

# Additional Pocket Mouse Records

By ROBERT W. NERO, Saskatchewan Museum of Natural History

Records of the Olive-backed Pocket Mouse (*Perognathus fasciatus*) are now available for 13 Saskatchewan localities in addition to those previously reported (see Nero, 1957). Several of these localities represent northern range extensions and include first records of Pocket Mice north of the South Saskatchewan River. These new records are tabulated below and indicated on the map.

Locality	Date	Number	Collector
Quantock	May 6, 1958	1	A. Swanston
Regina Beach	May 11, 1958	1	H. Boswell
Beaver Creek (9 mi. S. Saskatoon)	July 7, 1958	3	R. W. Nero
Moon Lake (5 mi. SW Saskatoon*)	July 8, 1958	1	R. W. Nero
Grandora (2 mi. NE)**	July 10, 1958	1	R. W. Nero
Swanson (4 mi. E)	July 11, 1958	10	R. W. Nero
Elbow (6 mi. SE)	July 15, 1958	7	R. W. Nero
Elbow (4 mi. SW)	July 14, 1958	2	R. W. Nero
Old Wives	July 25, 1958	10	R. W. Nero
Corval	July 24, 1958	2	R. W. Nero
Weyburn (2 mi. SE)	Aug. 14, 1958	1	T. Walker
Hatfield (7 mi. W)	Sept. 12, 1958	1	F. W. Lahrman
Eyebrow Lake	July 22, 1949	1	W. H. Elder

\* First record north of South Saskatchewan River.

\*\* Northernmost record—north of 52 parallel.

All specimens except the Eyebrow Lake and the Weyburn records are available in the collections of the Saskatchewan Museum of Natural History. The July 7 to July 14 records were obtained as the result of a deliberate attempt to collect Pocket Mice to determine the northern limits of their range. We are indebted to Fred G. Bard, Museum Director, and Roy G. Young, Director, Conservation Branch, Department of Natural Resources, for their recognition of the value of basic faunistic surveys and the role of the Museum in this regard. Fred W. Lahrman accompanied me for the two weeks field work in July, providing necessary assistance and welcome companionship. An important population sample was obtained at Old Wives later in the month with the aid of Bard and Lahrman during our "off-duty hours" while on a bird-banding trip (if young pelicans can still be termed birds). Bruce Shier and Ralph Ostoforoff assisted in a search near Regina.

Previous experience with Pocket Mice at Sceptre in 1956 (see Nero and Fyfe, 1956) showed that they could readily be located and captured at night in the headlights of a vehicle, thus permitting a fairly rapid check of a large area in one or two nights. Because of the efficacy

of the night-driving method it seems worthwhile to describe it in some detail. We used soil maps to locate sandy areas outside of the known range and then spent a considerable amount of time searching within these selected areas for what we considered suitable habitat. For the most part we looked for field roads—simply two sandy ruts bordered and divided by weeds—in or near prairie or pasture cover-types (see photo). Pocket Mice appear to be attracted to roads of this sort because of the abundance of weed seeds. The bare ruts, on the other hand, allowed the observers to see the mice. Having located several miles of suitable roads we then waited until dark to commence driving. During July we usually began at about 10.30 p.m. (dark enough at 9.30 p.m. in August) driving at 10 to 15 m.p.h. or even slower while keeping a close watch for mice. Once a mouse was sighted—a mouse of any kind—"Mouse!" or "Stop!" produced a rapid reaction: the driver at once slammed on the brakes, put the gears in neutral, pulled up the hand brake and jumped out. By this time the other person was already out and spotting or attempting to spot the mouse with a flashlight. The ensuing scene—as two grown men attempted to capture by hand a frightened, leaping and running mouse—was often bedlam.



Photo by F. W. Lahrman.

Typical habitat of the Pocket Mouse

Still, the method worked; in addition to Pocket Mice several each of the following were captured: Deer Mouse (*Peromyscus maniculatus*), Grasshopper Mouse (*Onychomys leucogaster*), and Pocket Gopher (*Thomomys talpoides*). The number of Pocket Mice seen and collected far outnumbered these other species and on some nights one might have said that Pocket Mice were the most numerous species. We also saw White-tailed Deer (*Odocoileus virginianus*), Mule Deer (*Odocoileus hemionus*), Mink (*Mustela vison*), Porcupine (*Erethizon dorsatum*), Skunk (*Mephitis mephitis*), and, of course, house cats (*Felis domesticus*). Admittedly, the night-driving method is not as easy as it sounds. By two or three a.m. it's difficult to keep alert and the constant scrutinizing of the roadway has a hypnotic effect. But even when there are no mice there is a fascination in prowling about the fields with carlights—the silver-blue sheen of sage and wolfwillow in the dewy hours before dawn are a sufficient reward. Now, whenever we drive through sage, I think of Pocket Mice, so often was the scent of crushed sage associated with the night when we caught them.

By means of the technique described above we were also able to obtain some indication of the frequency of occurrence of Pocket Mice. For example, we saw and collected but one Pocket Mouse during more than eight hours (two nights) of night driving in an area up to 12 miles north of the highway between Grandora and Asquith, whereas at Swanson we caught 10 in about three hours and at Old Wives collected five and saw three others in one hour. This, in spite of the fact that the Grandora-Asquith area contained particularly good-looking habitat. Obviously, Pocket Mice could not be expected much farther north since it is only a few miles to the forest edge, but this low frequency indicates a low density and suggests a population fringe. The one mouse which we finally captured near Grandora on the second night was taken—much to our astonishment—on a road in the center of a large aspen bluff! This mouse missed escaping us by a few inches, but now it represents the northernmost record of the species and genus as well.

