

EXECUTIVE SUMMARY

Sorex lyelli
Phenacomys intermedius

Tamias alpinus

INTRODUCTION

Ochotona princeps

Tamias alpinus

Pending approval by the NPS, we intend to revisit Yosemite National Park in 2007 to extend our targeted surveys for both alpine chipmunks and pikas and to resample key high elevation sites. Also, in collaboration with biologists with the USGS-Yosemite Field Office, we will begin targeted small mammal surveys in the more isolated high elevation ranges within the Park that have either not been surveyed before or not visited in recent decades. These areas include the Clark Range, Cathedral Range, Kuna Crest, Mt. Hoffmann, and Young Lakes-Mt. Conness. Species of special concern in each of these five areas are alpine chipmunks and pikas, but general small mammal surveys will be undertaken in each area as well.

Part I: Alpine Chipmunk Survey

Tamias alpinus

T. alpinus

T. alpinus

T. alpinus

T. alpinus

alpinus

T.

Methodology

T. alpinus

T. speciosus,

Locality 1: Vicinity of Tuolumne Meadows; Lember Dome, Delaney Meadow and Dingley Dome, Yosemite National Park (17 July – 23 July)

Figure 2. Photos of habitat at Lember Dome trapline

T. alpinus

Figure 3. The first photo in the sequence is Delaney Meadow looking east and the last two photos show the trap-line habitat at the meadow edge.

Figure 4. Habitat of the Dingley Dome trap-line.

Table 1.

Specific Trap-line	Latitude	Longitude	Elevation (ft)	Trap nights (#traps*#nights)	Habitat

Results for Locality 1

Tamias speciosus

Spermophilus lateralis

Peromyscus maniculatus

Tamias speciosus

Sorex monticolus

Table 2.

Specific Trap-line	<i>T. alpinus</i>	<i>T. speciosus</i>	Additional species captured
			<i>Peromyscus maniculatus,</i> <i>Spermophilus lateralis</i>
			<i>P. maniculatus</i>
			<i>P. maniculatus, Sorex monticolus</i>

Locality 2: Upper Lyell Canyon, Yosemite National Park (10 August – 18 August)

Tamias speciosus

Fig. 6. Position of five traplines in upper Lyell Canyon, August 2006. Traplines 2 and 4 had been trapped in both 2003 and 2005; trapline 1 had been trapped in 2005.

Figure 7. Upper Lyell Canyon lower trap-line habitat

Figure 8. Upper Lyell Canyon ridge trap-line habitat

Table 3.

Specific Trapline	Latitude	Longitude	Elevation (ft)	Trap nights	Habitat

Results Locality 2

Sorex tenellus

T. speciosus

Peromyscus maniculatus
Microtus longicaudus

Ochotona princeps
Spermophilus

lateralis
Marmota flaviventris

Spermophilus beldingi

Table 4. Summary of species sampled or captured and not sampled at Locality 2

Specific Trap-line	<i>T. alpinus</i>	<i>T. speciosus</i>	Additional species captured
			<i>Peromyscus maniculatus</i> , <i>Microtus longicaudus</i>
			<i>Sorex monticolus</i> , <i>Sorex palustris</i> , <i>Sorex tenellus</i> , <i>Spermophilus</i> <i>lateralis</i> , <i>Peromyscus</i> <i>maniculatus</i> , <i>Phenacomys</i> <i>intermedius</i> , <i>Ochotona princeps</i>
			<i>Sorex monticolus</i> , <i>Peromyscus</i> <i>maniculatus</i>
			<i>Peromyscus maniculatus</i>
			<i>Peromyscus maniculatus</i>

S. tenellus

Locality 3: Ten Lakes, Yosemite National Park (21 August – 26 August)

Figure 9. Habitat of Ten Lakes talus trap-line. The first photo is looking north towards the trail and the second is facing south

Microtus longicaudus

Sorex monticolus

Spermophilus beldingi

Table 6. Summary of species sampled or captured and not sampled at Locality 3.

Specific Trap-line	<i>T. alpinus</i>	<i>T. speciosus</i>	Additional species captured
			<i>Peromyscus maniculatus, Sorex monticolus, Microtus longicaudus</i>
			<i>P. maniculatus, Spermophilus beldingi</i>

Summary

T. alpinus

T. alpinus

Future Sampling

Figure 11. Map showing location and results of pika surveys conducted between July and October 2006.

Table 8. Summary table of results of Pika surveys, YNP 2006

Site Name	Pika or pika sign detected	Other species observed in pika habitat
		<i>Spermophilus lateralis,</i> <i>Marmota flaviventris</i> <i>Marmota flaviventris</i> <i>Marmota flaviventris</i> <i>Marmota flaviventris</i> <i>Marmota flaviventris</i> <i>Tamias speciosus</i>

Site Photos (Figures 12 – 15)



Figure 12. Lembert Dome talus slope (9243 ft) where pika, scat and hay piles were found. Photograph of pika on the right was taken the lower elevation Lembert Dome talus slope surveyed (9040 ft).

