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Recent Observations of the Distribution of Woodchucks (*Marmota monax*) in Arkansas

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Abstract.—During the last couple of decades, the distribution of the woodchuck (*Marmota monax*) appeared to be expanding southward in Arkansas (Tumlison et al. 2001). An increase in the frequency of new sightings led us to re-evaluate the present status of this species of squirrel in the state. The woodchuck is not easily confused with other mammals, therefore we sought records of sightings to update information about its distribution. Recent range expansion had been documented in southwestern Arkansas, so we placed notices in stores and advertised in local newspapers in that region to intensively seek new records of sightings from the public. Results of that effort, coupled with information gathered from a statewide survey of personnel of the Arkansas Game and Fish Commission, indicated that woodchucks are most common in the western Interior Highlands, and that the species apparently continues to expand its range southward in Arkansas.

Key words:—Woodchuck (*Marmota monax*), distribution, Arkansas, squirrel, mammals, Interior Highlands.

Introduction

The groundhog or woodchuck (*Marmota monax*) is a heavy-bodied burrowing squirrel. The fur is thick, coarse, and grizzled in appearance, except for the underparts, which tend to have a reddish tinge, and the feet and tail, which usually are black (Sealander and Heidt 1990, Kwiecinski 1998).

Historically, the distribution of the woodchuck in Arkansas appeared to be confined primarily to the Interior Highlands with most specimen records being from 17 counties in the Ozark Mountains (Sealander and Heidt 1990). Hall (1981) indicated marginal (but undocumented) records in Lincoln and Hempstead counties, and Sealander and Heidt (1990) provided sight records for 20 additional counties. Most of the counties included in the distribution in the southern ¾ of Arkansas were represented only by sight records. A woodchuck from Pulaski County was the southernmost specimen (Sealander and Heidt 1990) until Tumlison et al. (2001) documented specimen records for Clark, Desha, Garland, Hot Spring, and Howard counties.

Sealander and Heidt (1990) noted that the woodchuck was “almost absent from the West Gulf Coastal Plain (except perhaps on the extreme western edge).” Sightings they reported in southwestern Arkansas were mostly from counties in the Ouachita Mountains.

Considering the appearance and size of this rodent, sight records likely are more valid than they might be for other species that are more difficult to identify. We undertook a local survey of citizens in southwestern Arkansas and a statewide survey of personnel of the Arkansas Game and Fish Commission (AGFC) to gather information regarding sightings of woodchucks.

Materials and Methods

Range expansion by woodchucks had recently been documented in southwestern Arkansas, therefore we attempted an intensive survey of citizens in the area to gather as many new records of recent observations as possible. Notices including a photograph of a woodchuck were placed in buildings on the campus of Henderson State University to catch the attention of students who originate primarily from southwestern Arkansas. We also placed notices in area stores and advertised in local newspapers to seek new sightings.

To gain information on the current general distribution of woodchucks in Arkansas, we conducted a statewide survey of personnel of the AGFC in 2006. The survey instrument asked respondents whether they had seen a woodchuck in the county in which they lived and also to list any other counties in which they had seen a woodchuck. Specific localities of sightings were requested when known by the observer. Further, respondents were asked to indicate whether woodchucks were common, rare, or absent from the county in which the respondent lived.

We tallied observations to determine the number of respondents who stated that they had seen woodchucks in a particular county. These numbers were plotted on a state map to reveal areas in which woodchucks had been observed more or less commonly. In addition, specific localities provided by respondents were plotted on the map.

Licensed wildlife rehabilitators in Arkansas provide annual reports to the AGFC concerning the wildlife species brought to them. We examined these reports for new county records of woodchucks.

Results and Discussion

Of the 451 AGFC personnel included in the survey, 96 (21.3%) responded. Responses came from all regions of the
state, but few respondents reported observations of woodchucks in counties of the Gulf Coastal Plain or Mississippi Alluvial Plain (Fig. 1). One exception was Desha County, where there is also a previous specimen record (Tumlison et al. 2001).

