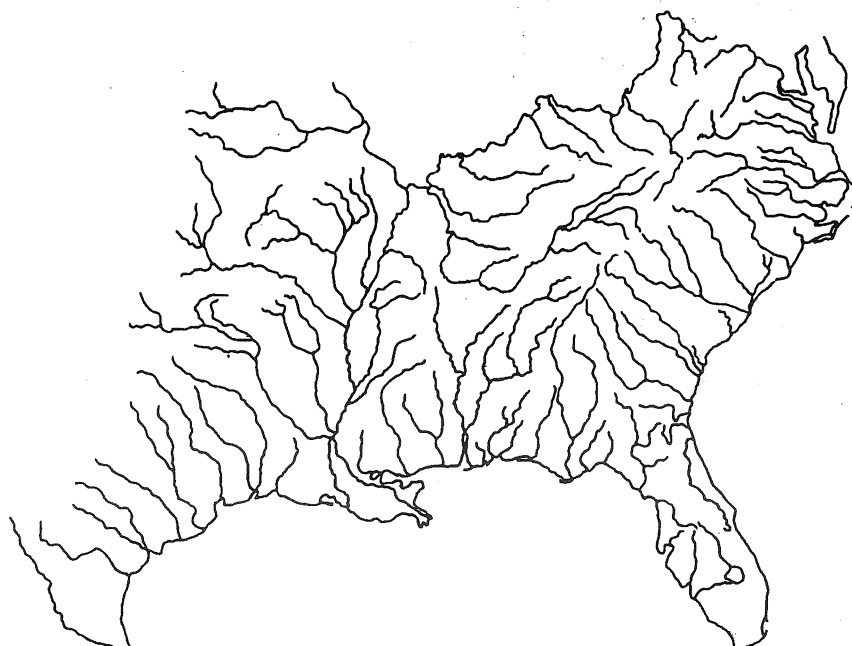
(December 1996) - The Fishes of the Little River Drainage in Alabama. By Terri L. Ballard and J. Malcolm Pierson, 6pp., plus News Notes.

Keywords

fishes, little river drainage, alabama

Southeastern Fishes Council
PROCEEDINGS

DEDICATED TO THE CONSERVATION OF SOUTHEASTERN FISHES



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Announcement

Raney Fund Award

The Raney Award is presented annually in honor of Edward C. Raney (1909-84). Raney was a leader among ichthyologists. He possessed a broad knowledge of the fishes of the world, and his particular area of expertise was the fishes of the eastern United States. A member of the faculty of Cornell University, Dr. Raney authored over 75 papers dealing with the systematics, behavior, and ecology of fishes. He was an expert on aquatic environmental problems and served on numerous environmental advisory committees. He was a member of over 30 professional societies, and he served as secretary (1948-51) and president (1955-56) of ASIH. The students of Ed Raney are among the leaders in ichthyology today in no small part because of his mentorship and enthusiasm in the study of fishes. Applications are solicited for grants to be awarded from the Raney Fund for Ichthyology. These funds are used to provide support for young ichthyologists for museums or laboratory study, travel, fieldwork, or any other activity that will effectively enhance their professional careers and their contributions to the science of ichthyology.

Applicants should be members of ASIH and should be enrolled for an advanced degree. Applicants who do not meet these basic requirements may be considered for the award under exceptional circumstances if their careers are judged to be in a developmental stage. Individual awards are typically in the \$400 - \$ 1,000 range and will be awarded on basis of both merit and need. Currently funds of approximately \$4,000 are available.

Applications for the Raney Award and a letter of recommendation should be sent to the current chairperson of the Raney Fund Award Committee (George R. Sedberry, Marine Resources Research Institute, P.O. Box 12559, 217 Ft. Johnson Rd., Charleston SC 29412 USA; 803-762-5045; sedberryg@mrd.dnr.state.sc.us). The original and three copies of each application should consist of no more than two single-spaced, typewritten pages and must include the following:

- (1) name, address, social security and telephone numbers of the applicant;
- (2) institutional affiliation;
- (3) academic degree being sought and the year of its expected completion, or highest degree and its date of award;
- (4) name of the applicant's current or most recent major professor;
- (5) title of the proposed research;
- (6) a concise description of research objectives (including broad questions being addressed), methods, and/or experimental design;
- (7) sources of partial support for the research and pending applications for support from other funds;
- (8) an outline budget; and
- (9) a short statement of the way in which the award would be used to enhance research.

A Literature Cited section should be appended. Budget items should be listed as nearly as possible in order of priority. Applicants should attempt to keep the budget within the amount of available funds. In case the award must be less than the requested budget, the impact of eliminating part or all of any items should be clearly given. An original plus three copies of a letter of recommendation from the applicant's current major professor are required. The letter should include statements concerning the following: (1) the competence of the applicant; (2) the significance of the applicant's research; and (3) the desirability of and need for the funds being requested by the applicant. The applicant should request that the letter be sent directly to the Raney Award Committee Chairperson. The application and letter of recommendation should reach the committee chairperson no later than 15 March. It is expected that awards will be made by 1 May.

