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## Additional Vertebrate Records and Natural History Notes from Arkansas

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## Additional Vertebrate Records and Natural History Notes from Arkansas

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Running title: Additional Vertebrate Records and Natural History Notes from Arkansas

Although vertebrates are a commonly studied group of animals, the distribution and natural history of many species within Arkansas is still not well understood or documented. However, recently several new distribution and natural history notes have been published in a continuing series regarding Arkansas's vertebrates (e.g. Tumilson and Robison 2010; Connior et al. 2011, Connior et al. 2012). Thus, we continue to augment current literature with new records of distribution and provide notes on the natural history of selected vertebrates from Arkansas. All voucher specimens (physical or photographic) are deposited in the vertebrate collections at either Arkansas State University (ASUMZ), Henderson State University (HSU), or South Arkansas University (SAU).

### CLASS ACTINOPTERYGII

*Lepomis humilus* (Girard) – Orangespotted Sunfish. A single male *L. humilus* was taken by HWR on 20 October 1999 from the Antoine River at AR St. Hwy. 26 at Antoine (Pike-Clark Co. line). This represents the first record of this sunfish species collected in the Antoine River system (Robison et al. 1983, Robison and Buchanan 1988).

*Ammocrypta vivax* Hay – Scaly Sand Darter. Two *A. vivax* were collected by HWR on 17 June 2004 from the Antoine River at AR St. Hwy. 26 at Antoine (Pike-Clark Co. line). This is the first record of this darter collected in the Antoine River system (Robison et al. 1983, Robison and Buchanan 1988).

*Perca flavescens* (Mitchill) – Yellow Perch. The Yellow Perch was intentionally stocked in Arkansas in 1918 for food and sport-fishing (O'Malley 1920). No subsequent reports of its capture in Arkansas occurred until the Arkansas Game & Fish Commission (AGFC) collected one 72 mm (standard length) specimen from the Trimble Creek arm of Bull Shoals Lake on 26

August 1999 (Buchanan et al. 2000). Interestingly, the AGFC has not stocked this species in the state; however, private anglers stocked them into Bull Shoals Lake. In the late 90's the AGFC biologists first detected the population and many escaped the lake in the 2011 flood and perhaps in the 2008 flood (K Shirley, *pers. comm.*). Trout biologists have seen them in their electrofishing samples upstream from Bull Shoals (K Shirley, *pers. comm.*). On 28 July 2003, a single specimen 70 mm (standard length) was collected from the Mississippi River 3.2 km above Barfield Landing in Mississippi Co. (S Barkley and TM Buchanan, *pers. comm.*). More recently, a single specimen was collected from the Buffalo River between Rush landing and the junction of the Buffalo River and the White River (eastling 552300.22, northling 4001324.62) (Marion Co.) on 6 October 2011 by electroshocking by the AGFC. Several specimens of Yellow Perch have been caught recently from the new boat ramp at Bethesda Store (35°47'31.94" N; -91°47' 18.48" W) (G Taylor, *pers. comm.*).

### CLASS AMPHIBIA

*Lithobates sylvaticus* (LeConte) [Wood Frog] - *Lithobates catesbeianus* (Shaw) [American Bullfrog]. On 17 February 2013, MBC observed two separate pairs of *L. sylvaticus* - *L. catesbeianus* in amplexus 3 km S of Mull in Searcy County (Figure 1). Interspecific amplexus obviously has potential reproductive impacts, however the extent of this is not known. *Lithobates catesbeianus* has been observed in interspecific amplexus with other species of frogs including the Northern red-legged frog, *Rana aurora*, and the Oregon spotted frog, *R. pretiosa* (Pearl et al. 2005); neither of these species occurs within Arkansas.

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Figure 1: *Lithobates sylvaticus* and *L. catesbeianus* in interspecific amplexus collected from Searcy Co., Arkansas.