Another exception was in Ouachita County, in which a report by an AGFC employee and a separate citizen report indicated that woodchucks were present. The citizen originally reported seeing a badger near Chidester in Ouachita County, which he noted was foraging on acorns next to a deer. After he shot the deer, the badger ran up a tree like a bear. Badgers are not known to occur in southern Arkansas, but woodchucks are known to climb trees (Bowdish 1922, Saunders 1922), and we deemed it likely that he actually saw a woodchuck.

The greatest density of observations by AGFC personnel was in counties within the western Ozark and Ouachita mountains physiographic provinces (as defined by Foti 1974). Respondents typically noted that woodchucks were common in those counties, whereas woodchucks in counties in eastern and southern Arkansas usually were believed to be rare or absent (Fig. 1). Swihart (1992) noted that woodchucks prefer to burrow in locations along woodland edges or brushy fence rows. Burrows are dug mostly in areas of rock outcrops, under boulders in talus, and under roots of trees (Armitage 2003) in areas that include steep slopes and well-drained soils (Merriam 1971). The perceived densities of woodchucks in Arkansas counties are consistent with the documented preferred habitat.

On 6 November 2006, students at Ouachita Baptist University in Arkadelphia (Clark County) observed 3-4 woodchucks feeding on Halloween pumpkins that had been thrown into a campus ravine. Based on differences in size, these individuals presumably represented an adult and her offspring. Other sightings in the vicinities of Arkadelphia, Joan, and

Fig 1. Distribution of woodchucks (Marmota monax) based on a survey of personnel of the Arkansas Game and Fish Commission (AGFC) and citizens in Arkansas. Black dots in counties represent localities reported by AGFC personnel, and numbers in counties represent the number of different respondents who claimed to have seen woodchucks in that county. Zeros indicate the counties from which there were respondents, but no woodchucks had been sighted. Black squares indicate the records of Tumlison et al. (2001), and stars indicate new locations personally observed or reported to us by citizen observers. The four-pointed star in Bradley County reflects the presently most southeastern specimen record in Arkansas (HSU 658). Localities illustrated are detailed in the appendix.
Hollywood further support the expansion of range indicated by
the specimen from Clark County (Tumlison et al. 2001).

A citizen from Pike County in southwestern Arkansas
provided our first records for that county. Her description
validated her observations of woodchucks: “It stopped abruptly
and sat on its hindquarters, then it scurried up a little incline
away from me. Viewing it from the rear, I was able to see that it
was walking with a slight waddle or roll. It sat on its hindquarters
and picked and ate a leaf.” The behavior of woodchucks seen
by others in Pike County was also mentioned by this informant,
which provides insight to human-woodchuck interactions as
the species extends its range: “She left a sack of chicken feed
on the porch overnight, and [an animal] tore it up and scattered
it all over the porch … She started leaving fruit and vegetable
peels for [the animal], trying to get a better look. Finally, with
great curiosity, she borrowed a live-trap and caught it. With
a wildlife encyclopedia in hand, her daughter verified that it is a
groundhog. She then released it … It has, on three separate
occasions this past week, burgled apples from my porch …”

The presence of woodchucks had not been documented
previously in Pike County, but reports we received from citizens
indicate that woodchucks presently are commonly seen there.
On 19 March 2007, RT photographed a woodchuck under the
AR Hwy. 27 bridge at the Little Missouri River in southwestern
Pike County. This individual had been feeding along the
roadside until a disturbance caused it to seek shelter in its den,
which was dug within the rip-rap rock placed under the bridge
for stabilization.

Slopes of rights-of-way for railroads and highways attract
woodchucks (Baker 1983), and they may disperse via the
roadways while feeding on roadside pasturage (de Vos and
Gillespie 1960). On 1 April 2007, RT saw a woodchuck enter
its burrow in the rip-rap under the bridge for Saline Bayou in
Clark County, Arkansas. Available evidence indicates that this
type of habitat under many bridges in southwestern Arkansas
may provide an otherwise limited, talus-like, denning habitat
(Armitage 2003), which may have promoted some of the
dispersal herein documented.