For further information visit the ASIH Raney Awards home page on the World Wide Web at:
<http://www.utexas.edu/depts/asih/awards/raney.html>

The Fishes of the Little River Drainage in Alabama

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ABSTRACT

A survey was conducted for the purpose of obtaining baseline data on the fish fauna of Little River, a major tributary of the upper Coosa River System. During fifteen months (September 1992 to November 1993) 123 collections were made in the main channel and all major tributaries of the river. A total of 46 species was encountered in the field and an additional 13 documented from previous literature. The fauna is dominated by cyprinids and centrarchids which are represented by 11 species each. The most abundant species in the river are *Camptostoma oligolepis*, *Cyprinella callistia*, *Cyprinella trichroistia*, *Hypentelium etowanum*, *Lepomis auritus*, *Lepomis macrochirus*, *Micropterus coosae*, *Micropterus punctulatus*, *Etheostoma jordani* and *Percina palmaris*. Of this diverse fauna, 61% of the total number of species occur only below Little River Falls. *Cyprinella caerulea*, a federally threatened species, has been determined by this study to occur in the lower 7.0 km of the main channel of Little River.

INTRODUCTION

Little River, a tributary of the Coosa River System, is located primarily in northeast Alabama, however, the extreme headwaters originate in northwest Georgia. The river is protected for most of its length (the lower West Fork and canyon area) by the Little River Canyon National Preserve which was designated in October of 1992. The main channel of the river is free of impoundments, however, several small reservoirs have been constructed on the forks and several tributaries. The canyon portion of Little River was designated a State Wild and Scenic River in 1969.

There are few published accounts of the fishes of the Little River drainage. Published collections have included Fowler (1945) (18 collections) and Boschung (1961) (three collections). The most recent collections have been made by the authors. Robert A. Stiles of Samford University provided additional unpublished collection data on Little River fishes. Other collection data gathered by ichthyologists from several universities including the University of Alabama and Auburn University have been incorporated in this paper.

STUDY AREA

Little River drains an area of 518 km² (Frazer et al., 1991), and flows for most of its length atop Lookout Mountain which is the eastern boundary of the Cumberland Plateau physiographic region. The river flows in a southwesterly direction and is approximately 43 km long. The extreme headwaters of the East and West forks are located in Walker, Dade and Chattooga counties of Georgia. In Alabama the East Fork and main channel form most of the border between Cherokee and DeKalb counties.

About 11.3 km downstream of the confluence of the East and West forks, the river drops 20 m at spectacular Little River Falls. This waterfall is the beginning of a 23 km long, winding canyon which was gradually formed by the erosive forces of the river downcutting into the Pottsville Sandstone and Pottsville Conglomerate which are the underlying geologic formations. An abundant amount of exposed sandstone bedrock can be found throughout the entire drainage.

The substrata consist largely of boulders and cobbles above Little River Falls. In the canyon there is the addition of a modest amount of gravel and sand. Toward the mouth of the river the bottom is mostly sand and cobble with the occasional exposed bedrock.

The river has a high gradient, falling an average of 5.6 m per kilometer. The headwaters of the river are about 427 m in elevation, but the river descends to approximately 183 m until it empties into Weiss Reservoir. Prior to the creation of Weiss Reservoir, Little River was a lower tributary of the Chattooga River which ran into the Coosa River. The lower 8.5 km of Little River was flooded in 1962 with the completion of Weiss Dam on the Coosa River. The southernmost collection station is located just upstream from the influence of Weiss Reservoir.

MATERIALS AND METHODS

Six stations were chosen to be sampled every month from September 1992 to November 1993. Thirty additional stations were sampled sporadically in order to obtain a thorough survey and sample a variety of stream orders. A total of 123 collections were made primarily by use of a backpack electrofishing unit. Each station was sampled for approx-

imately 45 min. Early in the study, almost all fishes captured were retained. As the study progressed, and field identification became more reliable, most fishes captured were released. Specimens from these collections are housed in the Jacksonville State University Museum of Zoology.

COLLECTION STATIONS

This survey is based on 14 collecting stations on the main channel of Little River and East and West forks, and on 21 stations on the tributaries (Fig. 1). Data for Stations 1 through 6 on the main channel and East and West forks are a composite of monthly collections. The 36 stations are identified by stream name, general location in reference to nearest town, county, and township (T), range (R) and section (S). All stations were located in Alabama. Species collected at each station are listed numerically in phylogenetic sequence and are listed in Table 1.

Station 1. Main channel of Little River at State Highway 273 bridge in the community of Little River. Cherokee County. T9S R9E S3. Species: 2, 3, 4, 5, 6, 7, 9, 10, 11, 14, 16, 17, 18, 19, 20, 21, 25, 27, 29, 30, 31, 32, 34, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46.

