



# A Comparison of Vertebrate Usage of Gopher Tortoise and Nine-Banded Armadillo Burrows

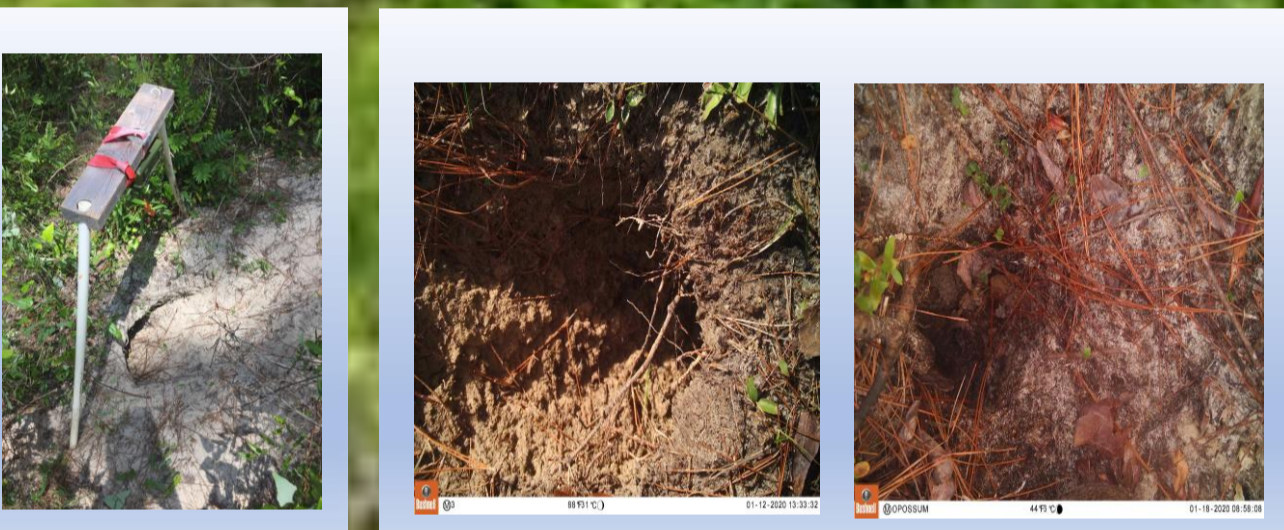
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## Background

- The Gopher Tortoise (*Gopherus Polyphemus*) is a burrow digging species that lives in the coastal plains of the southeastern United States.
- Their burrows are shared with over 60 species of commensal vertebrates (Dziadzio and Smith 2016).
- The Gopher Tortoise now co-occurs with another burrowing species, the Nine-Banded Armadillo (*Dasypus novemcinctus*).
- We monitored the usage of each burrow type using camera traps to compare and contrast commensal species usage.

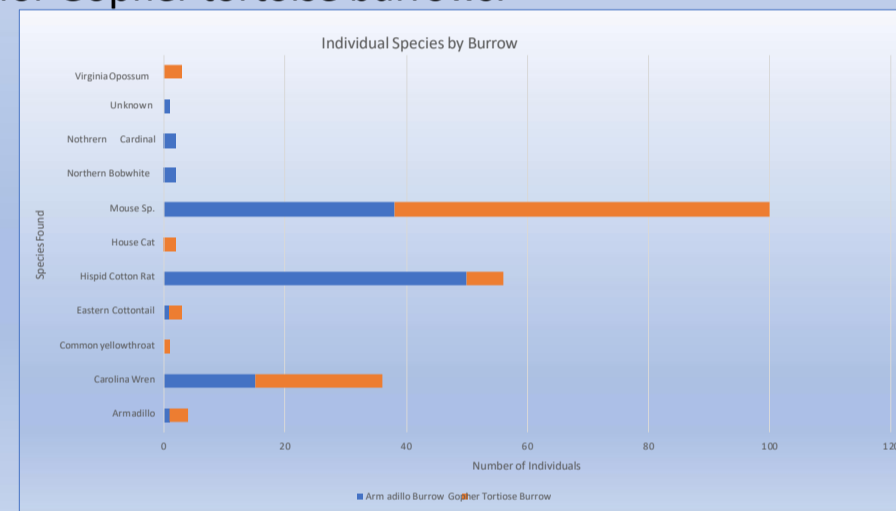


## Methods

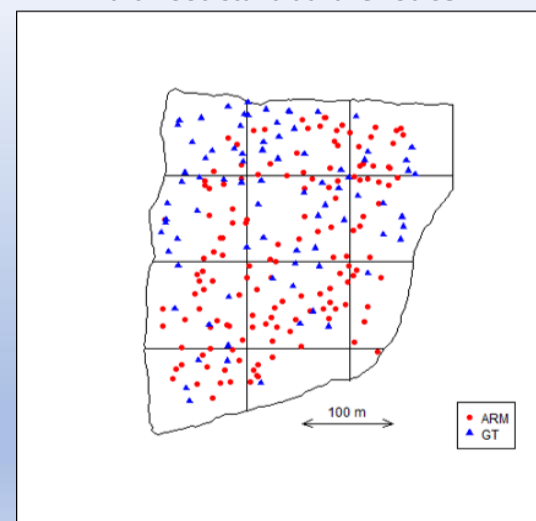
- To monitor the commensal vertebrate usage of Nine-Banded Armadillo and Gopher Tortoise burrows, we used motion activated trail cameras.
- Cameras were placed above the burrows, 2 Armadillo and 2 Gopher Tortoise, to non-invasively capture photos and videos of any animal that came in contact with the burrow.
- The data collected was analyzed to identify which species were present, how many times each triggered the camera, and if it entered the burrow.
- Burrows were monitored for three months from November 2019 through January 2020, in the mixed-pine hardwood stand at the Lake Louise Field Station located in Lowndes County, Georgia.

