

1974

Fishes of the Strawberry River System of Northcentral Arkansas

Henry W. Robison
Southern Arkansas University

John K. Beadles
Arkansas State University

Follow this and additional works at: <http://scholarworks.uark.edu/jaas>

 Part of the [Terrestrial and Aquatic Ecology Commons](#)

Recommended Citation

Robison, Henry W. and Beadles, John K. (1974) "Fishes of the Strawberry River System of Northcentral Arkansas," *Journal of the Arkansas Academy of Science*: Vol. 28 , Article 23.

Available at: <http://scholarworks.uark.edu/jaas/vol28/iss1/23>

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.

Fishes of the Strawberry River System of Northcentral Arkansas

HENRY W. ROBISON

Department of Biological Sciences, Southern State College, Magnolia, Arkansas 71753

JOHN K. BEADLES

Division of Biological Sciences, Arkansas State University, State University, Arkansas

ABSTRACT

A survey of the fishes of the Strawberry River in northcentral Arkansas was made between August 1967 and November 1973. Field collections, literature records and museum specimens showed the ichthyofauna of the Strawberry River to be made up of 95 species distributed among 17 families. Two erroneous records are deleted. One subspecies, *Etheostoma spectabile fragi*, is endemic to the river. Records of *Notropis fumeus*, *Etheostoma nigrum*, *Etheostoma proeliare* and *Percina sciera* represent extensions of previously known ranges within the state.

INTRODUCTION

The Ozark region of northern Arkansas is one of the most faunistically rich sections of the United States. Most of the region is drained by the White River system which supports a tremendous diversity of fish life and has considerable endemism among its component fish fauna. This paper reports the known fish fauna of the Strawberry River drainage in northcentral Arkansas. Collections of fishes from this section of Arkansas are few and records from the Strawberry River in particular are meager. It is important that an accurate documentation of the existing fish fauna be presented because of the proposed construction of Bell Foley Reservoir at river mile 27.6.

The Strawberry River first was investigated by Meek (1894) who collected 30 species when he visited Smithville, Arkansas, collecting at Flat and Machine Creeks and the river proper. Not until 1967-68 were further collections documented from the river. Distler (1968) collected from several small tributaries of the Strawberry and in the process discovered a new subspecies of the orangethroat darter, *Etheostoma spectabile fragi*, endemic to the river drainage. Robison and Harp (1971) described physicochemical and biological characteristics of the Strawberry River including a list of 49 fish species, although incorrectly reporting *Lepomis gibbosus* from the river. The most extensive collections to date are those made by the writers during the period 1967 to 1973.

The following report is based upon collections made by Meek (1894), Dr. Donald A. Distler, Wichita State University, the Arkansas Game and Fish Commission and the writers and upon collections housed at Arkansas State University, Oklahoma State University, Tulane University and Southern State College.

DESCRIPTION OF AREA

The Strawberry River is a clear spring-fed upland stream in northcentral Arkansas. The upper two thirds of the drainage is characterized by long, shallow rock and gravel-bottomed pools separated by swift gravelly riffles, whereas the lower part of the river near its confluence with the Black River becomes very sluggish with sand and mud substrates. Approximately the last 13 mi serves as a backwater area of the Black River. Originating in southern Fulton County, the river winds southeastward approximately 110 mi through IZard and Sharp Counties before emptying into the Black River in Lawrence

County. An area of approximately 811 sq mi of primarily limestone rocks is drained by the Strawberry River. Major tributaries include Piney Fork, North Big Creek, Reeds Creek and Cooper Creek. Additional description of the drainage is given by Robison and Harp (1971).

Because of the surrounding rural area, the Strawberry River is largely unaltered by human activities, although a resort area in the headwater reaches known as Horseshoe Bend has undergone tremendous growth and several tributaries have been dammed to form recreational lakes since 1967. The result could pose an environmental threat to the river if proper planning is not put into effect to guard against pollution and unneeded impoundment. Impact of Bell Foley Reservoir on the river ecosystem will not be evident until construction.

METHODS

Most of the collections were taken by a 10-ft, 1/4-in.-mesh seine; however, in lower wider regions a 20-ft, 1/4-in.-mesh seine was used extensively. Rotenone applications, under the auspices of the Arkansas Game and Fish Commission, also were used. Specimens were preserved in 10% formalin in the field before being placed in 40% isopropyl alcohol for permanent storage. Many of the specimens have been retained in the collections of fishes at Southern State College and Arkansas State University, although gifts of some species have been made to other institutions.

