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Project Perch's BuOw Blog 17

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Blinky's Snail Midden

Shell Middens

We trimmed around the burrow and adjusted the sticks we were using to help deter the Coopers Hawk when we came upon a pile of snail shells. It was about two feet behind the burrow entrance and it was the owl's snail midden. A midden is a kitchen pile or shell heap and is a word used by archaeologists worldwide to describe any kind of feature containing waste products from day to day life.¹ In Spanish and Portuguese speaking countries middens are referred to as Conchales and derives from the Spanish word for mollusc shell, concha.¹



We could see the juvenile owl eating them and then walking off camera. But until we found the pile of shells, we were not able to identify them as tree snails. We didn't think of snails as a food source for the owls, let alone this significant a food source. It makes perfect sense as the snails are available close to home and require no skill to catch, but most importantly provide a good source of protein for a young owl. Snails have no bones or fur, which very young owls have difficulty with and so snails may be one of the first food items owlets learn to get and eat on their own.

Undamaged Shells

While all raptors have hooked beaks, Snail Kites have a specialized bill that is deeply curved and acts like a hook that is used to pull the snail out of its shell.² Snail Kites feed almost exclusively on freshwater snails and once the meat is extracted, they discard the undamaged shells.² When we examined the shells in the pile, they were not broken or damaged. All of the shells were intact. So this young owl can also extract the snail meat without damaging the shell.

Although we did not find any references that *Athene Floridae* eats snails, we did find a reference that *Athene cunicularia*'s food habits include snails.³ Oscar Rebuffone took this picture of a Burrowing owl eating a snail in Buenos Aires, Argentina in September of 2013.⁴



Whitewash on the Shells

Pack rats are known to defecate on their middens which also serve as their dens.⁵ So defecating on the midden helps to solidify the walls and the thicker the wall of the den, the cooler the interior is and the more moisture it traps.⁵ The inside of a pack rat den is typically 20 degrees cooler than the desert air with twice as much humidity.⁵ We checked the shell pile for whitewash, but there was none. Seems the shell pile is just refuse from a readily available food source accumulating in an out of the way spot.

Type of Snail

Using a dichotomous key for Florida tree snails from the University of Florida's Featured Creatures, we identified the snails as West Indian *Bulimulus* or *Bulimulus guadalupensis*.⁶ The shell is marked by one to two faint or three strong brown spiral bands and a narrow white subsutural band and lacks vertical stripes, apex is brown to ivory.⁶ This snail was introduced from Puerto Rico and is found on low-lying ground covers and in lawns in south eastern Florida.⁶



Piling the Shells

The owl finds the snails in the grass, eats them where she finds them and then takes the shells to the pile. The owl is leaving the shells in a pile behind the burrow and normally the owls leave their other carcasses and waste in front of the burrow entrance where it attracts bugs. The pile of shells was not buggy when it was observed. Perhaps the shells are piled so they are not confused for live snails or so they are not underfoot in the future, or both. The reason or reasons why the shells are piled nearby requires further investigation.

Sources:

¹ Brinton, D. G. (1866). "Artificial Shell-deposits of the United States". Washington: [Smithsonian Institution](#).

² The Peregrine Fund, Explore Raptor Species: the Snail Kite,
http://www.peregrinefund.org/explore-raptors-species/Snail_Kite#sthash.pYQ7HXcC.dpbs

³ University of Michigan Museum of Zoology's Animal Diversity Web, *Athene cucularia*'s Food Habits,
http://animaldiversity.ummz.umich.edu/accounts/Athene_cucularia/

⁴ Rebuffone, Oscar. September 7, 2013. The Internet Bird Café, Burrowing owl eating a snail.
<http://ibc.lynxeds.com/photo/burrowing-owl-athene-cucularia/burrowing-owleating-snail>

⁵ Wright, Karen. September 01, 1993. Revelations of Rat Scat. Discover Magazine,
<http://discovermagazine.com/1993/sep/revelationsofrat265>

⁶ Deisler, Jane E. August 2000. Entomology and Nematology Featured Creature: Tree Snails of Florida. University of Florida IFAS, http://entomology.ifas.ufl.edu/creatures/misc/gastro/tree_snails.htm#key