



# Life in the Rocks



*The Newsletter of the Arkansas Game and Fish Commission Nongame Aquatics Program*

## *The Largest Reptiles in Arkansas*

*By Kelly Irwin, Herpetologist*

While sitting at my desk on a recent cold gray afternoon, I received a telephone call. I picked up the receiver and was greeted by a cheerful young lady who was looking for information as part of a class research project. She asked me if I could provide her with any information on “Big Arkie.” This was the first time I had ever heard of “Big Arkie,” and I had no clue as to who or what “Big Arkie” was. The young lady proceeded to explain that “Big Arkie” was reportedly the largest American Alligator (*Alligator mississippiensis*) ever recorded from Arkansas. Since I was not able to provide her with any information, I wished her success on her report and hung up the telephone. My curiosity was piqued so I performed a search on the Internet and to my surprise found a story on “Big Arkie” (see <http://users.aristotle.net/~russjohn/monsters/ms2.html>), which I later found out the caller had already located. Without recounting the complete history (I’ll let you read the article), a plaque associated with the taxidermy mount claimed that “Big Arkie” was “considered the largest alligator in captivity in the western hemisphere,” at 13-feet in length. A bold claim indeed, but far from the known maximum size record for the species.

Humans are always interested in extremes, and we want to know what the longest, shortest, heaviest, oldest, etc. things are. As a result of this incident I thought it the perfect impetus to compile some observations on maximum size records for selected reptile species that occur in Arkansas.

At 13-feet in total length (TL) “Big Arkie” may very well be the largest “documented” American Alligator from Arkansas, and justifiably so, as there are no official records of Arkansas specimens that would indicate otherwise. The recently published, “The Amphibians and Reptiles of Arkansas” (2004), gives a maximum length of 5.5 meters (18 feet) for the species, however, no range of

average lengths or Arkansas size maxima are provided. Based on records reported by my fellow AGFC employees and personal observations I have determined that the average maximum size for adult male alligators in Arkansas is around 12 feet in length. Due to sexual dimorphism, adult females, on average, generally do not exceed 8 feet in length. The most recent report of a very large Arkansas alligator was the removal of a nuisance animal by AGFC personnel in Phillips County on 31 October 2005. It was an adult male measuring in at 12 feet 7 inches TL.



But you may ask, “What is the largest known American Alligator of all time?” The record is based on an old adult male taken by E. A. McIlhenny (that’s right, of McIlhenny’s tabasco sauce fame) from the coastal marshes of Louisiana. As related in his classic work, “The Alligator’s Life History” (1935), McIlhenny was out hunting ducks on January 2, 1890 near the mouth of Lake Cock Bayou on Vermilion Bay when he came upon a monstrous alligator. He shot the animal but it was so massive that he and his two assistants could not extract it from the marsh and had to leave it where it lay. Using the barrel of his rifle as a measuring device of known

length, he proceeded to measure the animal three times, for accuracy, and determined the total length at 19 ft 2 in - a record that will undoubtedly stand as the all-time maximum size record for the American Alligator.



Unfortunately, snakes evoke a deep-seated fear and fascination in the majority of humans. Once people hear that I am a herpetologist, they often insist on recounting some horrific tale of a monstrous venomous snake that reared up out of the deep grass and proceeded to attack them with unrivaled aggression. Invariably these monstrous snakes are as large as a man's thigh in diameter and are so long that the body stretched across two tracks of an overgrown logging road with the head and tail unseen on either side. So what is the largest venomous snake in Arkansas? Although unrecorded in the literature, I tracked down the story behind the origin of an enormous venomous snake. Back in July 1985, Howard Johnson was out driving through the rugged hills northeast of Jessieville in Garland County when he spied a giant Western Diamondback Rattlesnake (*Crotalus atrox*) stretched out along the side of the road. He stopped his vehicle and dispatched the unsuspecting beast with a shovel. When he took it to a local taxidermist to get it mounted the snake was measured at 6 feet 9 inches TL, making this the largest known Arkansas specimen of the Western Diamondback Rattlesnake. You can see this specimen on display at the U.S. Forest Service, Jessieville Ranger District office in Jessieville. The largest known specimen of the species is reported as 7 feet 4 inches from Texas.

