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The Present Status of Systematic Mammalogy in Iowa with Some Notes on Recent Mammal Collecting Within the State

By LOWELL S. MILLER

In this short discussion the author will try to explore the present status of systematic mammalogy in this state and will show by his own trapping results that there is a great deal of work yet to be done.

Thomas G. Scott (1937) published a paper entitled "Mammals of Iowa" in the Iowa State College Journal of Science. In the introduction he implies that the purpose of the paper is to stimulate interest in the systematics of mammals in Iowa. In searching through the recent literature on the subject the author has come to the conclusion that it did not stimulate interest and there has consequently been a dearth of information published since. There have been only 4 or possibly 5 additions to the faunal list since 1937. There have been a few name changes and some sub-specific splitting of inclusive species, mostly by workers in other states. This splitting has resulted, in some cases in the fact that Iowa has within its borders the intergradation zone for two subspecies named in the states east and west or north and south. There is at the present time at least 16 species of mammals which have two or more subspecies coming together in Iowa. Most of these divide the state east and west i.e., Cinereous, Shrew, Mole, Mink, Muskrat, Pocket Gopher, and Striped Skunk, but a few divide the state north and south, i.e., Red Squirrel, Gray Squirrel, Long Tail Weasel, and Lemming Mouse. The approximate geographic distributions of these animals can only be determined by actual specimen gathering from the area covered by their distribution.

There is only one mammal collection in the state at Iowa State College that has more than a handful of specimens and even there the collections are mostly from the locale of Ames, or at least from the western half of the state. Many other institutions have a few specimens, some of which are outside of the state. There are collectors in the state, even today, who are sending their collections to institutions outside of the state. This is probably a normal reaction to the idea that they will be taken care of better and will serve science better in other institutions. It is true that

the Universities of Kansas, Michigan, and Illinois, and the U. S. National Museum are much more interested in mammalogy than we are here at home but one might as well bury the specimens as to send them to an institution that is not primarily interested in Iowa mammals, and to my knowledge there are none of those.

Some of the states around us have adequate handbooks dealing with their mammals. Illinois, Michigan, Minnesota, and Kansas have definitive books on the subject. Wisconsin, South Dakota, and Missouri are slightly behind. Nebraska has the information in shorter publication without any complete list. Iowa has Tom Scott's 1937 Paper which includes slightly over 100 specimens examined for 56 kinds with slightly over a years work involved. Its chief value is in the Bibliography it contains and as a working list for future workers.

Let us look at the other states around us for a moment and see if the amount of work completed has anything to do with the total number of species recognized. In Michigan 64 full species are recognized with many of these having two or more subspecies within the state. Fifteen of these have not been found in Iowa as yet.

In Illinois 54 full species are found, 11 of which have not been collected in Iowa. Missouri reports 50 kinds (in an old out-of-date publication), 6 of which are not known to occur in Iowa. Kansas lists 119 kinds including subspecies, of which 23 full species and 35 additional subspecies have not been collected in Iowa. South Dakota lists 108 kinds, of which 30 full species and 19 additional subspecies are missing from the Iowa lists, and in Minnesota, 81 full species are listed, 19 of which have not been found in Iowa. The author does not believe all of these kinds are actually missing from our fauna. He does believe that some of these haven't been found because of lack of interest and lack of collections from critical areas in the state. Kansas has perhaps the most intensive survey completed of all of the states and it also shows the greatest diversity from our state list.

Actual trapping in the state of Iowa during the past two years has revealed many interesting facts about mammals in general and in particular about Iowa distributions of certain mammals. Existing geographic maps of species distributions are never completely all inclusive. They do not show specific habitat distributions but only overall general limits, and so they cannot be taken literally. Also they only show those limits where specimens have actually been taken and, therefore, because of scanty knowledge

in some areas these limits can easily be extended. This is true in Iowa.

Existing records and maps show the Cinereous Shrew, *Sorex cinereus*, to be present in the northern three tiers of counties in Iowa extending south to Dubuque on the eastern edge. The writer has collected this shrew from Davenport in such numbers as to consider them common. This then is an extension 75 miles to the south. This shrew has two subspecies in Iowa and the writer has taken the western form *haydeni* in Hancock and Dickinson Counties. The area of intergradation is unknown at the present time.

