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# Cave Fauna of Arkansas: Vertebrate Taxa

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## ABSTRACT

The second in a series of papers describing the fauna of Arkansas caves includes distributional records and ecological status (as a cavernicole) of 53 vertebrate taxa, including: 3 fishes, 7 salamanders, 6 frogs, 3 lizards, 7 snakes, one turtle, 3 birds, and 23 mammals. Several of the taxa occur on state lists of endangered species, but records accumulated during the past 5 years indicate the need for a reevaluation of the actual populational status of these organisms.

## INTRODUCTION

This paper represents the second in a series of reports describing the fauna of Arkansas caves. The first paper dealt only with selected invertebrate taxa (McDaniel and Smith, 1976). In this paper we attempt to combine new and unreported records with available published records of vertebrates associated with the caves of Arkansas.

The troglotic (obligate cavernicole) fauna of Ozark caves has been described as limited, with possibly no more than one or two troglites in each cave (Barnett, 1967). Studies during the past 5 years indicate that this is an erroneous conclusion, probably based on the relative obscurity of Arkansas caves to the scientific community. In an earlier paper (McDaniel and Smith, 1976) four troglitic invertebrate taxa were reported from two Ozark caves, even though only a few taxa were considered. Certainly the total troglitic fauna of Ozark caves will prove to be much more diverse than currently understood. As a group, the vertebrates contribute only two fishes and a single salamander to the list of troglites inhabiting Arkansas caves (Nicholas, 1960).

## METHODS

Methodology was as reported earlier (McDaniel and Smith, 1976) in which collection of specimens was minimal and usually for the purpose of identification only. Generally, only one or two specimens of each species were removed from a cave. All forms collected by the authors are represented by voucher specimens in the collections at Arkansas State University. Taxa and localities reported are the result of collection efforts by the authors combined with a search of available literature including: Barnett (1970), Dowling (1957), Grove (1974), Harvey (1975), Sealander (1956), Sealander and Young (1955), Smith (1977), and unpublished reports of the Arkansas Speleological Survey. In the following list, an asterisk denotes records drawn from literature accounts; all other records were determined by the authors.

## ANNOTATED LIST OF ARKANSAS VERTEBRATE CAVE FAUNA

### CLASS TELEOSTOMI

#### Order Percopsiformes

##### Family Amblyopsidae

*Amblyopsis rosae* (Eigenmann), Troglitic. Benton Co.\*; Washington Co.\* The Ozark cavefish has been collected in only a few caves, but may occur in caves of other northern counties (Buchanan, 1974; Eigenmann, 1909).

*Typhlichthys subterraneanus* Girard, Troglitic. Randolph Co.\*; Stone Co.\*; Alexander C.\* Only a single specimen of the southern cavefish has been reported from Arkansas (Woods and Inger, 1957). However, Harvey (1975) reported a recent sight record from Alexander C. Intensive searches now in progress may provide additional records.

#### Order Perciformes

##### Family Centrarchidae

*Lepomis cyanellus* Rafinesque, Accidental. Izard Co.: Needles C. Smith (1977) reported several specimens of this fish apparently washed into the cave.

### CLASS AMPHIBIA

#### Order Urodela

##### Family Plethodontidae

*Eurycea longicauda melanopleura* (Cope), Troglitic. Baxter Co.: Irish Hill C.; Independence Co.: Cushman C., Dodd C., Fair Spring\*, Forshee C., Hankin's C., Tippewah C.; Izard Co.: Needles C.; Sharp Co.: Center C. #1, Eckel C.; Stone Co.: Alexander C.\*; Bald Scrapy C., Biology C., Blanchard Springs Caverns\*, Branscum C.\*; Half-mile C.\*; Roasting Ear C. Present records suggest that this common epigeal salamander probably occurs in most Ozark caves, although Harvey (1975) considered it an accidental. Smith (1964) reported hybridization with *E. lucifuga* in some Arkansas caves.

