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## Northward Dispersal of the Hispid Cotton Rat in Nebraska and Missouri

Hugh H. Genoways

*University of Kansas, Lawrence*, [h.h.genoways@gmail.com](mailto:h.h.genoways@gmail.com)

Duane A. Schlitter

*University of Kansas, Lawrence*

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## Short Notes

### Northward Dispersal of the Hispid Cotton Rat in Nebraska and Missouri

HUGH H. GENOWAYS and DUANE A. SCHLITTER

Cockrum (1948:306–312 and 1952:184–187) summarized the northward movement of the hispid cotton rat, *Sigmodon hispidus texianus*, in Kansas. He showed that between 1933 and 1947 the cotton rat extended its distribution northward approximately 100 miles—from Greenwood and Allen counties north to Brown County, an average distance of seven miles per year. As of 1952, the northernmost record for the species was 5 mi. S Hiawatha, Brown County (obtained 29 November 1947), in northeastern Kansas. Trapping between 1945 and 1947 in Mitchell, Norton, and Thomas counties, in the central and western parts of northern Kansas, and in Richardson and Pawnee counties, in southeastern Nebraska, failed to yield additional specimens. Later, Anderson and Nelson (1958:306) reported specimens from the following localities in north-central and northwestern Kansas: 1 mi. SW Norton, Norton County (obtained 26 August 1957); 2 mi. E Smith Center, Smith County (obtained 1 September 1957); and 1 mi. E,  $1\frac{1}{2}$  mi. N Oketo, Marshall County (obtained 18 August 1956). These records indicate a northward movement of the species into these areas of Kansas. The first specimens of the hispid cotton rat from Nebraska were reported by Jones (1960:132 and 1964:212–214) from along the Little Nemaha River  $3\frac{1}{2}$  mi. S, 1 mi. W Dawson, Richardson County (obtained 15–16 November 1958).

On 4 October 1965, an immature male *S. h. texianus* was obtained at a place  $3\frac{7}{8}$  mi. S  $1\frac{1}{16}$  mi. E Holstein, Adams County, Nebraska, by Harold Turner. This specimen, which is deposited in the Hastings Museum, Hastings, Nebraska, represents the second locality of record for the state and the northernmost for the species in North America. The place of capture is 150 miles west-northwest of the other Nebraskan locality and 45 miles north of the nearest known locality in Kansas (2 mi. E Smith Center). Hispid cotton rats probably occur also in Nebraska in the drainages of the Blue and Republican rivers to the south and east of Adams County. Using the method employed earlier by Cockrum, the extension of range northward from Smith Center to Holstein has proceeded at a rate of about  $5\frac{1}{2}$  miles per year.

A female hispid cotton rat (KU 89182) obtained on 2 January 1962 from 1 mi. W Parkville, Platte County, Missouri, is the first published record for the species north of the Missouri River. The paucity of records from north of the Missouri seemingly indicates that this physiographic feature has acted as a partial barrier to the northward dispersal of the hispid cotton rat. Floods such as have occurred in the region from the southeastern border of Nebraska to the mouth of the Missouri River in the years 1950-52, 1957-61, and 1965 might have carried individuals of *S. hispidus* to the north side of the river. It is also possible that cotton rats could have crossed the river in periods when the channel was covered with ice, even though extremely cold weather is probably a factor limiting the distribution of this mammal.

We wish to thank W. E. Eigsti, Director of the Hastings Museum, for allowing us to examine the specimen from Nebraska.

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