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# Mammals of Southwestern Minnesota

CARL H. ERNST\*, LEE FRENCH\*\*

**ABSTRACT**—Ranges of the 45 wild mammals occurring in southwestern Minnesota are discussed and documented. Eight other species that either formerly occurred in the area or might exist but have not yet been documented also are considered. Seven species are recorded from southwestern Minnesota for the first time: Scalopus aquaticus, Myotis keenii, Lasionycteris noctivagans, Marmota monax, Spermophilus franklinii, Tamiasciurus hudsonicus, and Rattus norvegicus.

Few published reports have dealt with the mammalian fauna of southwestern Minnesota's prairie lands (most mammal research conducted in the state is carried out in the northern forests). The several accounts of the mammals of Minnesota (Herrick, 1892; Surber, 1932; Swanson, Surber, and Roberts, 1945; Gunderson and Beer, 1953) have been largely based on specimens in the collection of the Bell Museum of Natural History, University of Minnesota; a collection also poor in specimens from southwestern Minnesota.

During tenure at Southwest State College, (now State University) at Marshall, Minnesota, the senior author was in charge of building up a representative vertebrate collection for class use and to serve as a beginning of a proposed natural history museum (SMSC). The junior author was chief assistant on the project and conducted a mammal survey of Redwood county. This report summarizes information gathered in those endeavors as well as specimens in the Bell Museum (UM); The United States National Museum (USNM); Morgan School of Biological Sciences, University of Kentucky (UK); personal collection, Carl H. Ernst (CHE) and records in the literature (the publication of Gunderson and Beer is abbreviated G&B, 1953). The report enclosed the area bordered outside by Traverse, Stevens, Pope, and Stearns counties on the north and Wright, McLeod, Sibley, Nicollet, Blue Earth, and Faribault counties on the east.

The predominant native vegetation of the area is tall grass prairie, but some Oak-Aspen groves occur in Kandiyohi and Meeker counties, and Basswood-Sugar Maple-Elm-Oak woodlands extend into the area along the rivers (Gunderson and Beer, 1953:20).

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## Annotated accounts of species

Forty-five species of wild mammals are presently found in southwestern Minnesota, representing seven orders and 17 families. There are eight additional species that have been recorded from the area but are no longer present, or may occur there but have not been recorded.

Didelphis marsupialis virginiana, the Virginia opossum, is a newcomer to southwestern Minnesota and only stragglers are found there. It first invaded southeastern Minnesota and by 1927 was observed in Blue Earth County (Swanson, et al., 1945:54). The only records for southwestern Minnesota are from Nobles County (G&B, 1953), a badly crushed road kill (not collected) 5 mi. N. Marshall, Lyon County, a specimen (SMSC 98) taken from a haystack 5 mi. N., 0.5 mi. W. Lamberton, Redwood County, and one (UM 8044) taken at NW ¼ sec. 30T, 102, R34W, Jackson County.

Scalopus aquaticus machrinoides, the Missouri Valley mole, has not been previously recorded from southwestern Minnesota. Two specimens now exist: T.104N, R40W-NW ¼ sec. 23, Nobles County (UM 7930); and 2 mi. S., 0.5 mi. E. Lamberton, Redwood County (SMSC 99). In addition, mole runs (presumably of this species) have been observed in Camedon State Park, Lyon County and Lake Shetek Park, Murray County.

Sorex cinereus haydeni, the masked shrew, is common in southwestern Minnesota. Records: Big Stone County (Swanson et al., 1945); Cottonwood County (UM 8896-97); Jackson County (G&B, 1953); Lac qui Parle County (G&B, 1953); Lincoln County (G&B, 1953); Lyon County (SMSC 3, 28, 53, 101, 119-120; UM 7554, 8901); Martin County (SMSC 55); Pipestone County (UM 8903); Redwood County (SMSC 69, 92); Renville County (UM 8153). University of Minnesota 2485 from Heron Lake, Jackson County is recorded as Sorex c. cinereus, but probably is an intergrade between S. c. haydeni and S. c. cinereus.