Scientific and common names of fishes follow those of Bailey et al. (1970) except where noted.

ACKNOWLEDGEMENTS

Drs. G.A. Moore and R.J. Miller, Oklahoma State University, kindly read and criticized the manuscript. Dr. Moore also verified certain darters and cyprinids.

ANNOTATED LIST OF FISHES OF STRAWBERRY RIVER

Petromyzontidae (Lampreys)

Lampetra sp. Two specimens of *Lampetra* sp. were collected by Dr. Donald Distler (pers. comm.) on 10 April 1963 from Mill Creek (Sec. 27, T16N, R4W). One escaped. The other specimen was of adult size and was taken from a stream

section about 3 ft deep in dense vegetation and strong current. This specimen is probably *L. lamottei* (Lesueur) although *L. aegyptera* (Abbott) has been discovered recently in Arkansas (G.L. Harp, pers. comm.) from the White River system.

Lepisosteidae (Gars)

- Lepisosteus oculatus* (Winchell). Spotted gar.
Uncommon inhabitant of quiet deeper pools.
- Lepisosteus osseus* (Linnaeus). Longnose gar.
Meek (1894) first reported *L. osseus* from the Strawberry at Smithville. Most common gar in the system.
- Lepisosteus platostomus* Rafinesque. Shortnose gar.
Though not well represented in the writers' collections, the shortnose gar is probably more common in the lower pools of the river where procurement is more difficult. Game and Fish Commission records indicate the presence of *L. platostomus* in these lower reaches.

Anguillidae (Freshwater Eels)

- Anguilla rostrata* (Lesueur). American eel.
Often taken by fishermen on trot lines.

Hiodontidae (Mooneyes)

- Hiodon tergisus* Lesueur. Mooneye.
Rare inhabitant of the clearer main-river pools.

Esocidae (Pikes)

- Esox americanus vermiculatus* Lesueur. Grass pickerel.
Rarely taken from quiet shallow backwater areas in or near vegetation.

Clupeidae (Herrings)

- Dorosoma cepedianum* (Lesueur). Gizzard shad.
Widespread in the medium to large tributaries and the main river, the gizzard shad was the most abundant forage fish throughout the drainage.

Catostomidae (Suckers)

- Carpiodes carpio* (Rafinesque). River carpsucker.
Rare catostomid present only in deeper downstream pools.
- Carpiodes cyprinus* (Lesueur). Quillback.
The quillback was the most abundant carpsucker in the system and was found in shallow and deep pools.
- Erimyzon oblongus* (Mitchill). Creek chubsucker.
Adults were collected mainly from both shallow and deep pools of the main river, whereas juveniles were taken in shallow tributary streams.
- Hypentelium nigricans* (Lesueur). Northern hog sucker.
Very common and abundant in large shallow pools and deep riffles of clear medium-sized tributaries.
- Ictiobus bubalus* (Rafinesque). Smallmouth buffalo.
Although none of the buffaloes was abundant in the drainage, all three species were present. The smallmouth buffalo seems to prefer clear stream sections.
- Ictiobus cyprinellus* (Valenciennes). Bigmouth buffalo.

- Large pool resident of the lower main river.
- Ictiobus niger* (Rafinesque). Black buffalo.
Found usually in lower sluggish main-river pools.
- Mnytrema melanops* (Rafinesque). Spotted sucker.
Taken occasionally in the lower reaches of the system, but never in large numbers.
- Moxostoma duquesnei* (Lesueur). Black redbhorse.
Moderately abundant in shallow and deep pools throughout the drainage.
- Moxostoma erythrurum* (Rafinesque). Golden redbhorse.
Most common and abundant catostomid in the drainage. Widely distributed in pools of the main river and larger tributaries.