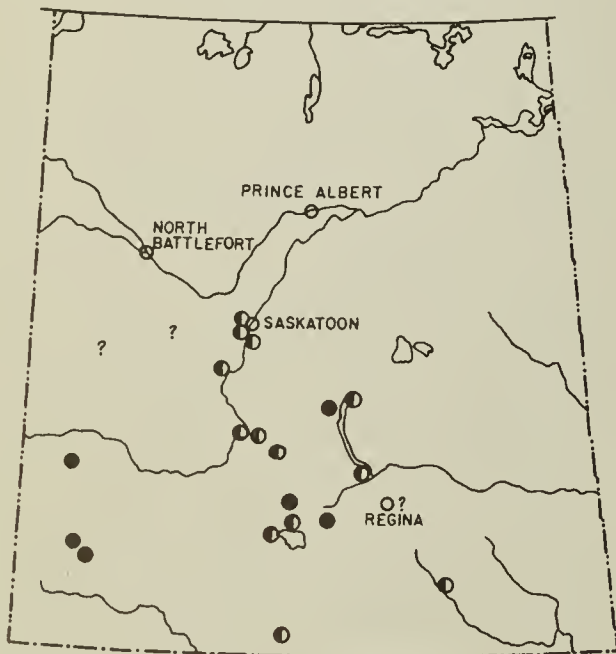
The night-driving technique, it seems to me, provides a good check on the occurrence of the Pocket Mouse and offers an opportunity for

plotting negative as well as positive results. On this basis I am led to conclude that Biggar lies outside of the range, since we failed to see any there in five hours of night-driving (July 17, 1958), although again in very suitable habitat. Likewise, we drove on three different nights 10 miles east of Regina for a total of about eight hours (August 7, 13, 16, 1958) and yet failed to find a single Pocket Mouse. I think, too, that Dodsland probably lies outside of the range: three hours' search there on June 22, 23, 1958, produced negative results. (There should be some fun in attempting to disprove these records.)

When first captured our Pocket Mice frequently emitted a high-pitched squeaking and some attempted to bite but were unable to penetrate the skin of our fingers. Although Pocket Mice are usually rather slow moving, compared to, say, Deer Mice (*Peromyscus maniculatus*), we found considerable variation in this respect between populations. We were especially surprised at Elbow (6 mi. SE), where most of the mice ran furiously. Some were phenomenally fast, often crossing the entire width of the road so fast as to appear more like a small bird in flight. Pocket Mice usually scurry along close to the ground — these fairly zipped. This difference in behavior may have been due to the habitat. At Elbow the road was relatively wide and rather sparsely vege-

tated; at Swanson, where the mice were rather slow-moving, the road was quite narrow and bordered by dense stands of weeds. At Old Wives we again noted unusually rapid movement; more mice were lost there than anywhere previously. The cover varied from open prairie to dense snowberry. We noted also at Old Wives a number of Pocket Mice leaping an estimated three or four feet and changing direction when closely pursued for some distance. These were being chased in heavy cover. A similar behavior has been reported for other species of Pocket Mice: "When suddenly disturbed or when frightened, pocket mice typically initiate a series of powerful leaps in which the direction of movement changes repeatedly in an unpredictable manner. Some of these leaps carry the animals 24 inches or more vertically and as much as a yard horizontally. The evasive leaps are so rapid and erratic that it is impossible to follow them by eye." (Bartholomew and Cary, 1954).

The larger samples (see table) were taken from rather localized populations. The 10 we collected at Swanson, for example, were nearly all found along a few hundred yards of road. A possible difference in breeding activity between the populations at Swanson and at Old Wives is indicated by the following data: of seven females from Swanson (July 11), three contained large embryos (5 to 12 mm. long) and one



Pocket Mouse records: previous records—solid dots; new records—half-solid dots.



Northern distribution of the Olive-backed Pocket Mouse (*Perognathus fasciatus*). Based on Jones (1953), Moore (1952) and present records.

was lactating. Only one out of five females from Old Wives (July 25) appeared to be in active breeding condition (lactating). Similarly, males from Swanson appeared more active—three males had testes measuring 8x5, 11x5, and 14x7 mm.; four males from Old Wives had testes measuring 3x2 (two), 5x2, and 7x3 mm. Whether this is indicative of a sub-species difference is uncertain, but that this may be the case seems possible especially considering the barrier imposed by the South Saskatchewan River. Further comparisons of these samples, based on skull measurements, etc., will be necessary in order to solve this problem.

Stuart Criddle stated (1915:131) that in Manitoba "the young are born about the middle of May." Bailey records a female with embryos on May

13 in North Dakota and states: "There are no data to indicate more than one litter in a year." (1926:121). The above breeding data, however, especially the three females with embryos on July 11 suggests that this species may have two litters per year.

The complete distribution of the Pocket Mouse in Saskatchewan and adjacent areas is still unknown. There is a considerable area in which an attempt should be made to collect the Pocket Mouse to determine the outer limits of its range and, of course, it would be desirable to know the complete and exact distribution within this range. It is hoped that the present records and the description of our "hunting" technique will encourage others to obtain further specimens.

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## *A Guide to Saskatchewan Mammals*

by  
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## ANOTHER RACCOON RECORD

On September 6, 1958, an adult raccoon was found by Merwyn Johnson while combining in a field located about three miles east and one and a half miles south of Kindersley, Sask.—Glen R. Fox, Kindersley, Sask.

The attractive bulletin pictured here is the first special publication of the Saskatchewan Natural History Society, Harvey Beck's *Guide to the Mammals of Saskatchewan*. The *Guide* contains keys to the mammals of Saskatchewan, descriptions of the mammals and indications of occurrence and distribution. The price is only 50 cents. We suggest you consider the bulletin as a Christmas gift for friends interested in natural history. Order from E. L. Fox, 1053 Gladmer Park, Regina.