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THE MAMMALS OF SOUTHWESTERN ARKANSAS PART II. RODENTS

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ABSTRACT

This study investigated the composition and habitat affinities of the mammalian fauna of southwestern Arkansas. The study area was comprised of the 21 counties located south and/or west of and including Pulaski County. The previously existing data set pertaining to the mammals of Arkansas was notably incomplete and this study area in particular, was poorly known mammalogically. Specimens were collected by standard trapping and salvage methods throughout the study area. The mammals considered during this study were limited to those species meeting a set of criteria designed to eliminate species that had been introduced or artificially maintained. This study has accumulated records of 25 species of rodents; over 1500 specimens have been recorded; and a total of 95 new county records have been documented.

INTRODUCTION

A reliable understanding of an area's ecosystem can not be accomplished unless it is known of what that ecosystem is comprised biotically and abiotically. This realization is accentuated by the increase in the number of local, state, and federal agencies that have been studying aspects of the environment beyond those involving only recreational or economic considerations. These agencies agree that the more complete the knowledge of a studied area, the more efficiently the area can be managed and utilized. Consequently, many states are attempting to compile a complete data set of their natural resources. In Arkansas, the need for information on resources is intense. The present study, then, attempts to increase the data set available on the mammalian resources of southwestern Arkansas (an area previously only poorly known mammalogically).

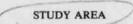
There are relatively few studies on the distribution of mammals in southwestern Arkansas. For the state as a whole, the information available ranges from nonexistent to nearly complete depending on the species and area of concern. Black (1936) made the earliest study of the distribution of Arkansas mammals. His study was limited to northwestern Arkansas and contained limited habitat information.

Dellinger and Black (1940) attempted the first statewide inventory of Arkansas mammals. However, this study included little information on the mammals of southwestern Arkansas and almost no information on the habitats of mammals. The data were often restricted to one or two specimens from as many locations.

One of the first systematic distributional studies for southern Arkansas was conducted by Baker and Ward (1967). They reported on the distribution of nine species of bats in the southeastern portion of the state (Bradley, Cleveland, and Drew counties).

Sealander (1956, 1979) made the first comprehensive studies attempting to establish accurate distributions for the Arkansas mammalian fauna. His distributions were based on previous literature records, his personal collections, the collections of other researchers, and repots of sight observations. Although quite valuable, Sealander's book lacked data from many areas, particularly from southwestern Arkansas.

The purposes of the prsent study were to establish, as completely as possible, the current distributions of the mammalian species found in southwestern Arkansas and to present data on habitat affinities of these mammals.



The study area comprises 21 counties located south and/or west of, and including, Pulaski County. Within this area of the state, habitats vary widely from the rolling hills and rocky outcroppings of the Ouachita Mountains in the northern portion, to forested hills and cultivated tracts of land, to the sandy flood plains found throughout the southern portion of the area.

Habitat characteristics examined included: predominant vegetation, substrate composition, topography, successional stage, and developmental stage. These characteristics were not considered on an individual basis, but instead were considered to be attributes of overall habitat at any given location. These data could be valuable for evaluating the possibility of encountering a desired species of mammal based on habitat parameters

The dominant vegetation of the study area included oak-hickory climax forests, loblolly pine forests, cedar glades, brush and grash fields, and agricultural cropland. Substrates varied from deep sands and clays of the flood plains, to rocky cliffs and outcroppings of the mountains, and to tracts of rich loams with scattered swampy areas.

The term "developmental stage" refers to the extent to which a site has been changed from its normal ecological condition by the activities (intentional or inadvertent) of man. These activities include commercial, private, or governmental developments, such as city growth, road construction, farming, and development of recreational areas.

For the purposes of this study, mammals were included if they met the following criteria:

- 1. The species is not a recently escaped exotic.
- 2. The species has not been recently introduced or (reintroduced) to the area by other than those avenues naturally open to native species.
- 3. The species' presence in the area is not a result of current or very recent artificial management or control procedures (ie., the stocking of game animals into the area from some other area).
- 4. The record(s) is(are) not likely to be considered spurious.

Finally, only those sight records from acceptably knowledgeable persons and for those species for which misidentification is not likely were used. In most instances, sight records were corroborated by the capture of the same species from a nearby area.

procedures METHODS

Numerous field collections were conducted throughout the period of this study by various individuals including Arkansas Game and Fish personnel, university personnel, public school teachers and their classes, graduate students, and other knowledgeable laypeople.