Cyprinidae (Minnows and Carps)

- Campostoma anomalum pullum* (Agassiz). Central stoneroller.
Abundant and widespread throughout the system, particularly in shallow pools and riffles.
- Campostoma oligolepis* Hubbs and Greene. Largescale Stoneroller.
Recently Pflieger (1971) demonstrated that *C. anomalum oligolepis* should be considered a separate species because its widespread occurrence with *C. a. pullum* with no indication of intergradation indicates reproductive isolation of the two forms. The writers concur with Pflieger. To deny the reproductive isolation of these two forms by treating them as conspecific would be unrealistic.
- Cyprinus carpio* Linnaeus. Carp.
This introduced form was a fairly common inhabitant of both shallow and deep pools.
- Dionda nubila* (Forbes). Ozark minnow.
Common cyprinid typically found in the clear cold headwater regions near riffles. One of the most abundant cyprinids in the system.
- Hybognathus nuchalis* Agassiz. Silvery minnow.
Although Meek (1894) reported the silvery minnow as scarce, the writers found it very common in the lower sandy-bottomed tributary streams as well as in the lower parts of the river.
- Hybopsis amblops* (Rafinesque). Bigeye chub.
The bigeye chub was an uncommon cyprinid not usually abundant in the system, but when taken was found in shallow quiet pools.
- Nocomis biguttatus* (Kirtland). Hornyhead chub.
The hornyhead chub in the Strawberry River was occasionally found in high-gradient tributary feeder streams but was nowhere abundant.
- Notemigonus crysoleucas* (Mitchill). Golden shiner.
Common bait minnow undoubtedly constantly introduced into the system from area bait dealers.
- Notropis atherinoides* Rafinesque. Emerald shiner.
The emerald shiner was common, though not abundant, in sand-bottomed pools of the lower parts of the main river.
- Notropis boops* Gilbert. Bigeye shiner.
This ubiquitous shiner was widely distributed and abundant throughout the system.
- Notropis cornutus chrysocephalus* (Rafinesque). Striped shiner.
The writers follow R.J. Miller (1968) in considering *N. chrysocephalus* a subspecies of *N. cornutus* (Mitchill). Menzel (1970) provided additional documentation of the subspecific status of this fish. The striped shiner was common in rocky pools and occasionally was taken in riffles.
- Notropis fumeus* Evermann. Ribbon shiner.

Fishes of the Strawberry River System of Northcentral Arkansas

- Discovery of *N. fumeus* in the Strawberry River provided the first record of this species from the White River system and also the first record north of the Arkansas River system. Uncommon resident of the lower pools of the main river.
- Notropis galacturus* (Cope). Whitetail shiner.
Generally distributed throughout the system, *N. galacturus* was found in swift riffles and clear pools with moderate current.
- Notropis ozarcanus* Meek. Ozark shiner.
Common, but not usually taken in large numbers. Found in high-gradient stream sections with clean gravel substrates.
- Notropis rubellus* (Agassiz). Rosyface shiner.
Found in areas below swift riffles in the clearer stream tributaries and occasionally in pools. Nowhere abundant.
- Notropis sabiniae* (Jordan and Gilbert). Sabine shiner.
Rare; only two specimens have been collected in the lower reaches of the main river from sandy-bottomed pool areas.
- Notropis spilopterus hypsisomatus* (Cope). Western spotfin shiner.
The first specimens of *N. spilopterus* to be collected in Arkansas were taken by the junior author from the Strawberry River. Interesting zoogeographic note because Pflieger (1971) did not report the spotfin shiner from any streams draining southward from Missouri into Arkansas. In Oklahoma this species is known only from the Illinois River which originates in northwestern Arkansas (Miller and Robison, 1973). Gibbs (1957) reported the possibility that the Arkansas River system populations could be considered a third subspecies on the basis of the reduced lateral-line count of 35 or fewer scales in these populations; however he deemed it unwise to propose such a third subspecies. Strawberry River populations tend toward a lateral-line count of less than 35.
- Notropis telescopus* (Cope). Telescope shiner.
The telescope shiner was a moderately abundant member of the ichthyofauna primarily associated with the clearer higher-gradient tributary streams. Meek (1894) reported this species as *N. telescopus arcusanus*. Gilbert (1969) clarified the systematics and distribution of this species, separating *N. telescopus* and *N. ariommus*.
- Notropis texanus* (Girard). Weed shiner.
Rare cyprinid of the lower drainage. Because of the proximity of the main Black River to this lowland area, *N. texanus* may be only a transient visitor to the Strawberry from the Black River.
- Notropis umbratilis cyanocephalus* (Copeland). Northern redfin shiner.
Although not as abundant in this system as in lowland stream systems, *N. umbratilis* was nevertheless widespread.
- Notropis venustus venustus* (Girard). Western blacktail shiner.
This lowland cyprinid was an uncommon pool inhabitant of the lower, more turbid reaches of the drainage.
- Notropis volucellus volucellus* (Cope). Northern mimic shiner.
The mimic shiner was restricted essentially to the larger tributaries and the river proper.
- Notropis whipplei* (Girard). Steelcolor shiner.
Most common member of the subgenus *Cyprinella* in the system.
- Notropis zonatus* (Putnam). Bleeding shiner.
Present throughout the system; however, most abundant in small to medium-size tributaries. Commonly taken over gravel substrates in fast-flowing water in or near riffles and small pools.
- Phoxinus erythrogaster* (Rafinesque). Southern redbelly dace.
Abundant in smaller spring-fed tributary streams.
- Pimephales notatus* (Rafinesque). Bluntnose minnow.
Widespread throughout the system. Although not abundant it was more common than reported by Meek (1894), who considered it scarce.
- Pimephales tenellus* (Girard). Slim minnow.
Hubbs and Black (1947), although not reviewing material from the Strawberry River drainage, assigned the *P. tenellus* individuals from the Black River drainage to a status of integrades between *P. t. tenellus* and *P. t. parviceps*. However, they suggested that the intermediacy of these "nongeographic integrades" may have an ecological rather than an historical basis. Until further study, the Strawberry River population of *P. tenellus* will be considered an atypical part of the St. Francis-Black River race of *P. tenellus parviceps*, the typical mountain-stream form of the Ozark Mountains.
- Pimephales vigilax perspicuus* (Girard). Bullhead minnow.
Collected only from downstream main-channel areas where the river becomes sluggish.
- Semotilus atromaculatus* (Mitchill). Creek chub.
Widely distributed headwater dweller.