*Eurycea lucifuga* Rafinesque, Troglitic. Baxter Co.: Bonanza C.\*; Saltwater C.; Benton Co.: Fulton Co.: Biggers' Hill C.\*; Independence Co.: Bat C., Cushman C., Dodd C., Forshee C., Hankin's C., Ward's C.; Izard Co.: Bergren C., Clay C., Greasy Bottom C., Vickery C., unnamed cave; Lawrence Co.: sinkhole at Smithville; Madison Co.\*; Marion Co.: Arrowhead Bluff C., unnamed cave; Newton Co.\*; Randolph Co.: Bailey C., Mitchel C.; Searcy Co.: Zack C.; Sharp Co.: Calamine Mine, Center C. #1, Center C. #2, Eckel C., Kingshollow C.; Stone Co.: Bald Scrapy C., Biology C., Blanchard Springs Caverns\*, Branscum C.\*; Cricket C.\*; Gunner C.\*; Hell Creek C., Hidden Spring C.\*; Roasting Ear C., Rowland C., Saltwater C., World Wonder C.\*; unnamed cave\*; Washington Co.\* Records indicate the cave salamander is abundant throughout the Ozark region. Very dense populations may occur in some very wet caves (Smith, 1960, 1964).

*Plethodon cinereus serratus* Grobman, Accidental. Stone Co.: Blanchard Springs Caverns\*. Grove (1974) reported this salamander, but the authors have not yet found it in the cave environment. Black (1973) reported a specimen from a cave in Oklahoma.

*Plethodon dorsalis angusticlavus* Grobman, Accidental. Independence Co.: Confederate C.; Stone Co.: Bald Scrapy C., Blanchard Springs Caverns\*, Roasting Ear C. Although an epigeal salamander, this species apparently enters caves.

*Plethodon glutinosus glutinosus* (Green), Troglitic. Fulton Co.: Biggers' Hill C.; Independence Co.: Cushman C., Dodd C.; Lawrence Co.: Powhatan C.; Randolph Co.: Bailey C., Mansell C.; Sharp Co.: Center C. #1, Eckel C.; Stone Co.: Biology C., Hell Creek C., Roasting Ear C., World Wonder C.\*; unnamed cave\*. Although primarily an epigeal species, slimy salamanders are often found in the deep recesses of caves. Brooding behavior by this salamander has been observed by the authors several times. Barnett (1970) discussed aspects of the ecology of this salamander in an Ozark cave.

*Typhlotriton spelaeus* Stejneger, Troglitic. Baxter Co.: Irish Hill C., unnamed cave\*; Benton Co.: Monte Ne\*; Boone Co.: Marble C.\*; Carroll Co.: Bentonville\* Burnet C. Springs\*, Eureka Springs\*, Logan C.\*; Fulton Co.: Mammoth Springs; Independence Co.: Allen C.\*; Bell C.\*; Cushman C., Dodd C., Fair Spring\*, Forshee C., Hankin's C., Scout C.\*; Izard Co.: Bergren C., Clay C., Greasy Bottom C., Needles C.; Lawrence Co.: York Spring\*; Marion Co.: Arrowhead Bluff C., unnamed cave\*; Newton Co.: Haddock Spring\*, John Eddings' C.\*; Searcy Co.: Hurricane C.\*; spring west of Marshall\*; Sharp Co.: Center C. #1, Center C. #2, Eckel C., Ranch C.\*; Stone

Co.: Bald Scrappy C., Biology C., Blanchard Springs Caverns\*, Gunner C., Hell Creek C., Hidden Spring C., Roasting Ear C., Rowland C., Slick Rock Hollow C.; Washington Co.: unnamed caves vic. Farmington and Savoy\*. The grotto salamander was placed on a list of endangered species in Arkansas (Reagan, 1974). Harvey (1975) questioned the status of this salamander and suggested that it was not actually endangered. Certainly the locations presented here do not substantiate an endangered status for this salamander in Arkansas. Presently, it is both widespread and relatively abundant, and only regional habitat destruction in the form of massive ground water pollution would threaten its future. The taxa *T. braggi* (Smith, 1968) and *T. nereus* (Bishop, 1944) are synonyms of *T. spelaeus* (Brandon, 1966; Brandon and Black, 1970).