Station 2. Main channel of Little River below the mouth of Bear Creek in Little River Canyon, 4.0 km east of Dog Town. Cherokee/DeKalb county line. T8S, R9E, S10. Species: 3, 5, 6, 9, 10, 14, 19, 22, 30, 31, 32, 36, 37, 41, 44, 46.

Station 3. Main channel of Little River above Little River Falls and the mouth of Yellow Creek, 4.0 km east of Adamsburg. Cherokee/DeKalb county line. T7S, R10E, S30. Species: 3, 6, 10, 14, 19, 25, 30, 31, 32, 36, 37.

Station 4. Main channel of Little River at the ford on Little River Wildlife Management Area road number 04, 3.2 km northwest of Jamestown. Cherokee/DeKalb county line. T7S, R10E, S16. Species: 3, 6, 10, 13, 14, 19, 25, 30, 31, 32, 33, 36, 37, 38.

Station 5. West Fork of Little River below the headquarters of DeSoto State Park, 6.4 km southwest of Mentone. DeKalb County. T6S, R10E, S20. Species: 3, 6, 14, 19, 30, 31, 32, 36, 37.

Station 6. East Fork of Little River below Lake Lahusage dam, 2.0 miles southeast of Bankhead and 1.2 km west of the Alabama-Georgia state line. Cherokee/DeKalb county line. T6S, R11E, S18. Species: 3, 6, 10, 14, 26, 30, 31, 32, 34, 36, 37, 38.

Station 7. Unnamed tributary of Wolf Creek on County Road 43, 1.6 km west of Starling Gap. Cherokee County. T9S, R9E, S7. Species: 13, 30, 31, 32.

Station 8. Wolf Creek on County Road 47, 0.8 km south of Starling Gap. Cherokee County. T9S, R9E, S17. Species: 3, 7, 17, 18, 30, 31, 32, 35, 37, 45.

Station 9. Wolf Creek on Alabama Highway 273, 2.4 km southwest of the Little River community. Cherokee County. T9S, R9E, S9. Species: 7, 24, 29, 30, 32, 45.

Station 10. Unnamed tributary of Spring Creek on County Road 77, 4.8 km northwest of Gaylesville. Cherokee County. T9S, R10E, S5. Species: 3, 8, 13, 23, 27, 35, 40.

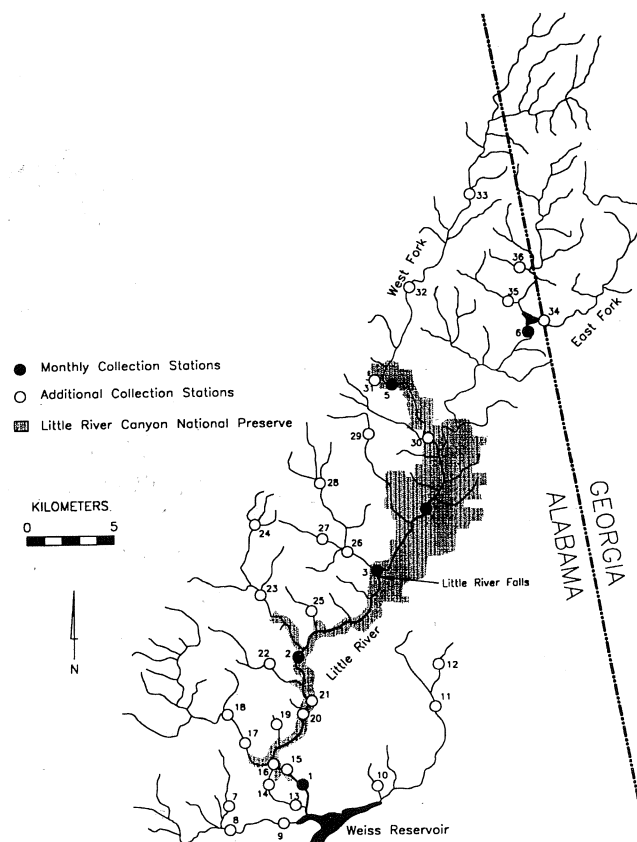


Figure 1. Collection stations of the Little River Drainage. Base map modified from Frazer et al. (1993).

Station 11. Spring Creek on County Road 41, 1.6 km southwest of Watson. Cherokee County. T8S, R10E, S21. Species: 3, 8, 14, 17, 24, 26, 27, 32, 35, 40.

Station 12. Spring Creek on County Road 89, 0.8 km northwest of Watson. Cherokee County. T8S, R10E, S16. Species: 1, 8, 12, 13, 23, 27, 40.

Station 13. Side channel of lower Little River in the community of Little River at Alabama Highway 273. Cherokee County. T9S, R9E, S3. Species: 3, 15, 25, 27, 28, 29, 30, 31, 32, 36, 37, 38, 39, 40, 42, 45, 46.

Station 14. Side channel of Little River at abandoned railroad trestle in the Little River community. Cherokee County. T9S, R9E, S3. Species: 3, 25, 30, 31, 32.