Ictaluridae (Freshwater Catfishes)

- Ictalurus furcatus* (Lesueur). Blue catfish.
Occasionally taken in lower sluggish parts of the main river where Black River populations probably keep the Strawberry stocked.
- Ictalurus melas* (Rafinesque). Black bullhead.
Uncommon ictalurid collected in the lower reaches.
- Ictalurus natalis* (Lesueur). Yellow bullhead.
Moderately abundant in clear pools where submerged vegetation was present.
- Ictalurus punctatus* (Rafinesque). Channel catfish.
Collected in pools throughout the system, this catfish occasionally was stocked in the river by Game and Fish Commission personnel. Common.
- Noturus albater* Taylor. Ozark madtom.
Most common madtom in the system. Taken principally from shallow swift riffle areas.
- Noturus exilis* Nelson. Slender madtom.
Widespread in the system. Night collections and rotenone applications yielded best results in collecting the slender madtom.
- Noturus eleutherus* Jordan. Mountain madtom.
Dr. W.R. Taylor (pers. comm.) verified the identification of a single specimen of *N. eleutherus* taken by the senior author which proved to have 11 preoperculo-mandibular pores instead of the usual 10. Also, the specimen had 36 vertebrae. In more than 70 counts Taylor (1969) reported that 35 was the highest number found previously. The discovery of *N. eleutherus* from this northern area of Arkansas helps fill a gap in the previously discontinuous distribution of this species from Illinois to southwestern Arkansas and Oklahoma.
- Noturus miurus* Jordan. Brindled madtom.
Uncommon madtom found in quiet pools of the lower parts of the system.
- Noturus nocturnus* Jordan and Gilbert. Freckled madtom.
Rare ictalurid from the lower drainage tributary streams.
- Pylodictis olivaris* (Rafinesque). Flathead catfish.
Adults were taken in the main river and several juveniles were collected in swift riffles.

Cyprinodontidae (Killifishes)

- Fundulus catenatus* (Storer). Northern studfish.
Moderately abundant species restricted to smaller clear headwater tributaries.
- Fundulus olivaceus* (Storer). Blackspotted topminnow.
Common pool inhabitant throughout the system.

Poeciliidae (Mosquitofishes)

- Gambusia affinis* (Baird and Girard). Mosquitofish.
Uncommon. Found in gentle backwater areas.

Atherinidae (Silversides)

- Labidesthes sicculus* (Cope). Brook silverside.
Common throughout the system.

Percichthyidae (Temperate Basses)

- Morone chrysops* (Rafinesque). White bass.
Though it was not taken in the writers' collections, fishermen report catching the white bass in the lower main river.