#### Family Ambystomatidae

*Ambystoma maculatum* (Shaw), Accidental. Stone Co.: Blanchard Springs Caverns\*. Not collected by the authors, but reported by Grove (1974).

#### Order Anura

##### Family Hylidae

*Hyla crucifer crucifer* Wied, Accidental. Stone Co.: Hell Creek C. Several specimens of the spring peeper have been found at the bottom of a shaft into this cave.

##### Family Ranidae

*Rana catesbeiana* Shaw, Accidental. Independence Co.: Forshee C., Hankin's C.; Stone Co.: Blanchard Springs Caverns\*. Records from Independence Co. were from just inside the mouths of the caves. The record from Blanchard Springs Caverns was reported by Grove (1974).

*Rana clamitans melanota* (Rafinesque), Accidental. Stone Co.: Blanchard Springs Caverns\*. Not collected by the authors, but reported by Grove (1974).

*Rana palustris* LeConte, Troglodromic or Troglodromic. Independence Co.: Dodd C., Forshee C., Hankin's C., Tippewah C.; Izard Co.: Bergren C., Greasy Bottom C. In Arkansas, as in Oklahoma (Black, 1973), this is the frog most commonly found in caves. Many of these specimens were found over 100 meters into the cave in total darkness. A determination of how these frogs feed in total darkness (if indeed they do) would be most interesting.

*Rana utricularia utricularia* Harlan, Troglodromic. Independence Co.: Cushman C., Forshee C.; Stone Co.: Bald Scrappy C., Blanchard Springs Caverns\*, Hell Creek C. The record of *R. pipiens* from Blanchard Springs Caverns (Grove, 1974) was of this species. All other records were from near the entrance of the respective cave.

*Rana sylvatica* LeConte, Accidental. Independence Co.: Adler C.\*; Stone Co.: Blanchard Springs Caverns\*. Not collected by the authors, but reported by Grove (1974) from Stone Co., and by Robison and Douglas (1977) from Independence Co.

#### CLASS REPTILIA

##### Order Squamata

##### Suborder Lacertilia

##### Family Iguanidae

*Sceloporus undulatus hyacinthinus* (Green), Accidental. Baxter Co.: Saltpeter C. These lizards are abundant in the rocks and trees near the entrance of most caves. It is not surprising that occasionally they seek shelter among the rocks within the entrance of a cave.

##### Family Scincidae

*Eumeces fasciatus* (Linnaeus), Accidental. Baxter Co.: Saltpeter C.; Stone Co.: Bald Scrappy C. An abundant lizard that would at times shelter within the entrance of caves.

*Leiopisma laterale* (Say), Accidental. Baxter Co.: Saltpeter C.; Sharp Co.: Center C. #2. Specimens were recovered from deep leaf-litter in the mouths of these caves.

##### Suborder Serpentes

##### Family Colubridae

*Diadophis punctatus stictogenys* Cope, Accidental. Stone Co.: Hell Creek C. Found alive, but emaciated, deep in the cave.

*Elaphe obsoleta obsoleta* (Say), Troglodromic. Stone Co.: Blanchard Springs Caverns\*, Roasting Ear C. Probably common near the

entrance of many caves.

*Lampropeltis getulus holbrooki* Stejneger, Accidental. Stone Co.: Biology C.\* Not collected by the authors, but reported by Harvey (1975).

*Ophedrys aestivus* (Linnaeus), Accidental. Stone Co.: Hell Creek C. The rough green snake was collected about 200 meters into the cave.

*Storeria occipitomaculata occipitomaculata* (Storer), Accidental. Stone Co.: Blanchard Springs Caverns\*. Not collected by the authors, but reported by Schuier et al. (1972).

*Virginia valeriae elegans* (Kennicott), Accidental. Stone Co.: Blanchard Springs Caverns\*. Not collected by the authors, but reported by Grove (1974).

##### Family Viperidae

*Agkistrodon contortrix contortrix* (Linnaeus), Troglodromic. Stone Co.: Roasting Ear C. The copperhead is likely to be found near the entrance of most caves.

