

The Abundance and Diversity of Reptile species on North and South Aspect of Mountains

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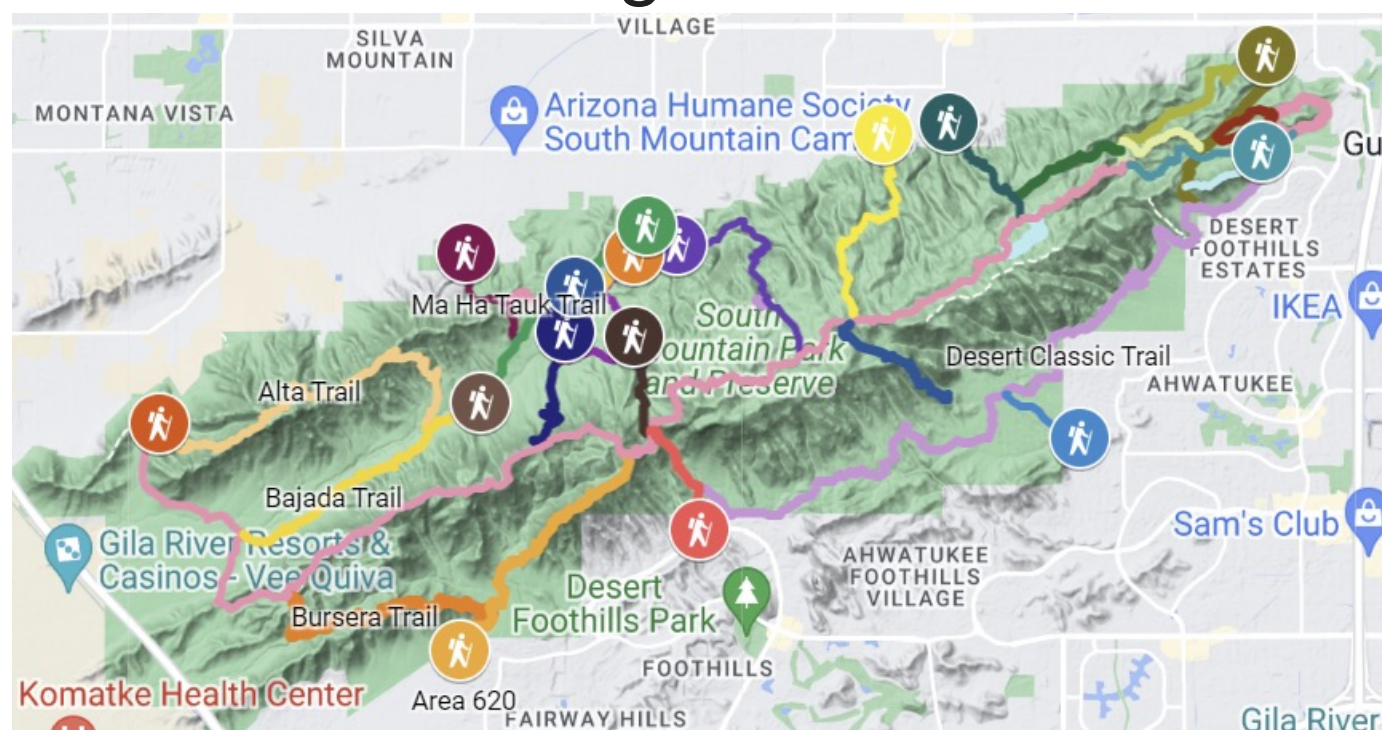
Introduction and Objectives

The abundance and diversity of reptile species are affected by the environment. They are seen in specific types of environments such as mountain ranges where there is a tremendous impact of biodiversity (Zhang & Wang 2023). Nevertheless the environment impact the reptile species. The south-facing aspect receive more sunlight becoming warmer while the north-facing aspect retain moisture and are cold (Maren et al. 2015). Therefore, many species will take advantage of the north-facing aspects with a denser vegetation cover rather than the south-facing aspects (Yang et al. 2020).