Station 15. Main channel of Little River at the mouth of Little River Canyon. Cherokee County. T9S, R9E, S3. Species: 3, 4, 5, 6, 9, 14, 17, 21, 25, 30, 31, 32, 36, 37, 38, 41, 42, 43, 44, 45.

Station 16. Main channel of Little River at the mouth of Johnnie's Creek, 4.8 km south of Licksillet. Cherokee County. T8S R9E S33. Species: 3, 5, 17, 30, 31, 32, 36, 37, 41, 42, 44, 45.

Station 17. Above Johnnie's Creek Falls on the Canyon rim parkway, 3.2 km northwest of the community of Little River. Cherokee County. T8S, R9E, S33. Species: 3, 13, 30, 32, 37.

Station 18. Johnnie's Creek at County Road 243, 2.4 km southwest of Licksillet. DeKalb County. T8S, R9E, S20. Species: 3, 30, 32, 37.

Station 19. Dee's Branch on Canyon rim parkway, 3.2 km south of Licksillet. Cherokee County. T8S, R9E, S28. No fishes captured.

Station 20. Main channel of Little River in Little River Canyon, 2.4 km southeast of Licksillet. Cherokee/DeKalb county line. T8S, R9E, S22. Species: 3, 4, 5, 6, 14, 30, 32, 36, 37, 41, 42, 43, 44.

Station 21. Main channel of Little River in Little River Canyon, 1.2 km downstream of Chiquapin Creek. Cherokee County. T8S, R9E, S23. Species: 3, 4, 5, 30, 32, 36, 37, 41, 42, 43, 44, 45.

Station 22. Chiquapin Creek on State Route 176, 1.2 km southeast of Licksillet. DeKalb County. T8S, R9E, S15. Species: 3, 31, 32.

Station 23. Bear Creek on State Route 176, 3.2 km north of Licksillet. DeKalb County. T8S, R9E, S4. Species: 3, 14, 31, 36.

Station 24. Headwaters of Bear Creek on County Road 78, 0.8 km southeast of Fort Payne Gap. DeKalb County. T7S, R9E, S21. No fishes captured.

Station 25. Wolf Creek on State Route 176, 3.2 km south of Adamsburg. DeKalb County. T8S, R9E, S2. Species: 19, 31, 32.

Station 26. Yellow Creek on County Road 78, 3.6 km south of Pumpkin Center. DeKalb County. T7S, R9E, S25. Species: 3, 31, 32, 36, 37.

Station 27. Straight Creek, tributary of Yellow Creek, 1.6 km northeast of Adamsburg. DeKalb County. T7S, R9E, S24. Species: 3, 13, 32.

Station 28. Headwaters of Yellow Creek on County Road 473, 2.0 km west of Pumpkin Center. DeKalb County. T7S, R9E, S11. Species: 3, 13, 31, 32.

Station 29. Hurricane Creek, 6.4 km northeast of Fort Payne. DeKalb County. T6S, R10E, S31. Species: 3, 13, 30, 31, 32.

Station 30. West Fork of Little River, 0.3 km upstream of the confluence of the East and West forks. DeKalb County. T7S, R10E, S3. Species: 3, 19, 25, 30, 31, 32, 36, 37.

Station 31. Unnamed tributary at DeSoto State Park above Indian Falls. DeKalb County. T6S, R10E, S19. No fishes captured.

Station 32. West Fork of Little River above DeSoto Falls, 2.4 km south of Mentone. DeKalb County. T6S, R10E, S4. Species: 13, 14, 30, 31, 32, 34.

Station 33. West Fork of Little River at Taylor Ford, 0.8 km east of Mentone. DeKalb County. T5S, R10E, S23. Species: 29, 30, 31, 32, 35, 36, 37.

Station 34. East Fork of Little River, backwater of Lake Lahusage, 4.0 km southeast of Bankhead. Cherokee/DeKalb county line, Alabama/Georgia state line. T6S, R11E, S7. Species: 10, 30, 31, 32, 38.

Station 35. Brush Creek, tributary of the Middle Fork of Little River, on County Road 106. DeKalb County. T6S, R10E, S12. Species: 3, 6, 10, 13, 14, 30, 31, 32, 36.

Station 36. Anna Branch, tributary of the Middle Fork of Little River, 1.6 km east of Bankhead. DeKalb County. T5S, R10E, S12. Species: 3, 14, 30, 32.

RESULTS AND DISCUSSION

Forty-six species were collected from Little River and its tributaries. Eight were encountered only in the tributaries. Sixty-one percent ($n=28$) were only found downstream of Little River Falls. The cyprinids were 23.0% of the total number of species and 51.0% of the total number of individuals captured. *Camptostoma oligolepis* composed 34.3% of the cyprinids and was also by far the most abundant species of the drainage. The centrarchids made up 23.0% of the total number of species and 28.0% of the total number of individuals captured. *Lepomis auritus* was the most abundant centrarchid (38.5%). The total number of fishes captured during the study was 6269.