Blarina brevicauda brevicauda, the short-tailed shrew, occurs throughout southwestern Minnesota: it has been recorded from fourteen of the twenty counties: Big Stone, Jackson, Lac qui Parle, Lincoln, Martin, Pipestone, Lyon, Rock and Swift counties (G&B, 1953); Brown County (UM 7942 7945, 7951); Nobles County (UM 7955, 8933-35); Redwood County (SMSC 65, UM 7939); Renville County (UM 8602-03); Yellow Medicine County (CHE 75).

Myotis lucifugus lucifugus, the little brown bat, has been taken in Lyon County (G&B, 1953); Marshall-(SMSC

45-46) but probably ranges throughout southwestern Minnesota. There are a number of unverified records of summer colonies in barns and the attics of farm houses. This bat overwinters in several caves in Nicollet County (Swanson and Evans, 1936; Rysgaard, 1941) and these individuals may use parts of southwestern Minnesota as a summer range.

Myotis keenii septentrionalis, the Keen's myotis, has not been previously recorded from southwestern Minnesota, although it does overwinter in caves in Nicollet County (Swanson and Evans, 1936; Rysgaard, 1941). On 10 May, 1972, a male was captured in the physical education building of Southwest State College, Marshall, Lyon County. This individual matched all of the species characteristics listed by Barbour and Davis (1969). It was banded and released.

Eptesicus fuscus fuscus, the big brown bat, is the most common bat in this area of the state. It uses barns and other farm buildings as summer day roosts and the attics of old houses as winter retreats. It regularly overwinters in buildings at Southwest State College. This bat can often be seen flying at night in Marshall. Records: Brown County (SW ¼ sec 7 TION R31W--UM 7628); Lyon County (Marshall--SMSC 102B); Martin County (UM 4941--Fairmont); Redwood County ( 5 mi N, 0.5 mi W Lamberton, SMSC 72-73).

Pipistrellus subflavus subflavus, the eastern pipistrelle, was not captured or seen and, if it does occur, is probably rare due to the scarcity of trees. It regularly overwinters in caves in Nicollet County (Swanson and Evans, 1936; Rysgaard, 1941) and these individuals may include parts of southwestern Minnesota within their summer range.

Lasiorycteris noctivagans, the silver-haired bat, has not been previously recorded from southwest Minnesota. A male with a broken wing was collected at Kandiyohi, Kandiyohi County on 31 May 1970 (CHE 266). Since this is a woodland bat, it was probably migrating to the northern forests where a number of specimens have been taken (G&B, 1953:57).

Lasiurus borealis borealis, the red bat, has only been recorded from Lac qui Parle and Meeker counties (G&B, 1953:59). This is another woodland bat and probably only occurs along the wooded waterways in this part of the state.

Lasiurus cinereus cinereus, the hoary bat, has only been recorded from Meeker County (G&B, 1953), but there are additional specimens in the United States National Museum (3505-two specimens; 187816) from Ortonville, Big Stone County. This is another woodland dweller.

Lepus townsendii campanius, the white-tailed jack rabbit, is found throughout southwestern Minnesota. Gunderson and Beer (1953) reported it from Brown, Chippewa, Lac qui Parle, Lincoln, Martin, Pipestone, Redwood, Rock, Swift, and Watonwan counties. Other records: Lyon County (SMSC 41, 131); Murray County (UK 5236); Renville County (UM 5101).

Sylvilagus floridanus mearnsii, the cottontail rabbit, occurs throughout the southwestern counties. Gunderson and Beer (1953) record it from eighteen of the twenty counties.

Marmota monax rufescens, the woodchuck, has not been collected in this part of Minnesota; however, several

individuals were seen at Camedon State Park, Lyon County in October, 1969 and a family group formerly existed at Lake Shetek State Park, Murray County.

Spermophilus richardsonii richardsonii, Richardson's ground squirrel, occurs only in southwestern Minnesota. New localities reported here enlarge the range within the state. Records: Big Stone County (Swanson, et al., 1945); Lac qui Parle County (G&B, 1953); Lincoln County (G&B, 1953); Lyon County (G&B, 1953); Redwood County (SMSC 59); Rock County (UM 8035); Yellow Medicine County (G&B, 1953).