## Results

- A total 277 events were captured at burrows: 152 at Armadillo burrows and 125 at Gopher tortoise burrows.
- Ten vertebrate species were observed visiting burrows.
- House cat, Virginia Opossum, and Common Yellow Throat were found at Gopher Tortoise burrows, but not at Armadillo burrows; while Northern Bobwhite and Northern Cardinal were only observed at Armadillo burrows.
- Hispid Cotton Rats were observed at Armadillo burrows eight times more frequently than at Gopher Tortoise burrows.
- Armadillo burrows were entered by a vertebrate 30 times versus 23 times for Gopher tortoise burrows.

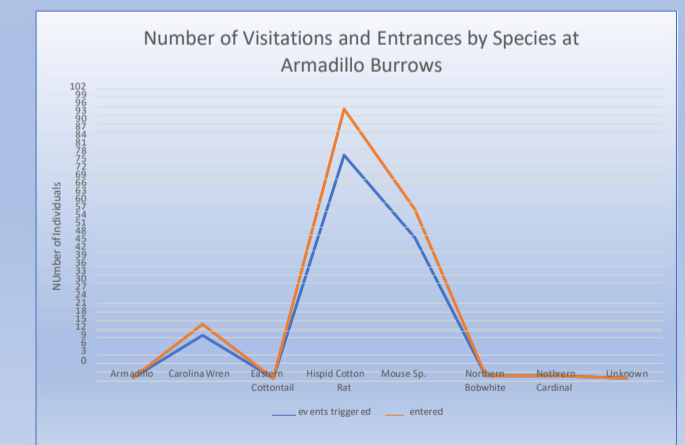
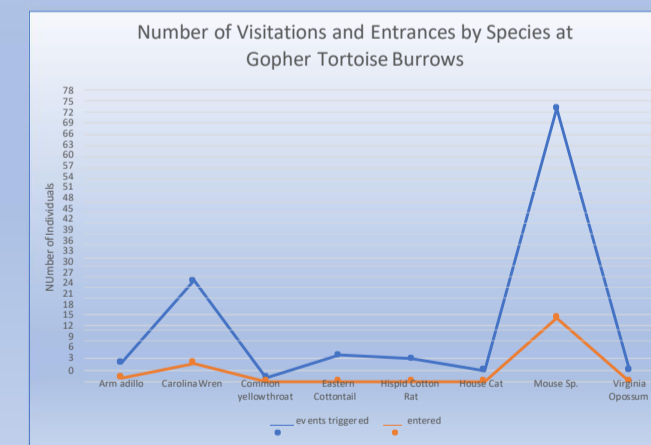
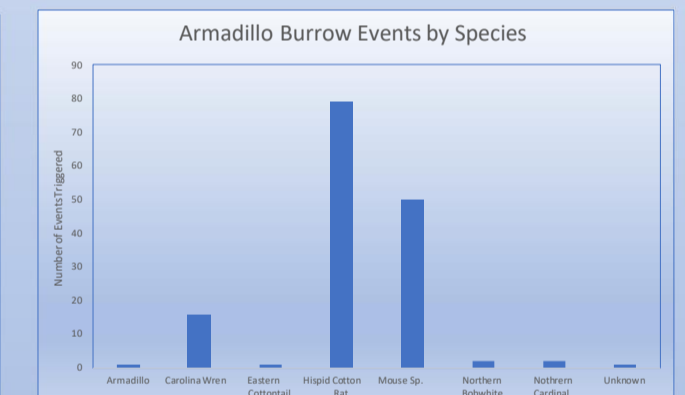
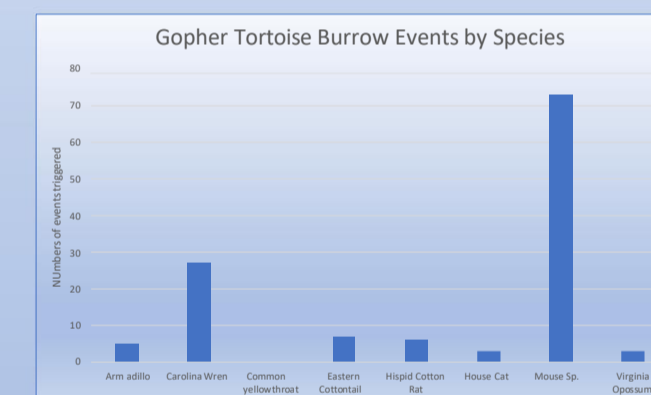


Map Showing marked burrow locations in the mixed-pine hardwood stand at Lake Louise



## Conclusions

- Overall, Armadillo burrows were used more than the Gopher tortoise burrows, based on the number of camera triggering events.
- Several species were observed at both burrow types: Hispid Cotton Rat, mouse spp. and Carolina Wren.
- More data are required to determine if certain commensal species exhibit preference for a particular burrow type. Nevertheless, our results suggest that the Hispid Cotton Rat may prefer Armadillo burrows, while mouse spp. may prefer Gopher Tortoise burrows.



## Common Vertebrates at Burrow Locations



*Thryothorus ludovicianus*



*Mouse sp.*



*Dasypus novemcinctus*



*Cardinalis cardinalis*



*Didelphis virginiana*



*Sigmodon hispidus*



*Felis catus*



*Sylvilagus floridanus*