The largest nonvenomous species of snake in Arkansas is not known. However, there are several species that have record lengths that exceed 7 feet, these include the Coachwhip (*Masticophis flagellum*) at 8 feet 6 inches TL and the Black Rat Snake (*Pantherophis obsoleta*) 8 feet 5 inches TL, both are large terrestrial species. Another species of large harmless snake is the semi-aquatic Mud Snake (*Farancia abacura*) with a maximum known length of 6 feet 9 inches TL.

When it comes to turtles the Alligator Snapping Turtle (*Macrochelys temminckii*) is recognized as one of the world's largest freshwater turtles. Like the Alligator, males attain larger sizes than females and these bruisers can top the scales at over 200 pounds (lbs), with shell lengths up to a maximum of 31 inches. Again there is no official state maximum size record, but a taxidermy mount was recently donated to the Arkansas Game and Fish Commission that could set the standard. This huge male was taken in Phillips County many years ago, prior to their protection from take, and the trapper who donated the specimen reported the weight at 215 lbs - the largest Arkansas specimen that I have seen or heard of to date. The largest officially recognized specimen was a long term captive housed at the Brookfield Zoo, Chicago, that weighed in at 248 lbs. However, the largest specimen I ever heard of was reputed to weigh in at 316 lbs, taken from 60 feet of water by a commercial trapper in the Flint River of southwestern Georgia. I actually saw the Polaroid photograph of this turtle which was incredibly massive, but alas no physical specimen remains to validate its authenticity.



## *Past and Present at the National Museum of Natural History*

By Bill Posey

I recently concluded a trip to Washington D.C. where I visited the National Museum of Natural History at the Smithsonian Institute. Behind the scenes of the superb displays in the museum's visitors area lays a treasure for taxonomists. In an adjoining wing of the museum are cabinets filled with many lots of animal specimens. (A "lot" is a collection of the same species collected at the same time. All individuals in the same lot are assigned the same collection number.) Naturally, I was most interested in studying the mussels within that collection.

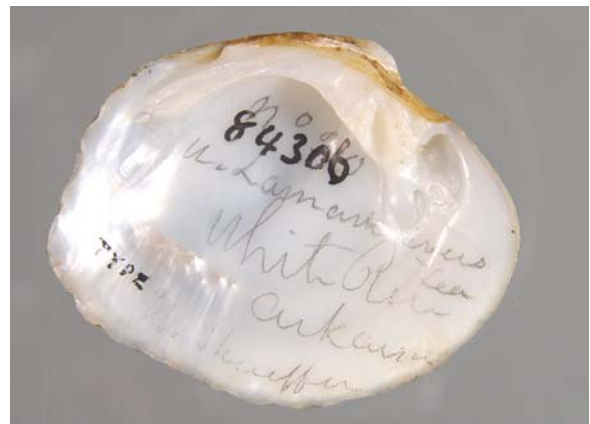


### **Tray with lot of *Unio irroratus* shells collected in Kentucky.**

This collection includes many shells that were collected over 100 years ago and were used by such notable taxonomists as Constantine Rafinesque, Isaac Lea and Thomas Say to describe new species of mussels and are the "type" specimens. All other individuals that are similar in shape are compared with the "type" specimen to determine if the two are

similar enough to be called the same species. Several shells included the species name and collection location information written within the shells, possibly by the taxonomist that named them.

Several specimens from Arkansas have served as type specimens. These include Arkansas' endemic species the speckled pocketbook (*Lampsilis streckeri*) and the Arkansas fatmucket (*Lampsilis powellii*). Some species were also described from Arkansas such as *Unio lamarkianus* that was later included with the western fanshell (*Cyprogenia aberti*) and *Villosa choctawensis* that has since been considered to be the Ouachita creekshell (*Villosa arkansasensis*). The Wabash pigtoe (*Fusconaia selecta*) now called *Fusconaia flava* was described from specimens collected in the Cache River near Nemo, Arkansas in Craighead County. This species is widely distributed in the Mississippi River Basin and can be very abundant in some beds.