Figure 13. Scat pile and pika habitat surveyed at Dingley Dome site

Figure 14. Large talus/boulder field north of Soda Springs and Tuolumne Meadows. Pika can be seen in photo on the right between the large slabs of rock. No pikas were trapped in 2005 when Sherman live traps were used to detect the presence of alpine chipmunks.

Figure 15. Scat pile and habitat surveyed at the head of Tenaya Lake. This site represents the lowest elevation (8331ft) that pikas have currently been detected in the modern surveys in Yosemite.

Summary and Future Work

Part III: Small mammal Survey at Kerrick Meadow

Sorex lyelli

Phenacomys intermedius

GPS coordinates for each Trap area (typically taken at midpoint of trapline) are: **Trap area 1:** 38.12290°N - 119.47851°W, 9495 ft. **Trap area 2:** 38.12444°N - 119.48238°W, 9473 ft. **Trap area 3:** 38.11821°N - 119.48570°W, 9470 ft. **Trap area 4:** 38.11973°N - 119.48435°W, 9472 ft. **Trap area 5:** 38.12110°N - 119.48235°W, 9362 ft. **Trap area 6:** 38.11740°N - 119.48120°W, 9355 ft. **Trap area 7:** 38.13027°N - 119.47916°W, 9650 ft.

Trap area 2 contained a mixture of both Sherman live traps and 32oz plastic pitfall cups placed specifically for shrews; Trap area 5 contained both pitfall cups and Macabee gopher traps set specifically for pocket gophers; Trap areas 1, 3, 4, and 7 were Sherman live trap lines only; and Trap area 6 had only Macabee gopher traps. In general, population numbers of all species, with the exception of the deer mouse (*Peromyscus maniculatus*) were low, and overall trap success was poor as a result. Species diversity was also less than might be expected for a “typical” high elevation site in Yosemite, with species such as the water shrew (*Sorex palustris*), Belding ground squirrel (*Spermophilus beldingi*), alpine chipmunks (*Tamias alpinus*), bushy-tailed woodrats (*Neotoma cinerea*), and montane voles (*Microtus montanus*) not detected in our trapping effort or otherwise seen directly or by sign. Similarly, we found no fresh evidence of either marmots (*Marmota flaviventris*) or pika (*Ochtona princeps*). Each of these species is expected to be present in the vicinity of Kerrick Meadow, and in the case of two species (*S. beldingi* and *T. alpinus*), specimens were either collected or otherwise seen here in August of 2005 by Adam Leache and colleagues during their herpetological surveys.

Table 9: Kerrick Meadow: mammal species present, by habitat. * denotes observation only.**

Family	Species	Habitat	Commonness	Number of trap areas	Numbers captured
Soricidae	<i>Sorex lyelli</i> ¹	stream side, riparian	uncommon	2	4
	<i>Sorex monticolus</i> ²	stream side, riparian, forest	uncommon	5	7
Sciuridae	<i>Spermophilus lateralis</i> ³	conifer forest	uncommon	4	5
	<i>Tamiasciurus douglasii</i>	conifer forest	uncommon	***	
	<i>Tamias speciosus</i>	conifer forest	common	2	14
Geomyidae	<i>Thomomys monticola</i>	meadows	common	2	6
Muridae	<i>Peromyscus maniculatus</i>	forest, riparian	very common	5	166
	<i>Microtus longicaudus</i>	riparian, meadow	common	3	10
	<i>Phenacomys intermedius</i> ⁴	conifer forest	rare	1	1
	Dipodidae	<i>Zapus princeps</i>	riparian	uncommon	2

- 1 *Sorex lyelli* caught only along edge of fast moving stream in pitfall cup. This is the northern most record for this species, and extends the range over most of the alpine and subalpine habitats in Yosemite National Park
- 2 *Sorex monticolus* caught both in riparian zone along stream edge, in both slow and fast moving water, in pitfall cups, and on drier slopes among heather and granite boulders with Sherman live traps.
- 3 *Spermophilus lateralis*, usually one of the most commonly seen diurnal ground squirrels in Sierran conifer forests, was very rare during our visit in Kerrick Meadow, suggesting that overwinter mortality had been high, possibly due to the heavy, and later, snow pack two years in a row.
- 4 *Phenacomys intermedius* is one of the species of special interest to the YNP biologist at the beginning of our resurveys—nowhere common, we have found this species at nearly every site we have visited at an elevation above 8000 ft.