Centrarchidae (Sunfishes)

- Ambloplites rupestris ariomus* (Rafinesque). Rock bass.
The rock bass commonly was collected in clear pool regions in or near submerged *Justicia* or other aquatic vegetation.
- Chaenobryttus gulosus* (Cuvier). Warmouth.
The writers follow Miller and Robison (1973) in retaining the genus *Chaenobryttus* and resisting the lumping of the warmouth into *Lepomis* as Bailey et al. (1970) suggested.
- Lepomis cyanellus* Rafinesque. Green sunfish.
Common in pools throughout the system.
- Lepomis humilis* (Girard). Orangespotted sunfish.
Uncommon centrarchid in the Strawberry drainage found principally in the lower reaches of the main river.
- Lepomis macrochirus* Rafinesque. Bluegill.
Widespread and common.
- Lepomis megalotis* (Rafinesque). Longear.
Numerically most abundant centrarchid. Until study of the systematics of *L. megalotis*, the writers will use the binomial as suggested by R. Bailey (pers. comm.).
- Lepomis microlophus* (Günther). Redear sunfish.
Uncommon centrarchid found in larger pools.
- Micropterus dolomieu* Lacepede. Smallmouth bass.
Common in clearer stream sections throughout the system.
- Micropterus punctulatus* (Rafinesque). Spotted bass.
Abundant and widespread.
- Micropterus salmoides* (Lacepede). Largemouth bass.
Widespread and moderately abundant.
- Pomoxis annularis* Rafinesque. White crappie.
Confined to lower deeper pools of the main river and larger tributaries.
- Pomoxis nigromaculatus* (Lesueur). Black crappie.
Occasionally found in long clear pools of the upper regions.

Percidae (Perches)

- Ammocrypta vivax* Hay. Scaly sand darter.
Meek (1894) reported *A. vivax* as scarce in the Strawberry River. A single specimen of the scaly sand darter was

collected near Poughkeepsie in the writers' survey.

Etheostoma blennioides newmanii (Agassiz). Greenside darter.
Abundant in the system from a variety of large-stream and main-river riffle areas. Forms from the drainage conform well with the Cumberland race of *E. blennioides newmanii* described by R.V. Miller (1968).

Etheostoma caeruleum Storer. Rainbow darter.

Knapp (1964), in his treatment of the systematics of this species, recognized a new subspecies from the White and Black River systems. Specimens of *E. caeruleum* from the Strawberry drainage have a heavily scaled nape indicative of the Black River race of the new subspecies. The rainbow darter was very abundant in large riffles of the main river and larger tributaries.

Etheostoma chlorosomum (Hay). Bluntnose darter.

The bluntnose darter inhabited the lower sluggish stretches of the river where sand substrates predominate.

Etheostoma euzonum erizonum (Hubbs and Black). Arkansas saddled darter.

Common; fairly abundant throughout the upland parts of the river in both swift and slow riffles.

Etheostoma flabellare Rafinesque. Fantail darter.

The fantail darter was especially common in fast shallow gravel riffles of higher-gradient clear tributary streams. Pflieger (1971) reported that the nominate subspecies, *E. f. flabellare*, inhabited the upper two thirds of the Current and Black River systems whereas *E. f. lineolatum* (Agassiz) possibly intergrades with the nominate subspecies in the lower Current River. Populations of the upper White River and its tributaries are not definitely referable to either of the currently recognized subspecies and may warrant separate taxonomic recognition (Pflieger, 1971). Therefore, until the systematics of *E. flabellare* have been carefully worked out, the Strawberry River populations will not be assigned to a particular subspecies.

Etheostoma nigrum Rafinesque. Johnny darter.

A rare species in this system. Meek (1894) reported it as scarce in the river at Smithville; however, its presence has been doubted until now. Only one specimen was collected in this survey and it represents the first valid record of *E. nigrum* north of the Arkansas River within the state. The Strawberry River specimen has the cheek area naked except for a few scales, opercle partially scaled, 9 dorsal spines, 11 soft rays, 7 anal rays and lateral-line scales 50 (45 pored).

Etheostoma proeliare (Hay). Cypress darter.

Except for several records from the southernmost part of the White River system, *E. proeliare* has never been reported from the main White River system. Specimens were collected from Machine Creek at Smithville.