Spermophilus franklinii, Franklin's ground squirrel, is rare only of local occurrence in southwestern Minnesota. The only recorded specimen (SMSC 34) was collected 0.5 mi E Buffalo Lake, Renville County on 10 May, 1970.

Spermophilus tridecemlineatus tridecemlineatus, the thirteen-lined ground squirrel, is the most common squirrel in southwestern Minnesota and is found in the grassy areas of every county.

Tamias striatus griseus, the eastern chipmunk, has just recently been recorded from the prairie lands of southwestern Minnesota; Ernst and Ernst (1972) reported a colony existing at Lake Shetek State Park, Murray County. Other records for the southwestern counties are from woodlands along the Minnesota River in Big Stone County (G&B, 1953:81; USNM 193449-Ortonville). This small ground squirrel possibly occurs in other counties in the wooded areas along streams and rivers which it probably used as a corridor into this part of the state.

Tamiasciurus hudsonicus minnesota, the Minnesota red squirrel, has not been previously recorded from southwestern Minnesota. Specimens have been taken 3 mi E Granite Falls, Yellow Medicine County (CHE 247-48) and 2 mi S, 0.5 mi E Lamberton, Redwood County (SMSC 165). An albino was collected at the Yellow Medicine site, but kept by the student who shot it. Red squirrels have also been observed along the Redwood River at Redwood Falls, Redwood County and Lyon and adjacent Camedon State Park, Lyon County. It is not as uncommon in southwestern Minnesota as was believed and probably occurs along many of the wooded streams, which it probably followed into this part of the state.

Sciurus niger rufiventris, the Western fox squirrel, is the common tree squirrel of southwestern Minnesota occurring in every county. Preferring open woodlands, it is quite at home in the wooded river bottoms and in the arboreal wind breaks of farms.

Sciurus carolinensis pennsylvanicus, the gray squirrel, is uncommon in southwestern Minnesota. Its preference for thicker woodlands than those utilized by Sciurus niger has restricted it to river bottoms and towns. Records: Cottonwood, Lyon, Martin, Meeker, and Rock counties (G&B, 1953); Yellow Medicine County (SMSC 160). Gray squirrels have also been observed but not collected in Marshall and Tracy, Lyon County and Renville, Renville County. Individuals from the northern counties may intergrade with Sciurus c. hypophaeus.

Reithrodontomys megalotis dychei, the western harvest mouse, probably occurs in every county in southwestern Minnesota; however, its distribution is local and it is not often trapped. In Lyon County we have often found its

grassball nests, but have never collected it. Records: Brown, Jackson, Lac qui Parle, Pipestone, and Rock counties (G&B, 1953); Renville County (UM 8104-05).

Onychomys leucogaster leucogaster, the northern grasshopper mouse is rare and of local occurrence. It has only been taken in Jackson (UM 8982-83); Lac qui Parle (G&B, 1953; UM 3196-97); Lincoln (G&B, 1953; UM 3309-10); Lyon (UM 7609-10, 8984); Murray (UM 8107); and Nobles (UM 7611, 8985-86) counties.

Peromyscus maniculatus bairdii, the prairie deer mouse, is common on grasslands and ecotonal areas and can be found in every county in this part of Minnesota.

Peromyscus leucopus noveboracensis, the northern white-footed mouse, is fairly common in wooded areas in southwestern Minnesota. Records: Brown County (UM 9134-38, 9357-60); Cottonwood County (UM 9560); Jackson County (G&B, 1953); Lac qui Parle County (SMSC 112, UM 9186, 9382-83); Lyon County (G&B, 1953); Martin County (G&B, 1953); Murray County (UM 9402-04); Redwood County (SMSC 79, 150; UM 4750, 9218-21); Rock County (UM 9420-21); Yellow Medicine County (G&B, 1953).

Microtus pennsylvanicus pennsylvanicus, the meadow vole, is the common microtine of the southwestern counties. It inhabits both grasslands and wooded areas, as well as the ecotonal areas between, and occurs in all of the counties.