**"Type" specimen with writing in the shell.**

This and other large collections are invaluable resources for taxonomists working to determine valid species and the number of species in North America. I have heard one taxonomist state that if all names that have been given to mussels were in use today, there would be approximately 1,000 species in North America. However, many of the species names in use today are aggregates of other named species resulting in only 297 species that are recognized in North America today. It is not hard to believe that there are 1,000 described species when one considers how much the environment changes the shapes of shells. Specimens of species found in small creeks may look different from the same species found in large rivers. Early taxonomists did not have

the current luxury of large collections to use for comparing specimens from different rivers.

New tools are also available today which include genetic analysis and shell shape (morphometric) analysis software that are helping to differentiate species that are found in North America. Large collections of lots of specimens will help taxonomists by allowing them to measure and photograph large collections of species for use in shell shape analysis without harming additional animals. The use of the originally described shell in the shape analysis assists in bridging the past with the present by comparing its shape with all other specimens considered to be the same species.



Photo of "type" specimen used to describe the modern-day Wabash pigtoe.

## *Pebbles...*

*(Quick notes on what we've been up to...)*

- Brian and Mark Kottmyer conducted surveys of several spring branch creeks in northwest Arkansas for fish and crayfish.
- Bill conducted endangered species surveys for boat ramp renovations in the Black River at Elgin Ferry and the St. Francis River at Parkin.
- Kelly conducted a survey for hellbenders below Dam 1 on the White River at Batesville. This is the site where a fisherman caught a hellbender on hook and line in October 2003. Current construction to retrofit the lock for hydroelectric generation prompted this survey. No animals were found during the survey, in spite of an abundance of many cover rocks, the majority of which were too large to turn. Many thanks to Mark Oliver, Brian Wagner, Mark Kottmeyer, and Ben Wheeler for their efforts during this survey.
- We all attended a staff meeting at the Ferndale 4-H Center.
- Brian and Mark met with partners from ANHC, USFWS, and TNC to plan upcoming cave endangered aquatic species monitoring and related studies.
- Bill collected mussels from War Eagle Creek for genetic comparison with Neosho mucket mussels from the Illinois River.
- Kelly met with members of the Fisheries, Enforcement, and Legal Divisions in Clay County to conduct an onsite inspection and compliance review of an aquatic turtle dealer applicant. This particular facility has a history of prior wildlife violations, which necessitated scrutinizing this site for application renewal.
- Brian attended a water quality workshop at UAPB.
- Bill collected gravid winged mapleleaf mussels for host fish identification at Missouri State University.
- Kelly conducted an inspection of the turtle dealer pond in Clay County for the presence of Alligator Snapping Turtles. After a day of pumping the slimy, oozy pond bottom revealed hundreds of aquatic turtles but no AST's.
- Brian and Mark joined USFWS Karst Biologist Dave Kampwerth on a cave survey in northwest Arkansas.
- Bill and Jeff Quinn (Streams Management Biologist) sampled the Red River in Southwest Arkansas for paddlefish.
- Kelly taught two classes to the Wildlife Officer Cadet class of 2005 at the Enforcement Training Center in Mayflower. The topics covered were "Venomous Snake Identification" and "Regulated Amphibians and Reptiles".
- Brian attended the Arkansas GIS Users Forum's biennial meeting held in Hot Springs.
- Bill traveled to the National Museum of Natural History (Smithsonian Institute) where he collected data from mussels and photographed mussels stored in the museum.
- Kelly and his wife Lisa took some much needed vacation time from to visit friends and family in the southeast. Stops included a week's stay on St. George Island and fieldwork on St. Vincent Island NWR, near Apalachicola, Florida. To hunt for herps and eat lots of fresh shrimp! Other stops included Athens, Georgia and Aiken, South Carolina.
- Brian and Mark helped a biologist from International Paper collect several Ouachita madtoms for captive propagation experiments at Conservation Fisheries Inc. in Tennessee.
- Bill assisted the Wildlife Division in their search for a new Quail Program Coordinator.

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*The redspot chub, Nocomis asper, develops its namesake red spot on breeding males. Like many other members of the minnow family, Cyprinidae, the males also develop spiky tubercles on their head and other parts of the body. These are the source of the nickname, horny-head chub.*

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