Reithrodontomys megalotis dychei, probably occurs throughout the state, but is restricted to old fields and short grass where the actual soil surface is exposed over a good percentage of the area. Specimens collected at Davenport indicate a gradation from the typical *dychei* toward the northern *pectoralis* form. Hoffmeister (Univ. Ill.) is working on this problem at the present time. Here again is an example of unknown range. The writer has collected the harvest mouse in Jefferson and Scott counties. Its typical habitat is becoming more uncommon every year because of cleaner agricultural methods. The Harvest Mouse has just recently been discovered in Illinois across the river from Dubuque in Clayton County, by Univ. of Ill. collectors.

A five week collecting trip to Dickinson County, July-August, 1953, revealed the following interesting data:

The Prairie Jumping Mouse, *Zapus hudsonius campestris*, was collected in a wide variety of habitats and in most places appeared to be the most common small mammal. Very few specimens of jumping mice are present in collections from Iowa and more collecting may reveal that three subspecies, *hudsonius*, *campestris* and *pallidus* may intergrade in the state.

The Eastern Gray Chipmunk, *Tamias striatus griseus*, was very common in the wooded areas near the Lakeside Laboratory in Dickinson County. Apparently this population has been overlooked by mammal systematists in the past because it is not included on any of the maps available. Specimens have also been obtained from Scott County.

The Grasshopper Mouse, *Onychomys leucogaster*, was listed as an accidental by Scott on the basis of one specimen in the University of Michigan collection from Dickinson County. The writer has had the good fortune to collect 4 specimens of this interesting

mouse, from Caylor Prairie, 3 miles west of the Lakeside Laboratory. The subspecific determinations have not yet been completed and may be a new race for the state. The grasshopper mouse can be returned to full resident status on the state lists.

One specimen of the White Tailed Jack Rabbit was collected. It was a lactating female and was one of two animals seen during the entire time spent in the field. This rabbit is apparently decreasing in Iowa as its available habitat is removed by farming. Any large tract of relatively undisturbed prairie and submarginal land can support a population however and it has been reported recently from the Savanna Ordinance Depot in Illinois, where a large prairie is restricted by the army.

One night trapping in Pilot Knob State Park, where it had been reported that the Red Back Mouse had been found, as an addition to the fauna list by Michigan workers, revealed a fair abundance of *Clethrionomys gapperi*. One hundred museum special traps were set in the Aspen Oak forest on the knob of the park. 21 *Clethrionomys*, 26 *Peromyscus leucopus*, 3 *Blarina brevicauda brevicauda*, 2 *Sorex cinereus haydeni*, and 1 *Zapus hudsonius* were collected with this one night's setting.

Gray Squirrels (*Sciurus carolinensis*) were seen in Pilot Knob State Park. This is west of the range indicated for this species by Scott, but is included in the newer range map in the Field Guide to mammals.

The author has in the past collected Lemming Mice from many areas in Illinois, Kentucky, Tennessee, and Oklahoma. In nearly all instances this mouse was found in a brambly, dry, forest edge situation with some blue grass. A habitat resembling this was discovered at Wild Cat Den State Park in October, 1953. Searching among the grass revealed runways and the characteristic bright green droppings of *Synaptomys*. Subsequent trapping resulted in the capture of 2 specimens of this interesting mouse. Several specimens from Iowa indicate a widespread distribution but practically nothing is known about the taxonomy of this species in our state.

In conclusion it may be reiterated that there has been a dearth of interest and publications dealing with the systematics of the mammals of Iowa and that as a result very little is actually known about sub-speciation or distribution within the state.

Almost every opportunity the writer has had to do any mammal trapping in the state has revealed additional information regarding this problem. County records, range extensions, and additions to the fauna are to be had with the least amount of effort

Interested students of Zoology and teachers are invited to participate in an overall effort to clear up some of the problems concerning the systematics and distribution of Iowa mammals.

The writer wants to thank Emmett Polder of Dubuque and Glen Sanderson of Marion for their present interest in mammalogy in the state. It is hoped that not many years pass before a suitable manual can be offered to the residents of Iowa concerning the mammals of the state.

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