Scavenging Efficiency in Turkey Vultures (*Cathartes aura)* at Forested Sites

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Abstract

Turkey vultures (*Cathartes aura)* are well known for their incredible sense of smell due to their large olfactory bulbs, which are even larger than some mammals, such as rats (Griggs et al. 2015). This study compared the olfaction ability of turkey vultures to local mammals in the area by baiting sites in the Arcata Community Forest and analyzing which species arrived quickest.

Methods

- Sites were chosen at random using mapping software QGIS 15m from any trail
- Carrion were either left exposed or buried no more than 15cm
- Sites were baited twice a week
- Carrion were left at each site for one week before collection
- Game cameras were used to capture which species arrived first, as well as date, time, and weather

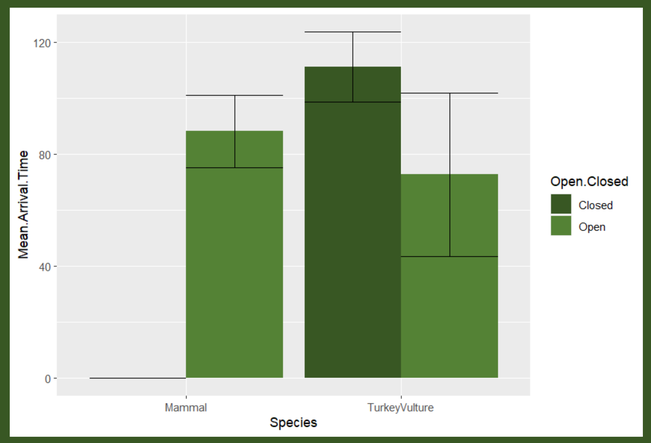

Figure 1. *Comparison of species arrival and time of arrival (in hours).*

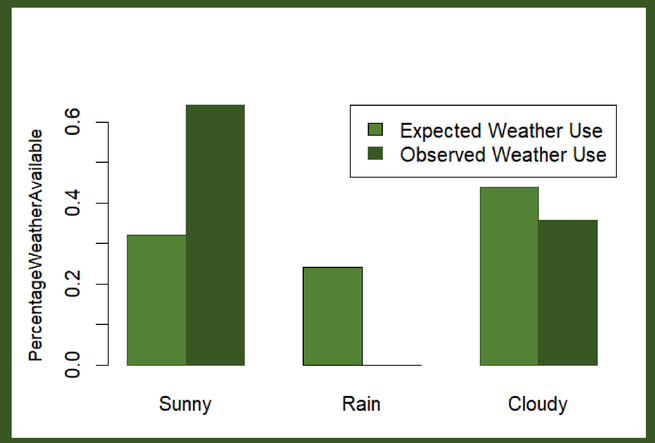

Figure 2. *Comparison of weather during the week and weather when vultures arrived.*

Site Number	Species	Site Type	Temperature	Humidity	Weather	ArrivalTime
Site 2	Vulture	Open	6	89%	Cloudy	91
Site 7	Vulture	Open	9	83%	Sunny	111
Site 8	Vulture	Closed	9	85%	Sunny	135
Site 11	Vulture	Open	8	48%	Cloudy	64
Site 12	Vulture	Closed	12	62%	Sunny	115
Site 15	Raccoon	Open	2	77%	Cloudy	112
Site 16	Vulture	Closed	7	84%	Cloudy	63
Site 17	Vulture	Closed	15	86%	Sunny	112
Site 18	Vulture	Open	10	78%	Sunny	43
Site 20	Skunk	Open	14	70%	Cloudy	78
Site 21	Vulture	Open	11	75%	Sunny	42
Site 22	Vulture	Closed	11	79%	Cloudy	112
Site 23	Vulture	Closed	4	63%	Sunny	132
Site 24	Vulture	Open	9	77%	Sunny	86

Table 1. *Data collected from each site. Time of arrival is measured in hours.*

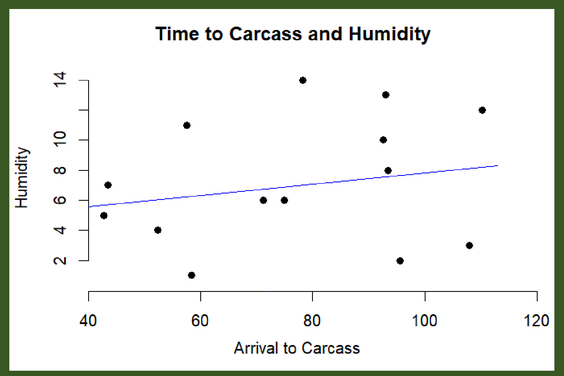

Figure 3. *Comparison of humidity and time of arrival (in hours).*

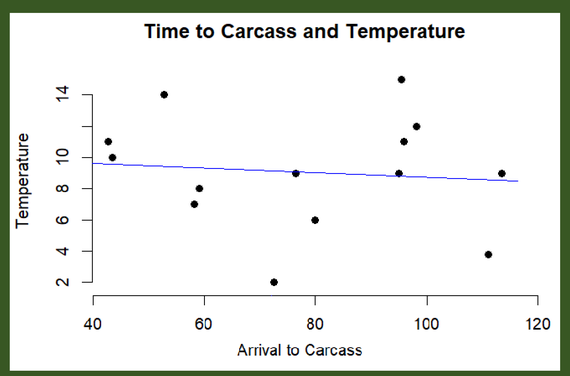

Figure 4. *Comparison of temperature and time of arrival (in hours).*

Results

- Out of the 14 animals that arrived, 12 of them were turkey vultures
- Sunny weather was most common when vultures arrived at sites (66% of the time)
- Humidity (p = 0.085) and temperature (p = 0.74) had no effect on arrival
- Turkey vultures found exposed and buried sites at similar rates (p = 0.68)

Discussion

- Turkey vultures appear to be more efficient than mammals in finding carcasses within forests
- Sunny weather had the most positive effect on carcass location for vultures
- Results were consistent with previous literature on the subject (Houston 1986), except for weather (Mallon et al. 2021), possibly due to sample size

Literature Cited

Houston, D. C. 1986. Scavenging Efficiency of Turkey Vultures in Tropical Forest. The Condor 88:318-323.
Mallon, J. M., K. L. Bildstein, and W. F. Fagan. 2021. Inclement weather forces stopovers and prevents migratory progress for obligate soaring migrants. Movement Ecology 9:39.
Platt, S. G., T. Gukian , R.E. Meraz, and C. M. Ritzi. 2015. Exhumation of Buried Mammal Carrion by Turkey Vultures. Journal of Raptor Research 49:518-520.

Acknowledgements

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