A variety of collection methods were necessitated by the different habits and life-styles of the mammals encountered in the study area. Sight identification of and collection of some road-kill specimens, particularly of larger species, resulted in many of the records accumulated for larger mammals and for those difficult to obtain by traditional collection methods. Sight identification of living specimens was made on only a few occasions, when accurate identification was assured.

Small terrestrial mammals were most often collected with commercially available kill and live traps. These traps were placed strategically and were baited with a variety of mixtures, including commercial peanut butter, fat and grease, meat, vegetables, fruits, and other edible items.

Considerable information was provided by analysis of a collection of owl pellets removed from a roost in Hempstead County (Steward *et al.*, 1988).

Specimens were prepared as standard museum skin and/or skeletal preparations. The specimens were deposited in the Arkansas State University Collection of Recent Mammals.

The habitat composition of the study area was determined by a variety of methods. In most cases, a brief description of the habitat in which the specimen was collected was included with the standard collection data. In those cases where habitat information was not available, the most probable habitat for the collection site was determined. This determination involved consulting published reports for the specific area, personal knowledge of the site, and review of detailed maps and/or aerial photographs of the area when available. Ultimately, habitat information was used to determine the range of "usual" habitats for a given species. Additional sources of distributional and habitat data included the few published literature records, records of the Arkansas Department of Health, and the Collection of Recent Mammals at Arkansas State University.

RESULTS AND DISCUSSION

More than 1500 rodent specimens were collected during this study. Voucher specimens now exist for 20 species of rodents found in southwestern Arkansas. Nomenclature and phylogenetic relationships utilized in this study are as reported by Jones *et al.*, 1986.

SPECIES' ACCOUNTS

Order Rodentia Family Sciuridae

Tamias striatus (Linnaeus), the Eastern Chipmunk. This species is common in deciduous forests, ranging from open to solid stands, with rocky outcrops and deposits. Cover areas, such as rock and log piles and brush, are used as shelter and observation posts (Sealander, 1979; Snyder, 1982). Sealander (1979) reported this species from five counties of the study area (Table 1). Three specimens have been collected from forested areas in Pike County. This species is limited in its distribution within the study area by its requirements of open forested areas providing brush and rock piles.

Marmota monax (Linnaeus), the Woodchuck. Woodchucks are usually found in open areas such as fields, along forest edges, and in overgrown fence rows. They were rarely found in heavily wooded areas. Sealander (1979) reported this species from Grant, Hempstead, Hot Springs, Montgomery and Pike counties of the study area. No additional records resulted from this study.

Sciurus carolinensis Gmelin, the Gray Squirrel. This squirrel inhabits the denser deciduous forests, those composed chiefly of oak-hickory stands, although they may also be found in oak and conifer forests (Sealander, 1979). There are no previously documented records of this species from the study area. Never-the-less, this is a very commonly seen animal in the area, both alive and as victims of the automobile. We have recorded this species from eight counties of the study area, and nine specimens were collected (Table 1).

Sciurus niger Linnaeus, the Fox Squirrel. The fox squirrel is found in more open hardwood forests and is more abundant in upland forests than in bottomlands (Sealander, 1979). The fox squirrel does not compete well with its relative, *S. carolinensis* and usually will be displaced by the gray squirrel if their ranges overlap (Lowery, 1974). This species is less common than the gray squirrel. We have recorded this species from three counties of the study area and have only two specimens (Table 1).

Glaucomys volans (Linnaeus), the Southern Flying Squirrel. The preferred habitat of the flying squirrel is dense forest areas, preferably oak-hickory associations, that are near water (Sealander, 1979). Dolan and Carter (1977) reported that the habitat of this squirrel is best described as a deciduous forest. This small squirrel is a rarity to most people of the area and they are usually unaware of its actual abundance. Heidt (1977) reported that this species commonly used nesting boxes in a study in Saline County. We have 11 specimens from five counties of the study area (Table 1). All of these specimens were taken from human dwellings.

Table 1. Sciuridae, Geomyidae and Cricetedae (Part I) from Southwestern Arkansas.