##### Order Chelononia

##### Family Emydidae

*Terrapene carolina triunguis* (Agassiz), Accidental. Baxter Co.: unnamed cave\*. Reported by Harvey (1975).

#### CLASS AVES

##### Order Columbiformes

##### Family Columbidae

*Columba livia* Gmelin, Troglodromic. Randolph Co.: School House C.; Searcy Co.: unnamed cave\*; Stone Co.: Amphitheater C., unnamed cave\*. In each case, the birds were roosting in the twilight zone of the cave.

##### Order Passeriformes

##### Family Hirundinidae

*Hirundo rustica* Linnaeus, Troglodromic. Lawrence Co.: unnamed cave near Smithville; Sharp Co.: Center C. #2. The large mouths of many caves are used as nesting sites by swallows.

##### Family Tyrannidae

*Sayornis phoebe* (Latham), Troglodromic. Stone Co.: Bald Scrappy C., Blanchard Springs Caverns\*. The eastern phoebe often uses the mouth of a cave as a nesting site.

#### CLASS MAMMALIA

##### Order Marsupialia

##### Family Didelphidae

*Didelphis virginiana* Kerr, Troglodromic. Lawrence Co.: Powhatan C. Recorded in old records of the Arkansas Speleological Survey.

##### Order Insectivora

##### Family Soricidae

*Blarina carolinensis* (Bachman), Accidental. Independence Co.: Ward's C. A skull of this shrew was found about 100 meters into the cave.

##### Order Chiroptera

##### Family Vespertilionidae

*Eptesicus fuscus* (Palisot de Beauvois), Troglodromic. Baxter Co.: Saltpeter C., Twiggy C.\*; Benton Co.: Bat C., Crystal C.\*; Franklin Co.: Bat C.\*; Independence Co.: Bat C., Bone C.\*; Cushman C., Dodd C., Hankin's C., Confederate C., Ward's C.; Izard Co.: Clay C., Greasy Bottom C.; Madison Co.: Denney C., Mitchel C.\*; Marion Co.: Montachristo Mine, Red Cloud Mine, unnamed mines at Rush; Newton Co.: Boxley C.; Randolph Co.: Bailey C.; Searcy Co.: Bear Creek C., Zack C., unnamed cave\*; Sharp Co.: Center C. #1; Stone Co.: Amphitheater C., Bald Scrappy C., Blanchard Springs Caverns\*, Gunner C., Hell Creek C., Hidden Spring C., Indian C., Marcella C., Saltpeter C., Shelter C., unnamed caves; Washington Co.: Devil's Den C.\* The big brown bat is abundant throughout the cave region of Arkansas and from time to time probably occurs in almost all caves.

*Lasiurus borealis* (Muller), Troglodromic. Stone Co.: Blanchard Springs Caverns\*, Hell Creek C. The red bat normally inhabits trees, but occasionally enters caves.

*Lasiurus cinereus* (Palisot de Beauvois), Troglodromic. Stone Co.: Blanchard Springs Caverns\*. Reported by Grove (1974). The hoary bat is also normally a tree bat.