Similarly, dispersal of woodchucks from more mountainous
regions into the Piedmont Plateau and the Coastal Plain regions
in North Carolina has been documented (Robinson and Lee
1980). Highway and utility rights-of-way and river levees
were believed to have provided the pathways for dispersal from
upland areas. This seems to be a plausible explanation for most
of our observations in southwestern Arkansas.

In North Carolina, woodchucks are distributed along
rivers and larger streams, where they dig burrows in the levees
(Robinson and Lee 1980). Such use of river levees may explain
the observations and previous records from Desha County and
a new county record from near Marion in Crittenden County
(dated 20 June 2006 and provided by a wildlife rehabilitator).

A new specimen record for Bradley County would more
likely represent dispersal via a highway corridor. AGFC
personnel obtained a specimen on 9 May 2007 from about 3 km
W of Warren near U.S. Hwy 278. The specimen is a nulliparous
adult female (total length 620 mm, tail length 160 mm, hind
foot length 80 mm, ear length 33 mm) and is deposited in the
Henderson State University Museum of Vertebrates (HSU 658).

Specific localities of sightings of woodchucks (including
those of AGFC personnel and citizen reports) are provided in
the appendix.

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Appendix. Localities of sightings of woodchucks as reported by personnel of the Arkansas Game and Fish Commission (AGFC) and by citizens. Localities are listed only as section, township, and range if those data were reported by respondents. Localities are represented on Fig. 1.

Game and Fish Personnel Reports

**Boone Co.** : Sec. 31, T20N, R21W. **Bradley Co.** : about 3 km W of Warren on U.S. Hwy 278; road hit specimen (HSU 658). **Carroll Co.** : Sec. 21, T20N, R25W; Sec. 17, T20N, R24W; Sec. 22, T20N, R27W. **Cleburne Co.** : Little Red River at Dripping Springs. **Conway Co.** : Sec. 9, T7N, R16W; Sec. 14, T6N, R17W; Sec. 20, T6N, R16W; Sec. 18, T6N, R15W. **Craighead Co.** : Sec. 1, T13N, R6E. **Crawford Co.** : Cove Creek on Ozark National Forest. **Faulkner Co.** : Sec. 15, T8N, R14W. **Franklin Co.** : White Rock; Sec. 1, T9N, R26W. **Garland Co.** : Sec. 4, T4S, R19W. **Greene Co.** : Sec. 22, T18N, R5E. **Izard Co.** : Sec. 14, T17N, R11W. **Jackson Co.** : Jacksonport State Park. **Johnson Co.** : White Rock WMA; Sec. 31, T10N, R25W; Sec. 4, T8N, R22W; Sec. 4, T10N, R21W. **Logan Co.** : Dardanelle WMA. **Madison Co.** : Hwy 412 at Huntsville; Hwy 16; Sec. 3, T18N, R26W. **Newton Co.** : Hwy 16. **Ouachita Co.** : Sec. 12, T14S, R17W. **Perry Co.** : Nimrod Lake S of dam. **Poinsett Co.** : Bayou DeView WMA. **Polk Co.** : Queen Wilhelmina State Park; Caney Creek WMA; Sec. 8, T2S, R28W; Sec. 29, T3S, R29W. **Pope Co.** : near Russellville; NW corner on Hwy 123; Sec. 3, T9N, R21W; Sec. 31, T10N, R20W. **Pulaski Co.** : Fermale Cutoff 0.75 mi. S off Hwy 10; Pinnacle Mountain State Park; Julius Brecking Riverfront Park, Little Rock. **Scott Co.** : Muddy Creek WMA. **Searcy Co.** : Canaan; Bear Creek. **Sebastian Co.** : Hwy 96, Fort Chaffee; near Sugarloaf; Sec. 2, T7N, R31W. **Stone Co.** : Sec. 13, T15N, R11W; Sec. 21, T16N, R12W. **White Co.** : Sec. 5, T5N, R8W; West Point, Hwy 36; Velvet Ridge. **Van Buren Co.** : Gulf Mountain WMA. **Woodruff Co.** : Augusta, Hwy 64; Sec. 10, T4N, R3W; Sec. 15, T4N, R3W. **Yell Co.** : Petit Jean WMA; S side Mt. Magazine WMA.

Citizen Reports and author observations