Identification of Northern Pocket Gopher, *Thomomys talpoides*, Remains in Long-tailed Weasel, *Mustela frenata longicauda*, Scats

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Nine Long-tailed Weasel (*Mustela frenata longicauda*) scats were collected on Northern Pocket Gopher (*Thomomys talpoides*) mounds in an alfalfa field in Gwynne, Alberta, from 21 to 29 September 1995. Northern Pocket Gopher remains were found exclusively in six (67%) scats. Deer Mouse (*Peromyscus maniculatus*) remains were identified in the three (33%) other scats. The pocket gopher mounds had been built between late July and September and thus our findings are a snapshot of Long-tailed Weasel feeding activities that occurred in late summer. However, they are the first confirmed cases of Northern Pocket Gopher remains in Long-tailed Weasel scats.

Key Words: Long-tailed Weasel, *Mustela frenata longicauda*, Northern Pocket Gopher, *Thomomys talpoides*, food habits, predator, prey, Alberta.

Pocket gopher (*Geomys* spp. and *Thomomys* spp.) burrow systems are inhabited by several terrestrial species (Vaughan 1961; Whittaker et al. 1991) that may be preyed upon by Long-tailed Weasels (*Mustela frenata longicauda*). In the past, Long-tailed Weasels have been observed in the burrows of pocket gophers (Polderboer et al. 1941; Florine 1942; Vaughan 1961) but there is little evidence that they prey upon them. Criddle and Criddle (1925) suggested that in winter Long-tailed Weasels entered burrow systems to kill the resident pocket gopher and other rodents. However, only once did they encounter a weasel carting a recently-killed pocket gopher. They also reported that Long-tailed Weasels fed on dead pocket gophers that they had placed near their laboratory. Hansen and Ward (1965) found partially eaten Northern Pocket Gophers (*Thomomys talpoides*) that had been killed in traps and, because Long-tailed Weasels had been captured in nearby traps, suggested a predator-prey relationship between these two species. However, such a relationship has never been ascertained by scat or stomach analyses. We report on an analysis of Long-tailed Weasel scats found on Northern Pocket Gopher mounds.

The collection of Long-tailed Weasel scats occurred from 21 to 29 September 1995 in an 8-ha portion of a 65-ha alfalfa field in Gwynne, approximately 100 km south of Edmonton, Alberta. Scats were identified according to Murie (1975), bagged and frozen. In August 1996, they were thawed and washed through a fine sieve. Identification of the remains was done according to Moore et al. (1994) and by comparison with museum specimens.

Nine Long-tailed Weasel scats were collected on Northern Pocket Gopher mounds ≤ 100 m from each other and from the alfalfa field edge that was adjacent to a woodlot. Four of these scats were found on the same mound. Northern Pocket Gopher remains were found exclusively in six (67%) out of nine scats. In two cases, bone fragments were used to confirm the identification based on hair scale impressions. Deer Mouse (*Peromyscus maniculatus*) remains (hair, bone fragments and teeth) were identified in three (33%) other scats .

Considering that all the scats were close to each other, it is likely that they represent the food habits of only one Long-tailed Weasel (Svendsen 1982; King 1989). Because all the pocket gopher mounds had been destroyed during the mid-July hay harvest, these scats were deposited on mounds that were built between late July and late September. Therefore, our findings are a snapshot of Long-tailed Weasel feeding activities that occurred in late summer. At this time of year, juvenile pocket gophers are dispersing (Proulx 1997) and busy excavating their burrow system (Proulx et al. 1995) and they may be more vulnerable to Long-tailed Weasel predation. Indeed, small mammal studies (e.g., Jerdzejewska 1989) have indicated that transient animals are more susceptible to weasel predation than residents.

To our knowledge, our study is the first to report Northern Pocket Gopher remains in Long-tailed Weasel scats. During the week preceding the collection of these scats, a pocket gopher kill-trapping program had been carried out at the centre of the field. None of the killed pocket gophers showed signs of scavenging and the discarded carcasses were still untouched during the week that we collected Long-tailed Weasel scats. Therefore, we do not believe that the presence of pocket gopher in weasel scats is the result of scavenging. This study and Proulx and Drescher's (1993) suggestion that the distribution of Long-tailed Weasel in Alberta may be intimately related with that of the Northern Pocket Gopher warrant more research to explain better the relationship existing between these two species.

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