County\Species	1	2	3	4	5	6	7	8	9	10
Calhoun		1	1						1.61	•
Clark	+		1.e.							•
Columbia	(14)	2		7	22*	17	127*	*	64	
Dallas	- *	1	1				1967			\mathbf{i}
Garland		х		1						*
Grant	+		1.43			(e)	(m.)			\mathbf{r}
Hempstead			х			19	13*	3	120	÷
Hot Springs							1		1	
Howard	*		1901		141	1	2	(a)	3	1
Lafayette			1.00		2	2	17		15	5
Little River			141	141				(a)		1
Miller	2	2		1	1*	2*	69*	10	56	1
Montgomery	2		120	1		21	86	÷.	2	5
Nevada		2	1211	141	5*	91 - E	14	141	7	2
Ounchita	14		14	1	6*	380	37*	41	8 5	4
Pike	3*		14	1	- 11 I.	3*	12*		5	4
Polk		1	14		14	*	*	÷.		
Pulaski	140		14			5*	7*	2	2*	1
Saline	14		14						*	
Sevier					4			4		-
Union		x			4*		3*			
l'otal	3	9	2	11	40	49	387	3	283	25

LEGEND

1.<u>Tamias striatus</u> 2.<u>Sciurus carolinensis</u> 3.<u>Sciurus niger</u> 4.<u>Glaucomys volans</u> 5.<u>Geomys burasius</u> 6.<u>Oryzomys palustris</u> 7.<u>Reithrodontomys fulvescens</u> 8.<u>Reithrodontomys humulis</u> 9.<u>Sigmodon hispidus</u> 10.<u>Neotoma floridana</u>

* indicates a previous literature record for the species in that county. X indicates a sight record of the species in that county.

Family Geomyidae

Geomys bursarius (Shaw), the Plains Pocket Gopher. This species of gopher is found only in areas having soils capable of supporting its fossorial life style. Gophers require soils low in clay (< 30%) and higher in sand (> 40%). High water tables, those within 1.5m of the surface, also exclude this animal. These conditions have greatly restricted the spread of this species (Lowery, 1974; Sealander, 1979). Gophers have been collected from localities previously cleared of timber, such as lawns, fields and farms. In the study area, its collection was limited to areas with sandy loams as the basic soil type. Sealander (1979) reported this species from 11 counties of the study area. We have 40 additional specimens and one documented additional county (Table 1).

Family Castoridae

Castor canadensis Kuhl, the Beaver. Jenkins and Busher (1979) observed that, besides the need for a stable body of water, the main determining factor of a site's suitability for habitation was the availability of food. Beavers feed on a variety of woody and herbaceous plant species. Aspens and willows were particularly favored (Jenkins and Busher, 1979). We have been told by numerous residents of the area that this species is relatively common. Beavers are said to be a nuisance in some of the lowland farm areas, but they are considered little or no problem by most people. We saw only one beaver while traveling in the study area, that being on Lake Hamilton near Hot Springs in Garland County. On another occasion we found a beaver dam while mist netting on the Saline River in Saline County.

Family Cricetidae

Oryzomys palustris (Harlan), the Marsh Rice Rat. This rodent is most notably a wetland creature and will seldom if ever be found in a dry area. It normally inhabits thick vegetation found along ditches, lakes and ponds, marshes, and fields that are predominantly wet. Submarginal areas such as thickly overgrown fields and pine and bottomland forests are sometimes used (Lowery, 1974; Sealander, 1979; and Wolfe, 1982). We have collected this species in a variety of habitats throughout the study area. It is commonly found along the edges of cover areas, such as rights-of-way and forest-field ecotones and has been collected occasionally in or near man-made structures and trash dumps. This species has been reported from Pulaski (Dellinger and Black, 1940), Garland, Miller, Ouachita, Pike and Polk counties (Sealander, 1979). We have 49 specimens of this species from seven counties of the study area, including four new counties (Table 1).

