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Use of red squirrel (*Tamiasciurus hudsonicus*) middens by deer mice (*Peromyscus maniculatus*) and cliff chipmunks (*Tamias dorsalis*)

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Mammals may alter habitat features or provision resources to other species in a way that leads to changes in species composition. Red squirrels, *Tamiasciurus hudsonicus*, create structure via cone scale piles, or middens, that result from feeding. Middens may contain thousands of stored cones, seeds dropped by squirrels while feeding, and a structure that facilitates tunneling, nesting and access to food resources. Locally common forest species, such as deer mice (*Peromyscus maniculatus*) and cliff chipmunks (*Tamias dorsalis*), may use middens of the federally endangered Mount Graham red squirrel (*T. h. grahamensis*). We predicted a higher capture rate of these two species at occupied red squirrel middens than at random locations.

Methods

We used a web design to trap for small mammals at 10 occupied middens and 10 random locations. Trapping webs consisted of 29 traps in a circular web design radiating out to 30m from the center of the midden or random point. Occupied middens were those containing a resident squirrel at the start of the trapping session; random points were at least 60m away from occupied or unoccupied middens. We conducted a linear regression on

number of captures of *P. maniculatus* and *T. dorsalis* at increasing distance from the web center.

Results

We captured 351 *P. maniculatus* and 173 *T. dorsalis* in 2320 trap nights. *P. maniculatus* captures increased with distance from both occupied and random locations. *T. dorsalis* captures were not related to distance at either occupied or random locations.

Discussion

Although *P. maniculatus* and *T. dorsalis* captures were not more frequent near midden trapping web centers, high density of middens in the study area may have influenced trapping results. The feeding habitats of these two species, *P. maniculatus* a generalist and *T. dorsalis* a granivore specialist, may influence their likelihood of capture in different areas. Further analyses are needed to include a measure of proximity of surrounding middens, midden density of the area, and potential effects of vegetation and food resources on capture rates of these two species.