Little River contains 46 of the 119 species composing the ichthyofauna of the Coosa River system of Alabama, Georgia and Tennessee (Boschung, 1992; Dahlberg and Scott, 1971; Etnier and Starnes, 1994). Comparatively, two other tributaries of the Coosa River system, Choccolocco and Hatchet creeks, contain 56 and 62 species, respectively (Pierson unpubl. coll. data; Ballard unpubl. coll. data). Little River contains one species which is endemic to the Coosa River system (*Etheostoma coosae*), and ten which are endemic to the Mobile River basin (*Cyprinella caerulea*, *C. callistia*, *C. trichroistia*, *Notropis chrosomus*, *N. xanoecephalus*, *Hypentelium etowanum*, *Fundulus stelleri*, *Etheostoma coosae*, *E. jordani* and *Percina palmaris*).

Fowler (1945) reported 30 species from 18 localities in Little River and its tributaries. We did not collect five of the species reported in Fowler's survey including *Hybopsis lineapunctata*, *Luxilus chrysocephalus*, *Lythrurus lirus*, *Notropis photogenis* and *Etheostoma blennioides*. Three of these have been collected in neighboring tributaries of the upper Coosa River (*Hybopsis lineapunctata*, *Luxilus chrysocephalus* and *Lythrurus lirus*). Reports of the other species, however, are not supported by recent collection information of the upper Coosa River and are believed to be of doubtful validity.

Eight additional species have been reported from previous collections (*Lepisosteus oculatus*, *Cyprinella lutrensis*, *Notropis volucellus*, *Notemigonus crysoleucas* and *Morone chrysops* (J. M. Pierson, unpubl. coll. data); *Moxostoma erythrum* (B. J. Freeman, unpubl. coll. data); *Percina lenticula* (Ramsey, 1976); and *Lepomis marginatus* (Dahlberg and Scott, 1971). *Cyprinella lutrensis* and *Notropis volucellus* were represented by only one specimen each and were possibly introduced via bait buckets. *Percina lenticula* was once an inhabitant of the lower reaches of Little River prior to the flooding of the lower 8.5 km of the river, but has not been collected from that area since 1958 (Ramsey, 1976). *Lepisosteus oculatus*, *Notemigonus crysoleucas* and *Morone chrysops* are likely common in the deeper waters of the mouth of the river. *Lepomis*

marginatus is assumed a misidentification of *Lepomis megalotis*.

Cyprinella caerulea was found at four stations (1, 15, 20, 21) during this study and also prior to this survey at Station 16 (mouth of Johnnie's Creek) by Pierson and Krotzer (1987). This threatened species is now known from the lower 7.0 km of main channel habitat, a range extension of 4.5 km upstream from previous documented occurrence.

In the following annotated list of species, the numbers in parentheses represent the number of specimens captured, percent relative abundance, and percent occurrence, respectively. The station numbers correlate with the previous list of collection stations.

ANNOTATED LIST OF THE FISHES OF THE LITTLE RIVER DRAINAGE

Petromyzontidae

1. *Ichthyomyzon gagei* (5, <0.1, <1.0); Station: 12. Only ammocoete larvae of this nonparasitic lamprey were encountered at Spring Creek burrowing into the sand-silt substrate.

Lepisosteidae

2. *Lepisosteus osseus* (1, <0.1, <1.0); Station: 1. One juvenile longnose gar was captured in a pool under the Highway 273 bridge. This species is likely more common in Weiss Reservoir.

Cyprinidae

3. *Camptostoma oligolepis* (1077, 17.2, 76.4); Stations: 1, 2, 3, 4, 5, 6, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 26, 27, 28, 29, 30, 35, 36. The largescale stoneroller was by far the most abundant and widespread minnow in the drainage and were most commonly observed in a moderate to swift current with a bedrock and cobble substrate.
4. *Cyprinella caerulea* (459, 7.3, 14.6); Stations: 1, 15, 20, 21. The largest population of the blue shiner in the Little River drainage is found at Station 1. The maximum length found was 86 mm SL and the smallest was 21 mm SL. Breeding colors were observed from late spring to late summer. The observed preferred habitat in this drainage was clear pools and eddies with a sand-gravel substrate in slow to moderate current.
5. *Cyprinella callistia* (416, 6.6, 27.6); Stations: 1, 2, 15, 16, 20, 21. The Alabama shiner is ubiquitous in the main channel below Little River Falls, but is absent above the Falls. This species prefers riffles and runs with moderate to swift current over a cobble and bedrock substrate.
6. *Cyprinella trichroistia* (717, 11.4, 62.6); Stations: 1, 2, 3, 4, 5, 6, 15, 20, 21, 35. The tricolor shiner was commonly found above and below Little River Falls. Below the Falls, this species was commonly encountered in the same habitat as *C. callistia*; above the Falls they were found mostly in schools near large boulders or aquatic vegetation.