Microtus ochrogaster minor, the prairie vole, is extremely rare in southeastern Minnesota and has been recorded from only two counties: Big Stone County (G&B, 1953; USNM 191021-23, 191031-32-Ortonville); T.103 N, R.46 W, NW¼ sec. 22 Pipestone County (UM 8060). Gunderson and Beer (1953:115) reported that in recent years it has been only recorded from southwestern Minnesota, although earlier records indicate that it has been more widespread. The Pipestone County specimen was collected 15 September 1968, so this species may still occur in southwestern Minnesota.

Clethrionomys gapperi loringi, the red-backed vole, has not been found in the southwestern counties; however, there are specimens from Brown's Valley, Traverse County (USNM 190413-17) and Nicollet County (G&B, 1953) which border on the study area, and it may yet be found in the woodlands along the Minnesota River.

Ondatra zibethicus cinnamominus, the muskrat, occurs in shallow glacial lakes and sloughs and has been reported from every county in southwestern Minnesota (G&B, 1953:119). Individuals from the eastern part of the region may be intergrades with *Ondatra z. zibethicus*.

Geomys bursarius bursarius, the plains pocket gopher, commonly occurs in the grasslands of every county in this part of the state, although Gunderson and Beer (1953) only reported it from Big Stone, and Pipestone counties. New records: Brown County (UM 7900); Lac qui Parle County (USNM 19607); Lincoln County (CHE 242; SMSC 128; UK 5207); Lyon County (SMSC 25, 103B; UK 5235; UM 7886); Nobles County (UM 7897); Redwood County (SMSC 58; UM 7903); Rock County (UM 4109, 7895).

Perognathus flavescens perniger, the plains pocket mouse, appears to be rare in southwestern Minnesota, but it might

be more common in sandy areas than records show: Lac qui Parle, Lincoln and Watonwan counties (G&B, 1953).

Castor canadensis missouriensis, the beaver, is common in the waterways of southwestern Minnesota and probably occurs in every county. Records: Big Stone, Cottonwood, Jackson, Lac qui Parle, Martin, Murray, Redwood, Renville, Rock and Swift counties (G&B, 1953); Lyon County (CHE 236, SMSC 8).

Zapus hudsonius intermedius, the meadow jumping mouse is not uncommon in southwestern Minnesota and has been recorded from nine counties: Brown, Jackson, Lac qui Parle, Lincoln, Lyon, Pipestone (G&B, 1953); Murray (UM 8880); Redwood (SMSC 70-71); Rock (UM 8881).

Rattus norvegicus, the Norway rat, has not been previously reported from southwestern Minnesota, although it is common in towns and most farms. Records: Marshall, Lyon County (SMSC 19-21); 5 mi N, 0.5 mi W Lamberton, Redwood County (SMSC 97).

Mus musculus domesticus, the house mouse, occurs wherever man dwells in southwestern Minnesota.

Procyon lotor hirtus, the raccoon, is quite common in this part of the state and has been recorded from every county (G&B, 1953).

Mustela erminea bangsi, the short-tailed weasel, is not common in southwestern Minnesota and has only been recorded from four counties; Cottonwood, Watonwan, Yellow Medicine (G&B, 1953); Redwood (SMSC 82).

Mustela frenata spadix, the long-tailed weasel, is also uncommon in southwestern Minnesota and has been only recorded from two counties: Jackson (G&B, 1953; UM 1167-Heron Lake); Lincoln (G&B, 1953; UM 1105-Tyler).

Mustela rixosa campestris, the least weasel, is the rarest weasel in southwestern Minnesota having only been taken 7 mi N Pipestone, Pipestone County (G&B, 1953; UM 2655).

Mustela vison letifera, the mink, is the most common weasel in southwestern Minnesota and supports a thriving fur trade. Gunderson and Beer (1953:149) report it from every county.

Spilogale putorius interrupta, the spotted skunk, is not uncommon in southwestern Minnesota. Gunderson and Beer (1953) reported it from Big Stone, Chippewa, Jackson, Lac qui Parle, Martin, Meeker, Redwood, Swift and Watonwan counties.

Mephitis mephitis hudsonica, the striped skunk, is common in this part of Minnesota, occurring in all counties.