### CLASS TESTUDINEA

*Terrapene carolina triunguis* (Agassiz) – Three-toed box turtle. Unusual plastron color. 28 August 2011: AR: Union Co.; El Dorado, AOR Mt. Holley Road; 2 km E Junction AR St. Hwy 335. HSU 1644. This individual exhibited morphological characteristics consistent with both the ornate box turtle, *Terrapene ornata* and the three-toed box turtle (*T. carolina triunguis*) indicating that it may be a hybrid (Figure 2); however, both mitochondrial (*cytochrome b* (*Cytb*); haplotype 107 from Martin et al. (2013); GenBank Accession #KF059137) and nuclear (*glyceraldehyde-3-phosphate dehydrogenase* (*GAPD*); haplotype 65 from Martin et al. (2013); GenBank Accession #KF059227) sequence data revealed that it was a *T. c. triunguis* (See Martin et al. [2013] for methods). If this individual had been a hybrid, at least one of the molecular markers we used would have been characteristic of *T. ornata*, but that was not the case. Despite the possibility of hybridization between *T. c. triunguis* and *T. ornata* (Lutterschmidt et al. 2007, Cureton et al. 2011), our data suggest that specimens exhibiting this mixed morphology may also simply be the result of intraspecific phenotypic variation.

### CLASS SQUAMATA

*Storeria occipitomaculata obscura* (Storer) – Florida Redbelly Snake. Thus far, the only recent verifiable record of a Florida redbelly snake occurring in Arkansas was documented in Arkansas County by Irwin and Blihovde (2001). Rossman and Erwin (1980) suggested that *S. o. obscura* ranges from Texas

and Louisiana into southern Arkansas, but did not include any specimens from southern Arkansas, including the West Gulf coastal plain region. Trauth et al. (2004) did not examine any specimens from the West Gulf Coastal Plain, so conservatively did not assign those specimens to a subspecies. Herein, we report the first verified record of *S. o. obscura* occurring in the West Gulf Coastal Plain. On 17 October 2012, MBC captured an AOR adult male from AR: Union Co.; El Dorado, 0.9 km N Jct. Champagnolle Road and 19<sup>th</sup> Street crossing 19<sup>th</sup> street. This individual was deposited in the ASUMZ as ASUMZ 32363 and verified by S.E. Trauth.



Figure 2: Three-toed box turtle (*Terrapene carolina triunguis*) showing plastron typical of ornate box turtle (*Terrapene ornata*) (top) and carapace showing characteristics of typical three-toed box turtle, such as a domed carapace (bottom).

### CLASS AVES

*Ardea herodias* (Linnaeus) – Great Blue Heron. Tumblison and Robison (2010) reported the presence of a heronry near Strong, Union County. Fourteen nests were present in two dead trees (one *Quercus* and one *Pinus*). When the site was revisited on 28 June 2012, many of the limbs had fallen and only three nests

remained, and only one nest remained on 12 January 2013 (Figure 3). Our observations show that this particular heronry essentially collapsed in two years, due to the aging and breakdown of the limb structure of the trees. From a management perspective, it appears that the presence of dead snag trees is important to providing sites for reproduction and population stability for this species.



Figure 3: A Great Blue Heron nesting site near Strong, Union Co., AR in March 2010 (bottom) and its remains by June 2012 (top).

*Petrochelidon pyrrhonota* (Vieillot)- Cliff Swallow. The construction of concrete bridges in southern Arkansas has increased nesting opportunities for cliff swallows (Tumilson 2007, 2009). In the former studies, nests of mud were constructed on bridges that were fairly high from the stream surface, presumably because the higher humidity near the ground would not allow the mud to remain adhered to the concrete. On 30 May 2012 a new nesting site was discovered on the campus of HSU, Arkadelphia, Clark County. This site is remarkable because nests were only about 3 m above the surface of the water.