7. *Cyprinella venusta* (12, <1.0, 4.1); Stations: 1, 8, 9. The blacktail shiner was the least abundant member of *Cyprinella* in the drainage; this species was encountered only in the lower portion of the drainage in slow to moderate current.
 8. *Notropis chrosomus* (66, 1.1, 3.3); Stations: 10, 11, 12. Rainbow shiners were found in Spring Creek during this survey, but have been previously found in the lower main channel by Pierson (unpubl. coll. data).
 9. *Notropis stilbius* (130, 2.1, 9.8); Stations: 1, 2, 15. Silverstripe shiners were only collected below Little River Falls in the main channel in moderate to swift current over cobble and boulders.
 10. *Notropis xaenocephalus* (160, 2.6, 26.0); Stations: 1, 2, 3, 4, 6, 34, 35. The Coosa shiner was found above and below Little River Falls, but was not encountered in the West Fork of the river.
 11. *Pimephales vigilax* (8, <1.0, 4.1); Stations: 1. The bullhead minnow was found in the lower portion of the main channel of the river in a pool with a moderate to swift current over a sand and gravel substrate.
 12. *Rhinichthys atratulus* (25, <1.0, 1.6); Station: 12. The blacknose dace was only encountered in the upper portion of Spring Creek in moderate current with a sand and gravel substrate.
 13. *Semotilus atromaculatus* (72, 1.1, 9.8); Stations: 4, 7, 10, 12, 17, 27, 28, 29, 32, 35. Creek chubs were captured more frequently in the tributaries with a sand, cobble and bedrock substrate.
- ### Catostomidae
14. *Hypentelium etowanum* (272, 4.3, 54.5); Stations: 1, 2, 3, 4, 5, 6, 11, 15, 20, 23, 32, 35, 36. Alabama hog suckers are ubiquitous and common throughout the drainage in moderate to swift current over a cobble and bedrock substrate. Schools of young of the year are common in the stream margins in summer.
 15. *Ictiobus bubalus* (3, <0.1, <1.0); Station: 13. The smallmouth buffalo was only encountered once during the survey in a lower side channel of the drainage in a pool with slow to moderate current over a sand, cobble and bedrock substrate.
 16. *Minytrema melanops* (2, <0.1, 1.6); Station: 1. The two spotted suckers captured in the lower main channel had nuptial tubercles, and had apparently migrated upstream from Weiss Reservoir to spawn.
 17. *Moxostoma duquesnei* (42, <1.0, 11.4); Stations: 1, 8, 11, 16. Juvenile black redhorse were captured infrequently in the lower main channel in moderate to swift current. Adults were encountered in Wolf (Cherokee County) and Spring creeks in slow to moderate current.
 18. *Moxostoma poecilurum* (26, <1.0, 3.3); Stations: 1, 8. A school of adult blacktail redhorse were encountered in March in the lower main channel. Juveniles were captured in Wolf Creek in moderate to swift current.

Ictaluridae

19. *Ameiurus natalis* (19, <1.0, 13.8); Stations: 1, 2, 3, 4, 5, 25, 30. Yellow bullheads were common in the main channel, but were uncommon in the tributaries and the East and West forks. Adults and juveniles of this species were encountered under large boulders at stream edges or beneath undercut banks in areas with slow to moderate current.
20. *Ictalurus punctatus* (13, <1.0, 3.3); Station: 1. The channel catfish was an infrequent catch in the lower main channel where a school of adults was encountered.
21. *Noturus leptacanthus* (37, <1.0, 9.8); Stations: 1, 15. The speckled madtom was only encountered in the lower main channel of the river in shady areas with a slow to moderate current over a sand, gravel and cobble substrate near the stream edge.
22. *Pylodictis olivaris* (13, <1.0, 4.1); Station: 2. The flathead catfish was only captured in the main channel directly below the mouth of Bear Creek under large boulders in shallow pools.

Esocidae

23. *Esox niger* (2, <0.1, 1.6); Stations: 10, 12. The two juvenile chain pickerel were encountered in Spring Creek during the survey, but previous collections (Pierson) have yielded specimens from the lower main channel.

Fundulidae

24. *Fundulus olivaceus* (2, <0.1, <1.0); Station: 9. The blackspotted topminnow was only collected from lower Wolf Creek (Cherokee County) in slow current over a sand and silt substrate.
25. *Fundulus stellifer* (91, 1.5, 19.5); Stations: 1, 3, 4, 11, 13, 14, 15. The southern studfish was captured above and below Little River Falls, but was absent from the East and West forks. This species was mostly encountered in slow current with a sand, gravel and cobble substrate below Little River Falls, and a sand, cobble and bedrock substrate above the Falls.

Poeciliidae

26. *Gambusia affinis* (10, <1.0, 1.6); Station: 6, 11. Mosquitofish were found only in the upper East Fork and Spring Creek in slow current with a sand, gravel and cobble substrate.

Cottidae

27. *Cottus caroliniae* (72, 1.1, 12.2); Stations: 1, 10, 11, 12, 13. The banded sculpin was captured in Spring Creek, the lower main channel and in a lower side channel in moderate to swift current over a cobble and boulder or sand and cobble substrate.