Etheostoma spectabile fragi Distler. Strawberry River darter.

Common in smaller shallow tributary riffles and pools, *E. spectabile fragi* is endemic to the Strawberry River drainage and only recently was described by Distler (1968). This form is characterized by a heavily scaled cheek region with the opercle and nape generally well scaled and males having a red gular region.

Etheostoma stigmaeum stigmaeum (Jordan). Speckled darter.

Reported as *Etheostoma saxatile* by Meek (1894), *E. s. stigmaeum* is an uncommon member of the Strawberry River ichthyofauna. Although no specimens of the speckled darter were seen by Howell (1968) from the Black River drainage in his review of the species, Strawberry River populations conform to the nominate subspecies.

Etheostoma whipplei whipplei (Girard). Redfin darter.

This typical lowland species was rare in the system and was found only in the slower lowland tributaries.

Etheostoma zonale (Cope). Banded darter.

Systematics of *Etheostoma zonale* were worked out by Tsai and Raney (1974). They saw only three individuals from the Strawberry River on which to base their conclusion that these represented intergrades between the Arkansas River race of *E. z. zonale* and the Black River race inhabiting the Black River drainage. In counts made of 25 individuals, the writers found lateral-line counts ranging from 48 to 58 (mode 55, \bar{x} = 53.0), anal ray counts of 7-8 (mode 7, \bar{x} = 7.4), squamation of generally the anterior third part of the breast absent with scale reduction beginning at the base of the pelvic fins and the cheek scaled with scales showing a tendency to be embedded. These additional data seem to strengthen Tsai and Raney's (1974) conclusion as to the intergrade status of the Strawberry River population of *E. zonale*.

Percina caprodes (Rafinesque). Logperch.

Until the systematics of *Percina caprodes*, currently under investigation, have been carefully worked out, no subspecific designation will be made for the logperch in the Strawberry River drainage.

Percina evides (Jordan and Copeland). Gilt darter.

The gilt darter was an inhabitant of large deep riffle areas of the main river. Strawberry River populations represent part of a new subspecies found throughout the White River system and diagnosed by Denoncourt (1969).

Percina maculata (Girard). Blackside darter.

Meek (1894) reported as *Etheostoma aspro* the blackside darter from the main river, where he found it common; however, during the current survey *P. maculata* proved rare in collections.

Percina nasuta (Bailey). Longnose darter.

Rare; this is probably the species reported by Meek (1894) as *Etheostoma phoxocephalum*. Bruce Thompson (pers. comm.) re-examined most of the *Percina phoxocephala* (Nelson) specimens from Arkansas and found them to be *P. nasuta*. This species was not taken in the writers' survey but is included on the basis of Meek's record.

Percina sciera (Swain). Dusky darter.

Primarily a lowland darter in the drainage taken from submerged brush piles and shallow rock-filled riffles. This is the first record of *P. sciera* from the Black River system in Arkansas.

Stizostedion canadense (Smith). Sauger.

Rare in the system. Confined to larger main-river pools of lower reaches where anglers occasionally report its presence.

Stizostedion vitreum vitreum (Mitchill). Walleye.

Uncommon inhabitant in the drainage.

Sciaenidae (Drums)

Aplodinotus grunniens Rafinesque. Freshwater drum.

Common in deeper pools throughout the drainage.

Cottidae (Sculpins)

Cottus carolinae (Gill). Banded sculpin.

Riffle-dwelling form common to swifter reaches of the river.

DISCUSSION

The known fish fauna of the Strawberry River system is represented by 95 species distributed among 17 families. Such diversity of ichthyofauna is indicative of the richness of Ozark streams. Two previous literature records for the Strawberry River appear erroneous and are deleted here from the known ichthyofauna. Robison and Harp (1971) incorrectly reported *Lepomis gibbosus* from the river on the basis of Arkansas Game and Fish Commission survey data; however, this more northern centrarchid is not present in Arkansas. Meek (1894) reported *Noturus gyrinus* from the Strawberry River from Flat and Machine Creeks. Because the habitat in these two creeks is typically Ozarkian, Taylor (1969) doubted its presence, speculating that the specimens, if ever found, would be *Noturus exilis*. Seining of these creeks failed to produce *N. gyrinus* in the present study, but substantiated Taylor's report of the habitat and established the fishes of the two streams as Ozarkian.