The alternate hypothesis is that there will be a difference in the diversity and abundance of reptile species on both facing aspects of the mountain while the null hypothesis will be no difference. I predict that the outcome of the reptile species will have a higher diversity and abundance on the north-facing aspect of the mountain because of the cooler environment and the denser vegetations.

Methods

The study site takes place at South Mountain Park and Preserve. A walking transect was performed on the trails and each trails were chosen at random. I used the seconds on the clock to take the number of steps onto the trail then set a 15-minute timer to do the walking transect. When I see a herp species, I stop to identify the species then continue the walking transect until the time is up.



Results

Abundance of Reptile Species

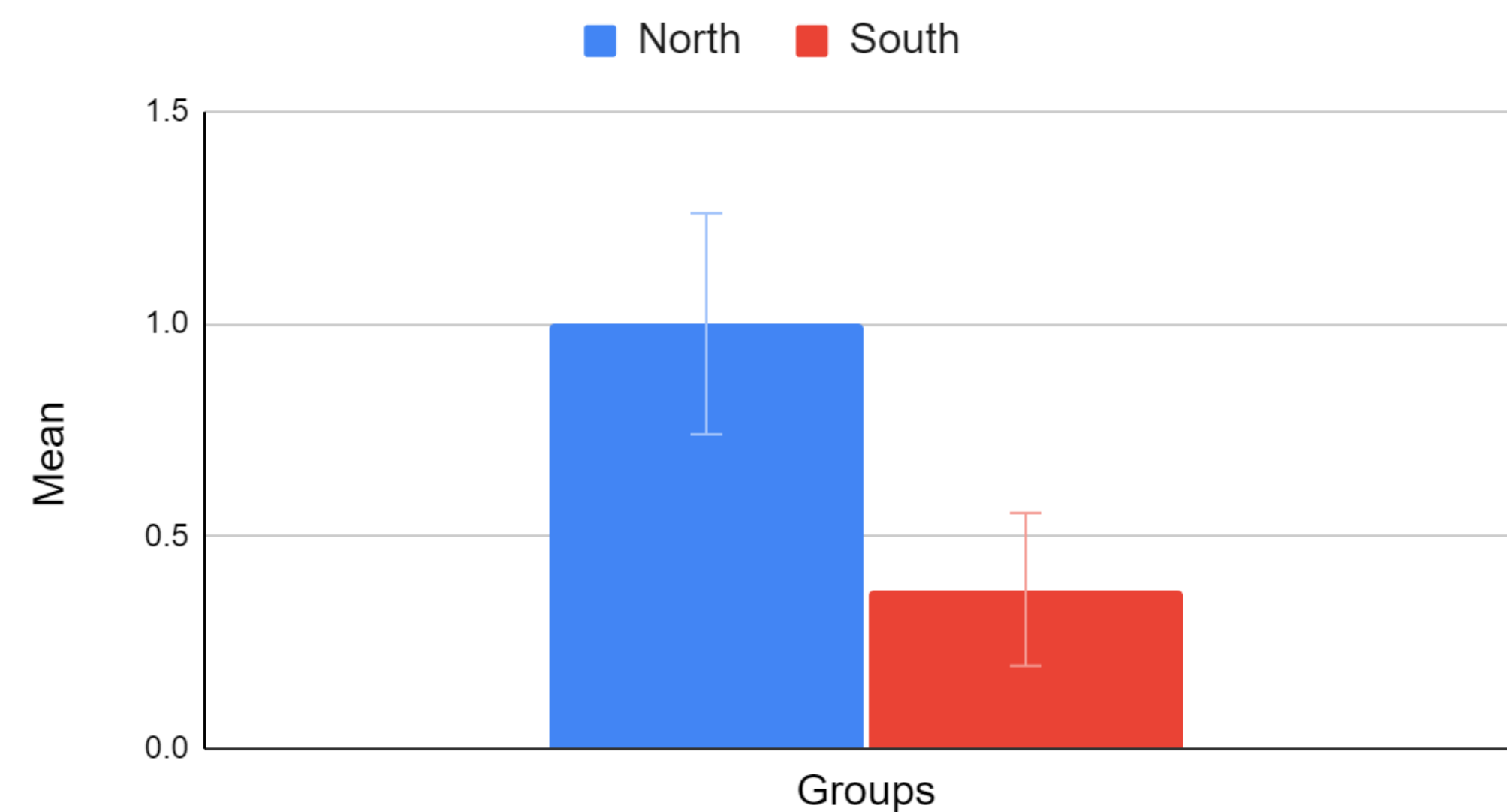
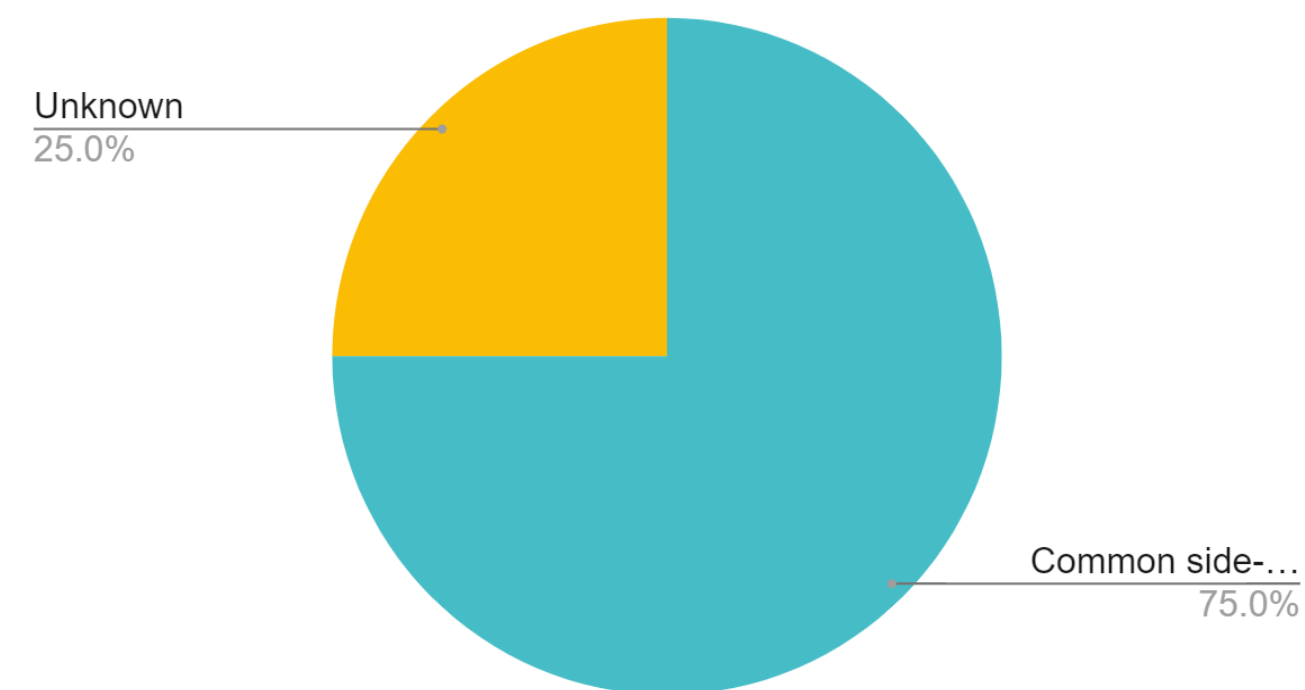


Fig 1. This represents the abundance of reptile species on both aspect of the mountain. There was a total of 16 random trails, 8 trails for the north and 8 trails for the south. The average for the North aspect was 1 while for the south was 0.375.