Percichthyidae

28. *Morone saxatilis* (1, <0.1, <1.0); Station: 13. Only one juvenile striped bass was captured in a lower side channel. This specimen was likely stocked in Weiss Reservoir. The Alabama Department of Conservation and Natural Resources reports that striped bass have recently spawned successfully in the upper Coosa River system of Alabama and Georgia.

Centrarchidae

29. *Chaenobryttus gulosus* (6, <0.1, 4.1); Stations: 1, 9, 13, 33. The warmouth was an infrequent catch in the drainage in shaded areas with slow current.
30. *Lepomis auritus* (676, 10.8, 78.0); Stations: 1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 16, 17, 18, 20, 21, 29, 30, 32, 33, 34, 35, 36. Although not native to the Little River drainage, the redbreast sunfish was by far the most abundant predator species encountered during the survey. Thus far, this species introduction has not appeared to have significantly affected other fish populations.
31. *Lepomis cyanellus* (135, 2.2, 43.9); Stations: 1, 2, 3, 4, 5, 6, 7, 8, 13, 14, 15, 16, 23, 25, 26, 28, 29, 32, 33, 34, 35. The green sunfish, although not as abundant as the redbreast sunfish, is just as widespread.
32. *Lepomis macrochirus* (414, 6.6, 73.9); Stations: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36. Bluegill were also a frequently encountered sunfish species in the river. Although this species was found at more stations than *L. auritus*, bluegill were less reliably caught, giving this species a lower percent occurrence.
33. *Lepomis megalotis* (1, <0.1, <1.0); Station: 4. Only one specimen of the longear sunfish was encountered in the main channel above Little River Falls in moderate current over bedrock and boulders.
34. *Lepomis microlophus* (3, <0.1, 1.6); Stations: 1, 6, 32. The redear sunfish was captured from the West Fork, East Fork, and lower main channel during the survey.
35. *Lepomis punctatus* (19, <1.0, 3.3); Stations: 8, 10, 11, 33. The spotted sunfish was captured in the West Fork, Spring Creek and Wolf Creek (Cherokee County) in slow current.
36. *Micropterus coosae* (292, 4.7, 59.3); Stations: 1, 2, 3, 4, 5, 6, 13, 15, 16, 20, 21, 23, 26, 33, 35. The redeye bass was the most abundant bass in the river, however, it was not found in Wolf Creek (Cherokee County) or Spring Creek. This species was found in slow to swift currents.
37. *Micropterus punctulatus* (193, 3.1, 41.5); Stations: 1, 2, 3, 4, 5, 6, 8, 13, 15, 16, 17, 18, 20, 21, 26, 30, 33. The spotted bass was common in slow to moderate current throughout the river.
38. *Micropterus salmoides* (15, <1.0, 8.9); Stations: 1, 4, 6, 13, 15, 34. The largemouth bass has a disjunct distribution in Little River main channel due to its preference for slower currents. This species was encountered around boulders in pools with little current.
39. *Pomoxis nigromaculatus* (9, <1.0, 1.6); Station: 13. A few individuals were encountered in a lower side channel of the river. These black crappie had likely migrated upstream from Weiss Reservoir which is nicknamed the "the crappie capitol of the south."

Percidae

40. *Etheostoma coosae* (93, 1.5, 6.5); Stations: 1, 10, 11, 12, 13. Although a few Coosa darters were captured in the lower main channel, the majority encountered were in the lower tributaries in moderate to swift current over a sand, gravel and cobble substrate.
41. *Etheostoma jordani* (157, 2.5, 14.6); Stations: 1, 2, 15, 16, 20, 21. The greenbreast darter is the most abundant species of darter in the drainage; this species was only captured in the main channel below Little River Falls in swift currents over a gravel and cobble substrate.
42. *Etheostoma stigmaeum* (113, 1.8, 16.3); Stations: 1, 13, 15, 16, 20, 21. The speckled darter was most commonly found in the main channel of the river, and then only below Little River Falls. This species was encountered in slow to moderate currents over a sand, gravel and cobble substrate.
43. *Percina nigrofasciata* (92, 1.5, 13.8); Stations: 1, 15, 20, 21. The blackbanded darter was a common species in the lower main channel in moderate to swift current over a sand, gravel and cobble substrate.
44. *Percina palmaris* (132, 2.1, 22.8); Stations: 1, 2, 15, 16, 20, 21. The bronze darter is the most commonly encountered darter species in the river. It was only captured in the main channel below Little River Falls in swift current over a cobbly substrate.
45. *Percina* sp. cf. *caprodes* (131, 2.1, 16.3); Stations: 1, 8, 9, 13, 15, 16, 21. The Mobile logperch was the largest darter species found during the survey. This species was found in slow to moderate current over a cobble, gravel and/or sand substrate.