Composition of the fish fauna of the Strawberry River system is typically Ozarkian; however, because of the proximity of the lower-gradient Black River, a lowland component (*Minytrema melanops*, *Notropis fumeus*, *Notropis sabiniae*, *Notropis texanus*, *Noturus nocturnus*, *Noturus miurus*, *Etheostoma chlorosomum*, *Ammocrypta vivax* and *Percina sciera*) penetrated the downstream parts of the system. One form, *Etheostoma spectabile fragi* Distler, is endemic to the Strawberry River system.

Illustrative of the poor state of present knowledge of the distribution of Arkansas fishes was the discovery of several forms north of their known range in Arkansas (*Notropis fumeus*, *Etheostoma proeliare*, *E. nigrum* and *Percina sciera*).

LITERATURE CITED

- BAILEY, R.M., J.M. FITCH, E.S. HERALD, E.A. LACHNER, C.C. LINDSEY, C.R. ROBINS and W.B. SCOTT. 1970. A list of the common and scientific names of fishes from the United States and Canada. Am. Fish. Soc. Spec. Publ. 6:1-149.
- DENONCOURT, R.F. 1969. A systematic study of the gilt darter *Percina evides* (Jordan and Copeland) (Pisces, Percidae). Ph.D. dissertation, Cornell Univ. 216 p.
- DISTLER, D.D. 1968. Distribution and variation of *Etheostoma spectabile* (Agassiz) (Percidae, Teleostei). Univ. Kansas Sci. Bull. 58 (5):143-208.
- GIBBS, R.H. 1957. Cyprinid fishes of the subgenus *Cyprinella* of *Notropis*. II. Distribution and variation of *Notropis spilopterus*, with the description of a new subspecies. Lloydia 20 (3):186-211.
- GILBERT, C.R. 1969. Systematics and distribution of the American cyprinid fishes *Notropis ariommus* and *Notropis telescopus*. Copeia 1969 (3):464-492.
- HOWELL, W.M. 1968. Taxonomy and distribution of the percid fish, *Etheostoma stigmaeum* (Jordan), with the validation and redescription of *Etheostoma davisoni* (Hay). Ph.D. dissertation, Univ. Alabama. 113 p.

- HUBBS, C.L., and J.D. BLACK. 1947. Revision of *Ceraticthys*, a genus of American cyprinid fishes. Mus. Zool. Univ. Mich. Misc. Publ. 66:1-56.
- KNAPP, L.W. 1964. Systematic status of the rainbow darter *Etheostoma caeruleum* (Storer), and the subgenus *Hadropterus* (Pisces, Percidae). Diss. Abstrs. 2112-2113.
- MEEK, S.E. 1894. Report of investigations respecting the fishes of Arkansas, conducted during 1891, 1892, and 1893, with a synopsis of previous explorations in the same state. Bull. U.S. Fish. Comm. 14:67-94.
- MENZEL, B.W. 1970. An electrophoretic analysis of the blood proteins of fishes of the subgenus *Luxilus* (Notropis: Cyprinidae). Ph.D. dissertation, Cornell Univ. 145 p.
- MILLER, R.J. 1968. Speciation in the common shiner: an alternate view. Copeia 1968 (3):640-647.
- MILLER, R.J., and H.W. ROBISON. 1973. The fishes of Oklahoma. Okla. State Univ. Mus. Nat. Cult. Hist. Ser. No. 1. 246 p.
- MILLER, R.V. 1968. A systematic study of the greenside darter, *Etheostoma blennioides* Rafinesque (Pisces: Percidae). Copeia 1968 (1):1-40.
- PFLIEGER, W.L. 1971. A distributional study of Missouri fishes. Mus. Nat. Hist., Univ. Kansas, Publ. 20 (3):225-570.
- ROBISON, H.W., and G.L. HARP. 1971. A preimpoundment limnological study of the Strawberry River in northeastern Arkansas. Proc. Ark. Acad. Sci. 25:70-79.
- TAYLOR, W.R. 1969. A revision of the catfish genus *Noturus* (Rafinesque) with an analysis of higher groups in the Ictaluridae. U.S. Natl. Mus. Bull. 282. 315. p.
- TSAI, C., and E.C. RANEY. 1974. Systematics of the banded darter, *Etheostoma zonale* (Pisces: Percidae). Copeia 1974(1):1-24.