## Cave Fauna of Arkansas: Vertebrate Taxa

- Myotis austroriparius* (Rhoads), Troglaxene. Garland Co.: mine-shaft 12 miles NW Hot Springs\*. Specimens of this bat were reported by Davis et al. (1955). The only other Arkansas records were netted above ground (Baker and Ward, 1967).
- Myotis grisescens* Howell, Troglaxene. Baxter Co.: unnamed cave on Lake Norfolk; Benton Co.: Bella Vista C.\*, Cave Spring C.\*, Crystal C.\*, Logan C.\*, Bat C.\*; Independence Co.: Bat C., Bone C.\*, Dodd C., Forshee C., Hankin's C., Ward's C.; Madison Co.: Denney C.\*; Marion Co.: Arrowhead Bluff C.; Newton Co.: Boxley C.; Sharp Co.: Center C. #1; Stone Co.: Bald Scrappy C., Blanchard Springs Caverns, Hell Creek C., Hidden Spring C., Marcella C., Roasting Ear C., Rowland C., Bonanza C.; Washington Co.: Bat C., Clear Creek Quarry C., Devil's Den C.\* The gray bat was recently placed on the USDI List of Endangered Species. In the cave region of north-central Arkansas, the gray bat is still abundant and widely distributed.
- Myotis keenii* (Merriam), Troglaxene. Baxter Co.: unnamed cave\*; Benton Co.: Bat C., Crystal C.\*; Garland Co.: mineshaft 12 miles NW Hot Springs\*; Independence Co.: Cushman C.\*; Newton Co.: Boxley C.; Stone Co.: Amphitheater C., Blanchard Springs Caverns\*, Hidden Spring C.\*; Washington Co.: Devil's Den C.\* This small bat occurs infrequently in various caves.
- Myotis leibii* (Audubon and Bachman), Troglaxene. Newton Co.: Boxley C.; Searcy Co.: Zack C. Only one previous specimen of the small-footed myotis was known from Arkansas (Sealander, 1967; Sealander and Gipson, 1974). The recent specimens were found beneath flat stones in dry tunnels.
- Myotis lucifugus* (Le Conte), Troglaxene. Garland Co.: mineshaft 12 miles NW Hot Springs\*; Independence Co.: Dodd C., Forshee C.; Searcy Co.: Zack C.; Sharp Co.: Center C. #1; Stone Co.: Hell Creek C., Hidden Spring C.\* The little brown bat apparently occurs in small numbers in caves throughout the Ozarks.
- Myotis sodalis* Miller and G.M. Allen, Troglaxene. Baxter Co.: Twigy C.\*; Benton Co.: Bat C., Cave Springs C., Logan C.\*; Garland Co.: mineshaft 12 miles NW Hot Springs\*; Independence Co.: Cushman C., Dodd C., Hankin's C.; Madison Co.: Denney C.\*; Newton Co.: Boxley C.; Searcy Co.: Bear Creek C., Hurricane C.; Stone Co.: Amphitheater C., Biology C., Blanchard Springs Caverns\*, Hidden Spring C., Rowland C., unnamed cave\*; Washington Co.: Devil's Den C., Nichol's C.\* The Indiana bat has undergone extreme population reduction and is currently on the USDI List of Endangered Species. Recent Arkansas records indicate a larger population than previously thought.
- Nycticeius humeralis* (Rafinesque), Troglaxene. Independence Co.: Ward's C. A live specimen of the evening bat was collected a few meters inside the entrance of this cave. There are very few records of this bat from caves (Barbour and Davis, 1969).
- Pipistrellus subflavus* (F. Cuvier), Troglaxene. Baxter Co.: Twigy C., unnamed cave on Lake Norfolk; Benton Co.: Bat C., Cave Spring C., Crystal C., Gregory C., Indian C., Logan C., Monte Ne\*; Franklin Co.: old mineshaft near Cass\*; Garland Co.: mineshaft 12 miles NW Hot Springs\*; Independence Co.: Bat C., Bone C., Cushman C., Dodd C., Forshee C., Hankin's C., Ward's C.; Izard Co.: Bergren C., Clay C., Greasy Bottom C., Melbourne C., Needles C.; Madison Co.: Denney C., Ferris C.\*; Marion Co.: Arrowhead Bluff C., Blue Heaven C., Elm C., Montachristo Mine, Red Cloud Mine, unnamed mines at Rush; Newton Co.: Big C., Boxley C., Lost Valley C.