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# Camera Surveys to Monitor Small Mammals in Cedar Breaks National Monument

Ethan Hammer, *Utah State University* | Dr. Nicki Frey, *Utah State University*

## Introduction

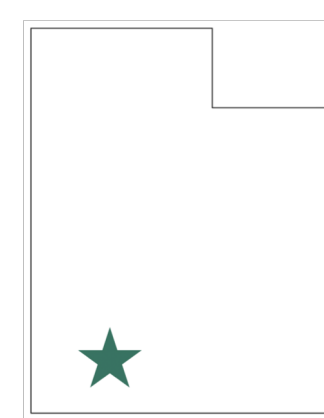
Using remote cameras to capture photos of wildlife is an increasingly common way to monitor and document species populations.

To detect an animal with a remote camera, the animal must:

- Have enough body heat to trigger the camera
- Move slowly enough to allow for a sharp picture to be taken

Small mammals often fail to meet these two requirements for detection, as they move quickly and produce less heat. As a result, current camera trapping methods miss many species.

We have developed a 'small mammal' method that will try to fix the problems that come with camera trapping small mammals. This method will be compared to the traditional 'large mammal' method in order to determine its effectiveness.



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## Methods

16 survey transects (a series of 9 cameras along a line) and two camera methods were used:

1. The 'large mammal' method in which the camera was installed approximately 1 m from the ground, mounted to a tree or post.
2. Our new 'small mammal' method in which the camera was set at ground level approximately 0.5 m from a 15 cm x 15 cm x 30.5 cm corrugated plastic tube (Figure 1).

## Results

Of the 24 mammalian species detected, 6 were previously unconfirmed in the Monument, 8 are rare, 6 are uncommon, and 4 are common.

Both methods performed equally well in detecting the large and medium mammalian species.

The 'small mammal' method detected more species of small mammals than the large mammal method (Figure 2).



Figure 1: 'Small mammal' method

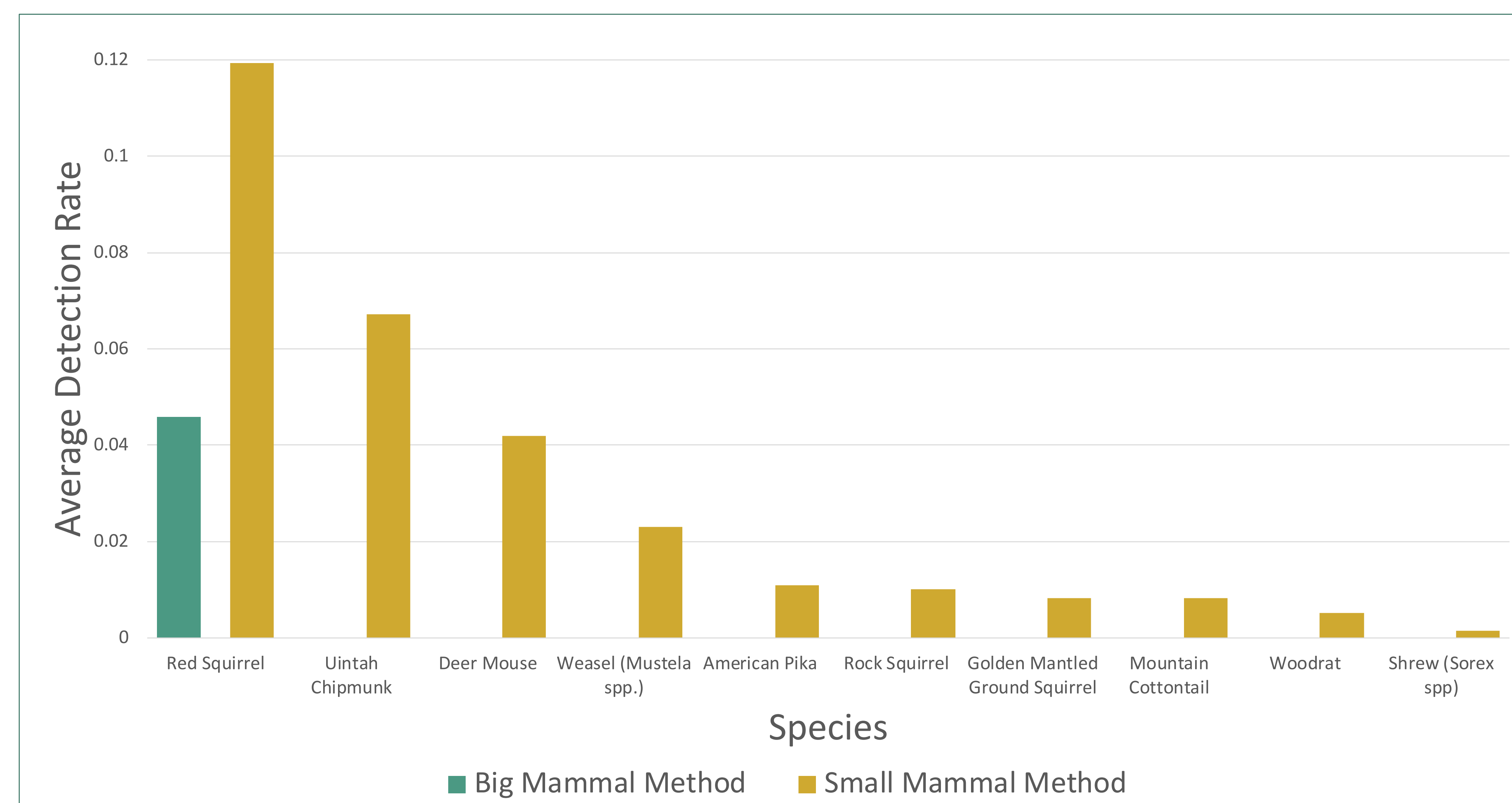


Figure 2: 'Big mammal' method and 'small mammal' method average detection rates of small sized mammals, Cedar Breaks National Monument, Utah, May – October 2018.

## Conclusions

The 'small mammal' method was able to detect large, medium, and small sized mammals as they wandered by or interacted with the tract tube.

Future work should be done to determine how plentiful litter and snow on the forest floor impact the 'small mammal' method's effectiveness.

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