North-Facing Reptile Diversity



South-Facing Reptile Diversity

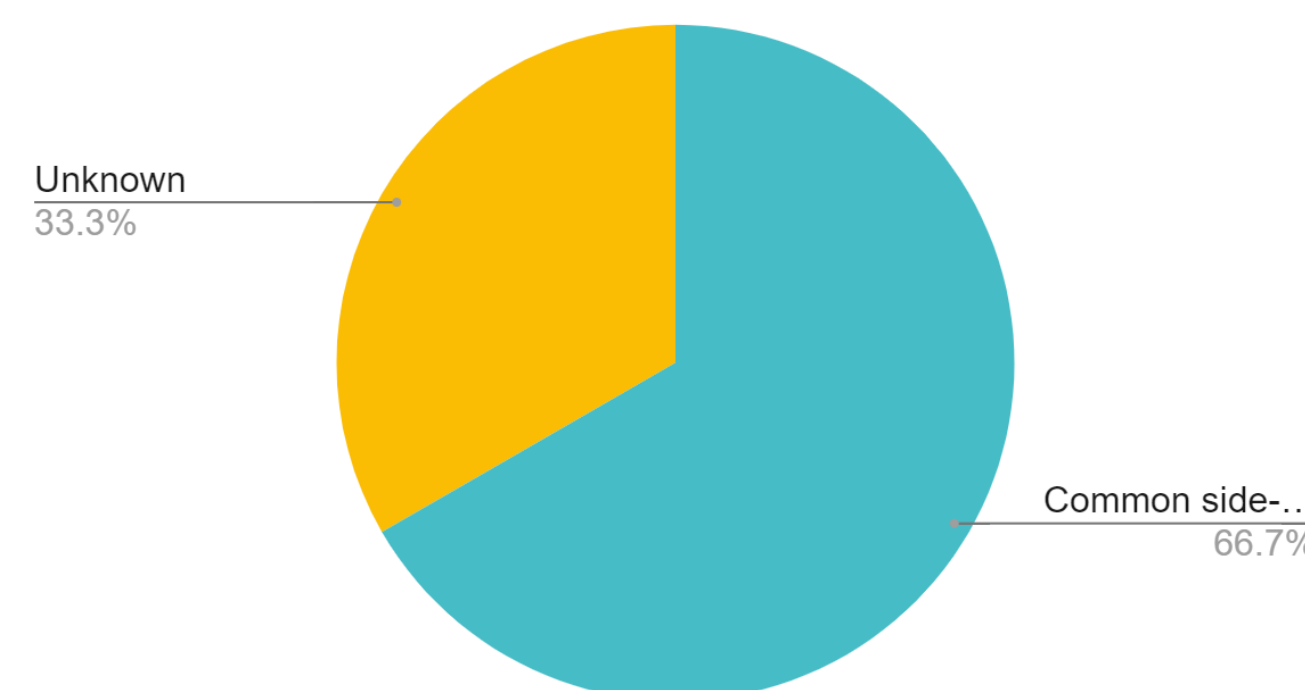


Fig 2. This represents the diversity of reptiles seen in the north and south facing aspects. In the north facing aspect there was a total of 8 individuals, 6 were the common side blotch and 2 were unknown individuals. In the south facing aspect there was a total of 3 individuals with 2 of them being the common side blotch and 1 unknown individuals.

Conclusion

Based on the results it shows that there was a difference between the abundance of species on the north and south facing aspects. The average shows a significant difference and the standard error do not overlap with one another. The results conclude that the alternate hypothesis was accepted and the null hypothesis was rejected. Also my prediction was supported because there was a higher abundance seen on the north aspect compared to the south aspect.

As for the diversity of the species we can see that the common side blotch lizard was mostly seen at both sides of the mountain. There were some unknowns due to the reptiles fleeing rapidly or difficult to identify on the field but were mostly likely the common side blotch lizard. There was more reptiles seen in the north side of the mountain making the data more accurate.



Literature Cited & Acknowledgements

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