Reithrodontomys fulvescens J.A. Allen, the Fulvous Harvest Mouse. There is some disagreement on the preferred habitat of this species. Lowery (1974) reported that overgrown fields and fence rows, thickets on the edge of woodlands, and occasionally dense grass fields may harbor this species. Sealander (1979) also listed these habitats, but added that they should border aquatic areas. He further stated that desertlike habitats are used by the species further south. Spencer and Cameron (1982) observed that grass-shrub field associations are the primary component of this mouse's habitat. The fulvous harvest mouse can be found in abundance throughout the study area. It utilizes habitats ranging from wet to relatively dry, and has been collected in large numbers from the rocky slopes of many Ouachita pine forests. Grass and brush fields, thickets (particularly honeysuckle), and trash dumps are also common habitats of this species. McDaniel et al. (1978) reported this species from Pulaski, Ouachita, and Little River counties; and Sealander (1979) reported it from Columbia, Garland, Hempstead, Miller, Pike, Polk, and Union counties as well. We have 383 specimens from 11 counties, four of which constitute new county records (Table 1).

Reithrodontomys humulis (Audubon and Bachman), the Eastern Harvest Mouse. This rodent is usually found in fields that have been taken out of use, briar thickets, overgrown ditches, and honeysuckle thickets (Lowery, 1974). Fields with a cover of tall thick grasses such as sedges or Johnson grass are commonly used (Sealander, 1979). Tumlison et al. (1988) reported the collection of 32 specimens from the campus of Southern Arkansas University. These specimens were removed from a short-grass field and highway right-of-way. During the present study, three additional specimens were recovered during the examination of barn owl (*Tyto alba*) pellets collected from a roost in Hempstead County. The projected foraging area of the owls was composed of brush and low grass fields and cultivated tracts of land, as well as a small town. A railroad right-of-way was located in the foraging area. This species is not as common as *R. fulvescens*.

Peromyscus attwateri J.A. Allen, the Texas Mouse. Rocky outcrops and cliffs are the preferred habitats of this mouse in some regions; however, in the Ouachita Mountains, the Texas mouse is associated with pine-hardwood forests, steep slopes of forested areas, and rocky cedar glades and ravines (Sealander, 1979). Brown (1964) reported this species from juniper-grass glades in the Missouri Ozarks, and specifically on steep bluffs along stream courses. The Texas mouse is not common except at a few locations of optimal habitat. Optimal habitat includes the rocky, forested slopes of the central Ouachitas and similar areas, where Texas mice may be found in great abundance. Sealander (1979) reported this species from Garland, Howard, Polk and Pulaski counties. A total of 92 specimens was collected from Montgomery and Pulaski counties during this study (Table 2).

Peromyscus gossypinus (Le Conte), the Cotton Mouse. This is a mouse of the bottomland hardwood areas and stream banks with rock and brush piles, thickets, logs, and other sources of cover (Sealander, 1979). Wolfe and Linzey (1977) added mesic and hydric hammocks and swamps to the list of habitats in which this species is found. The cotton mouse is also reported to be found in various pine associations (Ivey, 1949; Shadowmen, 1963). The cotton mouse is one of the most commonly encountered rodents of the study area and can be found in almost all habitats. It has been collected from the lowlands as well as the highlands, and typically resides along forest edges, rights-of-way, in fields, and trash dumps and is a common pest in outlying buildings and homes. The cotton mouse was first reported in the area by Dellinger and Black (1940) from Pulaski County. Sealander (1979) reported the cotton mouse from Garland, Howard, Miller, Montgomery, Polk, and Union counties. We have accumulated 179 specimens of this species from these and seven additional counties (Table 2).

Table 2. Cricetidae (Part II) and Muridae from Southwestern Arkansas.

County\Species	1	2	3	4	5	6	7	8	9	10
Calhoun		162	*				14	÷1	+	
Clark		245						¥)	-	*
Columbia		34	2		30	(a)		18	79	\sim
Dallas			8						1.	
Garland		3*		1*			-	-	-	-
Grant									-	*
Hempstead		3			3	75	1.0	20	1	
Hot Springs									+	*
Howard		3*			1*	1			11	
Lafayette		12		2	3	1	· • ·	-	3	
Little River	- 2	4		<u></u>	2	1	141	- 2	12	*
Miller		26*		3	5	21	6	4	36	
Montgomery	86	10*	1	1	6	48			-	
Nevada		2			2	1	1		1	
Ouachita		35		2	29	8	-	1	11	
Pike		37	*	2	11			2	4	
Polk		3*		*		3*			-	
Pulaski	6*	1*			1.	1*			1	
Saline	<u> </u>		÷.						2	4
Sevier	-		÷.			14.1			2	٠
Union		6*	2	*	18			1	3	180
Total	92	179	1	11	110	159	7	46	152	6

LEGEND

1.Peromyscus attwateri 2.Peromyscus gossypinus 3.Peromyscus leucopus 4.Peromyscus maniculatus 5.Ochrotomys nuttalli 6.Microtus pinetorum 7.Rattus norvegicus 8.Rattus rattus 9.Mus musculus 10.Myocaster coypus

* indicates a previous literature record for the species in that county. X indicates a sight record of the species in that county.

