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The Early History and Recent Trends in Iowa Herpetology

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Herpetological exploration of Iowa began in 1823 with Long's expedition to the Rocky Mountains. From that time until an 1892 publication by Osborn based on Iowa specimens, herpetological research in the state was minor and incidental. Several significant reports appeared after that date involving analysis of Iowa specimens and from 1938 to 1944 a major base-line collection of the amphibians and reptiles of Iowa was established. Studies after that time have added a few species to Iowa's known herpetofauna but recently have concentrated not only on composition of the fauna and distribution, but emphasized population changes, ecological relationships, and better understanding of life histories.

INDEX DESCRIPTORS: History of Amphibians and Reptiles of Iowa, History of Herpetology of Iowa, History of Zoological Research in Iowa, History of Iowa's Natural History.

Exploratory expeditions and natural history surveys into the western parts of the United States during the nineteenth century began the building of our knowledge of the herpetology of the region. Most explorers gained access to the Great Plains area via the Missouri River valley and thus detoured Iowa, touching only its western border. Apparently the earliest reference to the herpetology of the state is by Thomas Say in 1823, reporting in Long's Expedition to the Rocky Mountains, Vol. I, in which he described four serpents, now known as Elaphe obsoleta, the black rat snake, Thamnophis proximus, the western ribbon snake, Thamnophis sirtalis pardinus, the redside garter snake, and Coluber constrictor flaviventris, the eastern yellowbelly racer. The rat snake was taken between Isle du Vache and Council Bluffs and the other three were collected from a stone quarry on the west side of the Missouri River, actually in Nebraska across from Pottawattamie County, Iowa. The precise locality, known later as Engineer Cantonment, or Council Bluff, was adjacent to the site of a council of Lewis and Clark with the Ottawas and Missouri Indians on 3 August 1804. It lies on the Nebraska shore above the mouth of the Boyer River (Iowa) at a distance of more than 20 miles north of the present Council Bluffs, Iowa. The history and documentation for this locality have been detailed by Shimel (1912). In the journals of Prince Maximilian von Wied recording observations made on a trip up the Missouri River in 1833 and republished by Orr and Porter, eds. (1983), observations were made of Cryptodrys turgidus from the Iowa side of the Missouri River somewhere between Missouri and the locality then known as Council Bluffs. They also reported this snake near "Council Bluffs." It is probable that both of these refer to massasaugas, now a very rare snake in Iowa. Wied reported seeing blue racers and what was probably a bull snake from this part of the river as well. Apparently, the first published amphibian record for the state was the original description of Ambystoma occitatum Baird (in Cope 1867: 192), since placed in the synonymy of Ambystoma tigrinum, the eastern tiger salamander.

As the settling of Iowa began, little attention was paid to the abundant amphibians and reptiles. The emphasis was on clearing forests, draining marshes, establishing farms and cities, and building roads. Edward Drinker Cope (1875), for whom the journal Copea is named, produced a checklist which included both amphibians and reptiles from the state. In 1889, his monograph on batrachians (amphibians) listing five species, and in 1900 on reptiles, exclusive of the turtles, including 10 species, reflected the relative dearth of herpetological activity prior to the twentieth century. No other significant reference appeared until after 1890.

The first attempt at a comprehensive work based on specimens in an Iowa research collection and concerned specifically with the amphibia and reptiles of Iowa, was prepared by Iowa State zoologist Herbert Osborn (1892). After elimination of a few obvious misidentifications and errors, Osborn's list includes 16 valid species of snakes, two lizards, six turtles, two salamanders, and six frogs, a total of 32, or nearly half the number now recognized for the state. The same year, C. C. Nutting (1892) added four species to the list. In 1891, Call described a purportedly new serpent from Iowa, Trigacia lineata Iowae, but it has since been placed in synonymy.

The year 1908 marked the start of an upwelling of interest in the herpetofauna of Iowa. Probably the first and most celebrated Iowa herpetologist was Alexander Grant Ruthven. Appropriately a native of Ruthven, Iowa, Dr. Ruthven spent most of his student days and professional career at the University of Michigan where he was largely instrumental in the development and growth of the University Museums and subsequently served from 1929 to 1951 as president of the university. Early in this century he was interested in the interplay of the fauna of the eastern woodlands and western prairies and plains. He was impressed with the importance of comprehensive lists of local faunas, and was responsible for such contributions for Clay, Dickinson, Palo Alto, Poweshiek, and Woodbury counties (Ruthven, 1910, 1912a, 1919). Ruthven's (1908) classic study of garter snakes included material for three Iowa serpents. He described a new salamander, Ambystoma signigerum from Iowa (Ruthven 1912b) that was later determined to be A. macrodactylus, a species of the northeastern states and Canada. It seems likely that the Davis County specimens on which it was based were introduced with logs shipped by rail from the west. In 1911 M.P. Sones published "Notes on Some Iowa Reptiles," an uncritical compiled list with a partial key.

One of the country's most conscientious workers in herpetology was a student of Ruthven's, Frank N. Blanchard, who later became a distinguished professor at the University of Michigan. Blanchard (1921, 1942) published revisions of the kingsnakes (Lampropeltis) and ringneck snakes (Diadophis) which made reference to Iowa specimens. In addition, Blanchard (1923) also summarized the herpetofauna of Iowa's "great lakes region."

During the twenties and early thirties J.E. Guthrie, a professor at Iowa State College, produced several works dealing with the herpetofauna of Iowa. "The Snakes of Iowa" (Guthrie, 1926) was a landmark contribution to the knowledge of the herpetofauna of the state and compiled most of the information known at the time about 26 of Iowa's

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1Originally presented in part in 1991 at the Iowa Natural History Association Symposium on "History of Iowa Natural History"
snake species. It included some information on the natural history of the species, was well illustrated, and contained the first useful key to the snakes of Iowa, but it provided scanty information about where in Iowa the snakes existed. Guthrie’s collection emphasized central Iowa and included a few additional forms living in the eastern and southern parts of the state. Later, Guthrie (1929) added the earth snake (Virginiathalae elegans) from Lee County to the faunal list and recorded color dimorphism in the crayfish snake (Regina grahami) (1930).

Other early contributions were made to the herpetology of Iowa between 1929 and 1944. Charles E. Burt published several papers on species or regions overlapping Iowa (Burt 1931, 1932, 1935, and Burt et al., 1934). Edward H. Taylor (1935) examined skins from Iowa in preparation of his monograph of the genus Emes. [rest of the text]