Sciaenidae

46. *Aplodinotus grunniens* (35, <1.0, 3.3); Stations: 1, 2, 13. Surprisingly, the majority of the freshwater drums were encountered in deep pools in the canyon area (Station 2); however, a few individuals were captured in the lower main channel and a lower side channel.

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LITERATURE CITED

- Boschung, H.T. 1992. Catalog of freshwater and marine fishes of Alabama. Bull. Ala. Nat. Hist. 14. 266 pp.
- Boschung, H.T. 1961. An annotated list of the fishes of the Coosa River system of Alabama. Amer. Midl. Nat. 66(2):257-285.
- Dahlberg, M.D., and D.C. Scott. 1971. The freshwater fishes of Georgia. Bull. Georgia Acad. Sci. 29:1-64.
- Etnier, D.A., and W.C. Starnes. 1993. The fishes of Tennessee. The University of Tennessee Press, Knoxville. 681 pp.
- Fowler, H.W. 1945. A study of the fishes of the southern Piedmont and Coastal Plain. Acad. Nat. Sci. Phil. Monograph 7. 408 pp.
- Frazer, K.S., S.C. Harris, and G.M. Ward. 1991. Survey of the Trichoptera in the Little River drainage of northeast Alabama. Bull. Alabama Mus. Nat. Hist. 11:17-22.
- Pierson, J.M., and R.S. Krotzer. 1987. The distribution, relative abundance and life history of the blue shiner, *Notropis caeruleus* (Jordan). Prepared for the Alabama Nongame Wildlife Coordinator. 105 pp.
- Ramsey, J.S. 1976. Freshwater fishes, pp. 53-65. In: Endangered and threatened plants and animals of Alabama. H.T. Boschung (ed.). Bull. Ala. Mus. Nat. Hist. 2.

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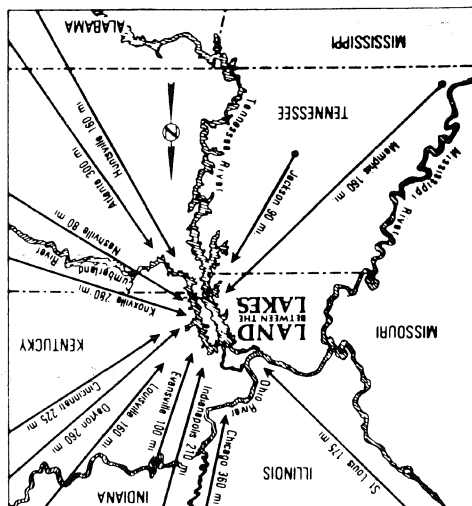
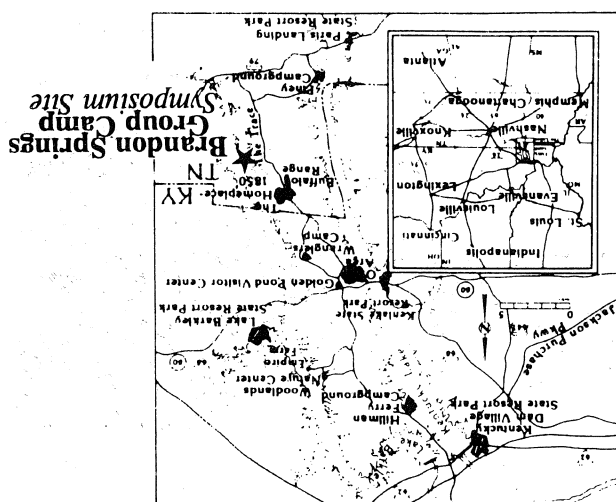
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Afternoon: INVITED SPEAKERS

2:00-2:15

Welcome:

Dr. Benjamin P. Stone, *Director*
The Center for Field Biology
Austin Peay State University

Dr. Gary Boggess, *Dean*
College of Arts and Sciences
Murray State University

Ann Wright, *Vice President*
TV A- Land Between The Lakes

2:15-3:00

**"Examining Long-term Trends Using
Macroinvertebrate Populations in
North Carolina"**

Dr. David Lenat
North Carolina Division of Environmental
Management, Raleigh, NC

3:00-3:45

**"Scientific Benefits of Long-term
Research in Forest Ecosystems:
Examples and Opportunities"**

Dr. Wayne Swank
Covee Hydrologic Laboratory, Otto, NC

3:45-4:00

Break

4:00-4:45

**"Discovering Hidden Biodiversity:
Lessons from Three Decades of
Herpetological Research"**

Dr. J. Whitfield Gibbons
Savannah River Ecology Laboratory
The University of Georgia

5:30-6:30

Dinner

Evening:

EVENING PROGRAM

7:00-7:45
**"Voices of Tennessee's Frogs and
Toads"**

Robert and Andrea English
Learning Through Environmental Awareness
Programs (LEAPS), Franklin, TN

Saturday, March 1, 1997

8:15 a.m. to 11:45 a.m.

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This symposium will provide an excellent opportunity for you to present and publish your research on the natural history of a diverse region. **We solicit papers** on original research for presentation to the contributed papers sessions.

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