Peromyscus leucopus (Rafinesque), the White-footed Mouse. This mouse is most commonly found in deep woods or in the brush along the forest borders (Lowery, 1974). This mouse is reported to be scarce in grass fields in some northern populations (Lackey *et al.*, 1985). Cover areas of brush and rock piles, thickets and fallen logs in the somewhat drier forested uplands are thought to be the normal habitat for this species in Arkansas (Sealander, 1979). Although Sealander (1979) thought that the distribution of the white-footed mouse was statewide, we have only one specimen from Montgomery County. Montgomery (1984) reported collecting this mouse in Howard County. The whitefooted mouse appears to be rare in areas to the south of the Ouachita Mountains where it is apparently displaced by the cotton mouse.

Peromyscus maniculatus (Wagner), the Deer Mouse. This mouse is an inhabitant of open fields and is not found in forested areas. The deer mouse is commonly found in fields with cover grasses, or along fence rows, road and railroad rights-of-way, and croplands (Sealander, 1979). He also reported this species from Garland, Polk, and Union counties. During this study, 11 specimens were collected from six counties of the study area, five of which are new county records (Table 2). Although uncommon, this species has a wide distribution in the study area.

Ochrotomys nuttalli (Harlan), the Golden Mouse. Lowery (1974) reported that this species is usually found in pine-hardwood forests. Sealander (1979) stated that moist bottomland forests and stream banks with adequate cover are the preferred habitat of the golden mouse. Thickets of honeysuckle, cane, briars, vines, and rock-strewn areas are preferred as cover (Linzey and Packard, 1977, and Sealander, 1979). Montgomery (1984) reported the only record of this species from the study area, from Howard County. However, this species is common within the study area and was collected at almost all locations offering at least marginal habitat. Thickets, usually of honeysuckle, field and forest edges, rights-of-way, and dumps were common habitats for this species. One hundred five specimens of the golden mouse were collected from 11 counties of the study area (Table 2). Strangely, this species was not collected from the northeastern portion of the study area.

Sigmodon hispidus Say and Ord, the Hispid Cotton Rat. This species is often encountered in old fields, thickets, and grassy ditches. Open areas that provide adequate cover, such as idle fields, ditches, fence rows and rights-of-way with thick grass and brush are suitable for this rat. The cotton rat will inhabit pine forests but seldom hardwood forests, though it may be found in border thickets and is also said to avoid wet areas (Lowery, 1974; Sealander, 1979). Areas of grasses and forbs are common habitat preferences (Fleharty and Mares, 1973; Goertz, 1964; Goertz and Long, 1973; Kaufman and Fleharty, 1974). The cotton rat is very common throughout the study area and has been collected from forest and field edges; fence rows; trash dumps; briar, brush and log thickets; and from fields composed of low grass, high grass, and/or brush communities. Pierce and Kirkwood (1977) reported this species from Saline and Grant counties. A total of 283 cotton rat specimens was collected from 12 counties of the study area (Table 1).

Neotoma floridana (Ord), the Eastern Woodrat. This is a common resident of hardwood bottomlands. The wood rat avoids dry areas and is rare or nonexistent in upland areas of pine forest (Lowery, 1974). The preferred habitat of this species, in the Ouachita Mountains, is rock crevices, caves, and rock piles. Elsewhere, they are known to inhabit areas of dense brush cover, buildings, and hollow logs (Sealander, 1979). The wood rat is found at scattered locations about the study area. It is usually found in moist to wet areas, particularly those associated with river and stream systems. Areas offering adequate cover such as overgrown fields and forest are common habitats of the woodrat. A few specimens were collected from rocky outcroppings. Twenty-five specimens from nine counties have been collected (Table 1).

Microtus ochrogaster (Wagner), the Prairie Vole. This vole is said to inhabit only open grassland areas and will not be found in forests (Sealander, 1979). The range of this species is limited to the extreme northeast portion of the study area. Sealander (1979) reported this vole from Pulaski County and we have 16 additional specimens from this county.