\*; Randolph Co.: unnamed cave; Scott Co.: Treasure C.\*; Searcy Co.: Bear Creek C., Hurricane C., Zack C., unnamed cave\*; Sharp Co.: Calamine mine, Center C. #1, Eckel C.; Stone Co.: Amphitheater C., Bald Scrappy C., Biology C., Blanchard Springs Caverns\*, Cartwright C., Ennis C., Gunner C., Hell Creek C., Hidden Spring C., Marcella C., Rowland C., Saltpeter C., World Wonder C., unnamed caves\*; Washington Co.: Basset C., Bat C., Clear Creek Quarry C., Corkscrew C., Delap C., Devil's Den C., Devil's Icebox\*, Dexter C., Fincher C., Granny Dean C., Hewlitt C., Nichol's C., White River C.\* The eastern pipistrelle is widely distributed and probably inhabits almost every cave during at least the winter months.
- Plecotus rafinesquii* Lesson, Troglaxene. Lawrence Co.: Jesup C., unnamed cave near Smithville; Washington Co.: Basset C., Devil's Den C., Devil's Icebox\*, Hewlitt C.\* The eastern big-eared bat is thinly distributed throughout the caves of northern Arkansas. It often inhabits abandoned buildings, hollow trees, and other sheltered sites.
- Plecotus townsendii* Cooper, Troglaxene. Crawford Co.: Bluff Dweller's C.\*; Madison Co.: Mitchell C.\*; Marion Co.: Blue Heaven C., unnamed mine at Rush; Washington Co.: Basset C., Devil's Den C., Devil's Icebox\*, Hewlitt C.\* The race of the western big-eared bat occurring in Arkansas was considered an endangered taxon for the state (Sealander and Gipson, 1974). The new records from Marion Co. indicate a greater distribution than previously thought in Arkansas.
- Order Rodentia**
- Family Sciuridae**
- Sciurus carolinensis* Gmelin, Accidental. Stone Co.: Blanchard Springs Caverns\*. Not recorded by the authors, but reported by Grove (1974).
- Tamias striatus* (Linnaeus), Accidental. Sharp Co.: Center C. #1; Stone Co.: Blanchard Springs Caverns\*. The record from Blanchard Springs Caverns was reported by Grove (1974), and the record from Center C. was observed by the authors just inside the mouth of the cave.
- Family Cricetidae**
- Microtus pinetorum* (Le Conte), Accidental. Independence Co.: Ward's C.; Stone Co.: Blanchard Springs Caverns\*. The record from Stone Co. was reported by Grove (1974), and the record from Ward's C. was recovered by the authors about 150 meters into the cave.
- Neotoma floridana* (Ord), Troglaxene. Baxter Co.: unnamed cave\*; Fulton Co.: Biggers' Hill C.; Lawrence Co.: Powhatan C.; Izard Co.: Vickery C.; Marion Co.: unnamed mines at Rush; Searcy Co.: unnamed caves\*; Stone Co.: Bald Scrappy C., Hell Creek C., Indian C., Roasting Ear C., Saltpeter C., unnamed cave\*. The eastern woodrat is a frequent inhabitant of caves and ventures deep into some caves. The stick and debris nests of this rat are usually located in the vicinity of the mouth of the cave.
- Peromyscus attwateri* J. A. Allen, Troglaxene. Sharp Co.: Center C. #1. This mouse is abundant in the rocks around most Ozark caves. A nursing female was found nesting deep in Center C.
- Order Carnivora**
- Family Procyonidae**
- Procyon lotor* (Linnaeus), Troglaxene. Lawrence Co.: Powhatan C.; Searcy Co.: unnamed cave\*; Stone Co.: unnamed cave\*. The record from Lawrence Co. was recorded by the Arkansas Speleological Survey, and the records from Searcy and Stone Co. were reported by Harvey (1975).
- Family Mustelidae**
- Mephitis mephitis* (Schreber), Troglaxene. Searcy Co.: unnamed cave\*. Reported by Harvey (1975).
- Family Felidae**
- Felis rufus* Schreber, Troglaxene. Randolph Co.: Mansell C. Reported in records of the Arkansas Speleological Survey.