Taxidea taxus jacksoni, the badger, is not uncommon, but is less common than formerly. Agriculture and predator control practices have decreased its numbers drastically. Gunderson and Beer (1953) reported it from Big Stone, Chippewa, Martin, Nobles, Pipestone, Rock and Swift counties. Additional Records: Lac qui Parle County (USNM 4004/3067, 61372-Madison); Murray County (SMSC 22); Redwood County (SMSC 74).

Felis concolor schorgeri, the mountain lion, has been recorded only once in Minnesota in recent times. In the winter of 1951 footprints of a large cat were found in the snow, 3 mi S, 1 mi W Ghent, Lyon County. Plaster casts of these tracks were sent to the United States National Museum where Stanley P. Young, an authority on the species, positively identified them (Bue and Stenlund, 1953). It is

extremely doubtful if any of these large cats still remain in southwestern Minnesota.

Canis latrans thomasi, the coyote, is the largest extant carnivore in southwestern Minnesota. It formerly occurred in all counties, but hunting pressures and predator control practices have severely decimated its population; today it is only rarely seen. Records: Lac qui Parle County (USNM 19477/38462-Madison); Lincoln County (CHE 239-Ivanhoe); Lyon County (G&B, 1953:162); Pipestone County (G&B, 1953:162). Three were shot near Fairmont, Martin County in 1964 (game records).

Vulpes fulva regalis, the red fox, is one of the most common carnivores in southwestern Minnesota. It is found throughout the region and supports a thriving fur trade.

Urocyon cinereoargenteus ocythous, the gray fox, although reported from several counties, is uncommon in southwestern Minnesota. Only one skin of this species was sold to a fur buyer in Marshall during 1971-72 season while over 300 skins of the more common Vulpes fulva were traded. Records: Big Stone, Brown, Chippewa, Cottonwood, Jackson, Lincoln, Martin, Meeker, Redwood, Swift, and Yellow Medicine counties (G&B, 1953).

Odocoileus virginiana dacotensis, the white-tailed deer, is the common game animal in the region and has been reported from every county by Gunderson and Beer (1953) and Moyle (1965). During the winter they "yard-up" in wooded areas; the winter herd in Camedon State Park, Lyon County often contains over 100 individuals. Three specimens in the Bell Museum (UM 2870-72) from Jackson County have Odocoileus v. borealis characteristics and may be intergrades between the two subspecies.

Odocoileus hemionus hemionus, the mule deer, is occasionally taken in the southwestern counties, but it must be considered rare. Moyle (1965) reported it from Cottonwood, Jackson, Kandiyohi, Lincoln, Murray and Watonwan counties. A five-point buck was shot 3 mi W, 2 mi N Garvin, Lyon County in November 1972. Recent sight records by state conservation officers include Cottonwood, Jackson, Lincoln, Murray, Rock and Watonwan counties.

A lone bull elk, Cervus canadensis canadensis, was sighted by conservation officers near Marshall, Lyon County in the fall of 1968. This is almost 200 miles south of its present range and this individual was undoubtedly a straggler.

According to Moyle (1965) several other mammals once occurred in southwest Minnesota but now are either extinct in the state or are restricted to more northern ranges: Rangifer tarandus sylvestris, Bison bison bison, Antilocapra americana americana, and Ursus americanus americanus. The last buffalo (Bison b. bison) observed in the southwestern portion of the state was a lone straggler which took refuge in a grove near Lake Fremont, Murray County during the summer of 1879 (Moyle, 1965). In 1970 a complete skull was found in the Redwood River near Marshall, Lyon County by Dr. Alan Holmes and Mr. Joseph Van Wie of Southwest State College. Mr. Van Wie currently has the skull in his possession. The only previously reported record of the pronghorn (Antilocapra a. americana) in Minnesota is that of a single animal seen wandering across the prairie just west of Lake Shetek, Murray County, in 1885 (Moyle, 1965). During 1968-69 conservation officers sighted pronghorns in the Jasper area of Rock County, near Montevideo, Lac qui Parle County, and near Chandler and Lake Wilson, Murray County. These animals must also be considered stragglers.

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