Although cliff swallows may nest within 1.5 m of the surface in other parts of the species range (Brown and Brown 1995), they have not been located this close to the stream in southern Arkansas. The extreme drought conditions experienced during the summer of 2012 apparently facilitated construction of nests at a bridge. At the time of original discovery (and through the summer), no water was present in the creek. All of the nests were built above metal bolts which protruded from the concrete, a condition known as statant nests, which provided extra support. Nests were not found at this site in previous years.

Tumilson's (2007) survey of cliff swallows did not include Garland County. On 14 July 2012, we observed several nests of cliff swallows under the U.S. Hwy 270 overpass at Higdon Ferry Road in Hot Springs. This represents the first record of breeding by cliff swallows in Garland County.

#### CLASS MAMMALIA

*Marmota monax* (Linnaeus) – woodchuck. Searcy Co.: ~5 km W Harriet; State Hwy 27. DOR. 04 July 2012. 35.974857°N; -92.571149°W. (photo voucher HSU). Both Sealander and Heidt (1990) and Tumilson et al. (2007) reported that woodchucks had been seen in Searcy County, but this is the first museum record. Connior et al. (2011) recently reported one from adjacent Marion County as well.

*Peromyscus attwateri* (Allen) – Texas deer mouse. Searcy Co.: ca. 3 km S Junction AR St. Hwy. 14 and Ramblewood Trail, off Ramblewood trail. 06 August 2012 (HSU). This record partially fills a distributional hiatus in north central Arkansas. This record, along with the Izard County record reported by Connior et al. (2012), now fills in the distributional hiatus in north central Arkansas (Sealander and Heidt 1990).

*Urocyon cinereoargenteus* (Schreber) — common gray fox. A petition for a subspecies of the gray fox, *Urocyon cinereoargenteus ocythous*, was recently accepted by the United States Fish and Wildlife Service (USFWS) to list as endangered (<http://www.fws.gov/midwest/News/release.cfm?rid=606>). Connior (2010) listed the subspecies occurring in Arkansas as *U. c. floridanus*; however, did not provide any reference to published literature. Sealander (1979) and Sealander and Heidt (1990) did not assign Arkansas individuals to a subspecies. In Black (1936) and Dellinger and Black (1940), northwest Arkansas individuals were assigned to *U. c. cinereoargenteus*. In

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both Sealander (1956) and Hall (1981), Arkansas individuals were referred to as *U. c. ocythous*.

*Urocyon cinereoargenteus ocythous* occurs throughout the Midwestern United States (Hall 1981) with marginal records in extreme southeastern Oklahoma including two locations from McCurtain County, which borders Arkansas (Long and Long 1964, Caire et al. 1989). *Urocyon c. floridanus* occupies the southeastern United States (Hall 1981) westward through Louisiana, including the northernmost counties bordering Arkansas (Lowery 1974) and the portion of Texas east of the Balcones Fault Zone (Schmidly 2004). Most of the published literature inferring subspecies of the gray fox within Arkansas does not provide measurements, substantiating which taxonomic subspecies occurs in Arkansas. Hall (1981) seemed to demarcate the boundary between *U. c. ocythous* and *U. c. floridanus* by using the McCurtain Co., Oklahoma record and some other marginal records in southern Arkansas (no measurements provided) as the southernmost range limit for *U. c. ocythous*. This precludes *U. c. floridanus* from occurring in Arkansas.

The possibility exists based on previous literature that more than one subspecies occurs within Arkansas. If this is the case, then the demarcation may not be the geopolitical boundary of Arkansas and Louisiana, but more so, the Highlands (e.g. Ozark Plateau and Ouachita Mountains) versus the lowlands (e.g. West Gulf Coastal Plain). In fact, four skull specimens from HSU, all collected from southern Arkansas, were similar in size to specimens from Louisiana, which is referred to as *U. c. floridanus*. Without investigating specimens statewide, it is hard to ascertain if *U. c. ocythous* is the only subspecies to occur in Arkansas. There is a possibility that *U. c. floridanus* does occur within Arkansas. Further analysis is required to determine the current subspecies occurring throughout Arkansas and to delineate the geographic boundaries of those subspecies.

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