Microtus pinetorum (Le Conte), the Woodland Vole. Sealander (1979) reported that the habitat requirements of this vole rest mainly in a need for thick mats of ground cover. Smolem (1981) also reported the need for thick ground cover and added that the soil should be well-drained. Lowery (1974) added that this vole is not known to inhabit pine forests. Otherwise it may be found in areas as diverse as overgrown fields, fence rows, and moist woodlands. The woodland vole is much more abundant than its relative, *M. ochrogaster*. The woodland vole has been collected from a variety of areas providing the necessary cover. Forested and brush-covered areas, rights-of-way, and grass and rock fields have been common habitats for this vole. Sealander (1979) reported this species from Pike, Polk, Pulaski, and Union counties of the study area, and Pierce and Kirkwood (1977) reported the woodland vole from Saline and Grant Counties as well. A total of 244 specimens was collected from nine counties, seven of which represent new county records (Table 2).

Ondatra zibethicus (Linnaeus), the Muskrat. This rodent is an aquatic mammal found along slow moving water sources such as marshes, lakes, ponds, rice fields, ditches, canals, reservoirs, and swamps (Lowery, 1974; Sealander, 1979). This species can remain undetected in an area for some time, provided it does not become destructive. The muskrat has not been reported from the area, and we failed to document its presence. However, based on accounts related to us from residents of the area, it is obvious that this species is a relatively common resident of the many lowland waterways and ponds, lakes, and reservoirs throughout the study area.

Family Muridae

This family is unique in that all the members were introduced to the North American continent unintentionally. Murids have become so well established that they are now considered a natural part of the ecosystem and, therefore, are included in this study. Rattus norvegicus (Berkenhout), the Norway Rat. This species of rat is less closely commensal with man that its relative *R. rattus*. It is found in great abundance wherever man has established residences. Populations can grow to large numbers when the necessary conditions of food and space are not controlled. Any building may offer shelter to this rat as well as fields and meadows, if cover and food are available (Lower, 1974; Sealander, 1979).

The Norway rat is not overly common in the study area and has been encountered more often in the wild thann in developed areas. A total of seven specimens was collected from two counties of the study area (Table 2).

Rattus rattus (Linnaeus), the Black Rat. This rat is closely associated with man and is more aggressive than is *R. norvegicus*. The black rat will usually displace its relative when they come in contact, and is more often found dwelling in man-made structures than in the wild (Lowery, 1974; Sealander, 1979). The black rat is more common in southwestern Arkansas than is its relative, *R. norvegicus*. However, as common as it is, it has not yet been collected from a habitat that is not in some way associated with man's presence. This species has been collected from six counties of the study area, and a total of 46 specimens has been taken (Table 2).

Mus musculus Linnaeus, the House Mouse. This species is the only example of its genus currently found in the United States (Jones et al., 1986). As with the other members of the family, the house mouse is usually closely related with man and his structures. In structures where control methods are limited or impossible, such as barns, sheds, and large stores, populations may be large (Lowery, 1974). This mouse also inhabits fields and pastures in the wild (Lowery, 1974). The house mouse is a common rodent in the study area. It has been found at numerous locations and in various habitats. In the wild it has been found in fields, forests, along rights-of-way and waterways, and in almost all trash dumps. Though undoubtedly common to all of the study area, only 154 specimens were collected from 11 counties (Table 2).

Family Erethizontidae

Erethizon dorsatum (Linnaeus), the Porcupine. The only specimen was recorded from Sevier County by Clark (1985). Reynolds (1957) reported that porcupines are usually confined to vegetated riparian habitats, although Woods (1973) reported that the habitat preference of this species varies according to what is available in the area.

Family Myocastoridae

Myocastor coypus (Molina), the Nutria. The nutria is similar to the muskrat in habits and needs and can be found in much the same habitat. Areas of slow moving or standing water with large amounts of aquatic and semiaquatic vegetation are preferred (Sealander, 1979). Bailey and Heidt (1978) and Sealander (1979) reported the only documented records of this species from Arkansas (Table 2). Based upon these records and conversations with residents of the study area, we believe that the nutria is a common species to the lowland waterways of the Gulf Coastal Plain.

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