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LITERATURE CITED

- BAKER, R.J., and C.M. WARD. 1967. Distribution of bats in south-eastern Arkansas. *J. Mamm.* 48:130-132.
- BARNETT, D.E. 1970. An ecological investigation of cavernicole populations in Mansell Cave, Randolph County, Arkansas. M.S. Thesis. Northwestern State University, Louisiana. 51p.
- BISHOP, S.C. 1944. A new neotenic plethodontid salamander, with notes on related species. *Copeia* 1944:1-5.
- BLACK, J.H. 1973. A checklist of the cave fauna of Oklahoma: Amphibia. *Proc. Okla. Acad. Sci.* 53:33-37.
- BRANDON, R.A. 1966. A reevaluation of the status of the salamander, *Typhlotriton nereus* Bishop. *Copeia* 1966:555-561.
- \_\_\_\_\_, and J.H. BLACK. 1970. The taxonomic status of *Typhlotriton braggi* (Caudata, Plethodontidae). *Copeia* 1970:388-391.
- BUCHANAN, T.M. 1974. Threatened native fishes of Arkansas. pp. 67-92. In *Arkansas Natural Area Plan*. Ark. Dept. Planning, Little Rock. 248p.
- DAVIS, W.H., W.Z. LIDICKER, JR., and J.A. SEALANDER. 1955. *Myotis austroriparius* in Arkansas. *J. Mamm.* 36:288.
- DOWLING, H.G. 1957. Amphibians and reptiles in Arkansas. *Occas. Papers Mus., Univ. of Arkansas*. 3:1-51.
- EIGENMANN, C.H. 1909. Cave vertebrates of America. A study in degenerative evolution. *Carnegie Inst. Wash. Publ.* 104:241p.
- GROVE, J.L. 1974. Ecology of Blanchard Springs Caverns, Ozark National Forest, Arkansas. M.S. Thesis. Memphis State University. 27p.
- HARVEY, M.J. 1975. Distribution and ecology of vertebrates inhabiting caves of the Sylamore Ranger District, Ozark National Forest. U.S. Dept. Agri., Forest Serv., Ozark Nat. Forest. 35p.
- McDANIEL, V.R., and K.L. SMITH. 1976. Cave fauna of Arkansas - selected invertebrate taxa. *Proc. Ark. Acad. Sci.* 30:57-60.
- NICHOLAS, BRO. G. 1960. Checklist of macroscopic troglobitic organisms of the United States. *Amer. Midl. Natur.* 64:123-160.
- REAGAN, D.P. 1974. Threatened native amphibians of Arkansas. pp. 93-99. In *Arkansas Natural Area Plan*. Ark. Dept. Planning, Little Rock. 248p.
- ROBISON, H.W., and N.H. DOUGLAS. 1977. Geographic distribution; *Rana sylvatica*. *SSAR Herp. Review* 8:13.
- SCHUIER, J.P., J.W. DICKSON, and M.J. HARVEY. 1972. Herpetofauna of Sylamore Ranger District Ozark National Forest, Arkansas: Preliminary Report. *Proc. Ark. Acad. Sci.* 26:61-66.
- SEALANDER, J.A., JR. 1956. A provisional check-list and key to the mammals of Arkansas (with annotations). *Amer. Midl. Natur.* 56:257-296.
- \_\_\_\_\_. 1967. First record of small-footed myotis in Arkansas. *J. Mamm.* 48:666.
- \_\_\_\_\_, and P.S. GIPSON. 1974. Threatened native mammals of Arkansas. pp. 123-127. In *Arkansas Natural Area Plan*. Ark. Dept. Planning, Little Rock. 248p.
- \_\_\_\_\_, and H. YOUNG. 1955. Preliminary observations on the cave bats of Arkansas. *Proc. Ark. Acad. Sci.* 7:21-31.
- SMITH, C.C. 1960. Notes on the salamanders of Arkansas. #1. Life history of a neotenic stream-dwelling form. *Proc. Ark. Acad. Sci.* 13:66-74.
- \_\_\_\_\_. 1964. The problem of hybridization of the red cave salamander, *Eurycea lucifuga* (Raf), and the long-tailed salamander, *Eurycea longicauda melanopleura* (Green). *Proc. Ark. Acad. Sci.* 18:59-62.
- \_\_\_\_\_. 1968. A new *Typhlotriton* from Arkansas (Amphibia, Caudata). *Wasmann J. Biol.* 26:155-159.
- SMITH, K.J.. 1977. Biological aspects of *Asellus antricolus* (Creaser) (Isopoda: Asellidae) in an Ozark cave stream. M.S. Thesis. Arkansas State University. 55p.
- WOODS, L.P., and R.F. INGER. 1957. The cave, spring, and swamp fishes of the family Amblyopsidae of central and eastern United States. *Amer. Midl. Natur.* 58:232-256.