

**Project Perch's mission is to protect and nurture the Burrowing Owl in SE Florida.
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Project Perch's BuOw Blog 13

Wednesday, March 5, 2014

How Long Until We See Owlets?

For the second time, we tried to predict when we would see owlets. Right around November 1st we stopped seeing the female as she was down in the burrow almost all of the time so we thought she must have started laying eggs. We added 30 days as the estimate for the incubation period and another 40 days as the estimate for the nestling period.¹ We expected owlets by early January, but in early January there were no owlets. Female burrowing owls lay an egg every 36 hours, lay between 3-11 eggs and may wait to start incubating eggs until after the first 4-6 eggs are laid.² So we added another 8 days, 2 days each for 4 eggs and then thought we would see owlets in mid-January.

We also saw some very strange bird droppings in mid-December. See BuOw Blog 12 for pictures and a description. We thought the bird droppings might be indicative of the female egg laying but that wasn't documented in any of the previous studies. The droppings were seen a full month after the female moved into the burrow and if they were an accurate indicator, it meant we would not see owlets until early February not January.

In late December, the male started delivering food to the burrow. We thought they must have nestlings down there, but the time passed and no owlets emerged. Where were the owlets? Millsap and Bears' "observations indicate that females at successful nests gain so much weight prior to egg laying that some are unable to fly for several days prior to clutch deposition."¹ They go on to say "that during this time and throughout the laying period, females seldom leave the nest burrow and are probably totally dependent upon the male for food and nest protection."¹ So the male was feeding the female in December and not nestlings.

In late January, it felt like there just wasn't enough feeding going on and we feared the owlets had been lost in a heavy rain on January 10. Then the teacher was watching video of the father's fast early morning burrow dives. She discovered that he was flying straight into the burrow with prey. She had a blurry picture of him flying in with a rat in his talons. We were so relieved that the owlets must still be down there.

Dr. Mealey told us to look for when the female appears, she would be much darker than the male due to no sun bleaching, but in our case the female is lighter than the male, unusual but just individual variation.³ Dr. Mealey also wrote us that usually about 10 days after the female emerges, we should start seeing some chicks.³ We wrote him back that we always saw our female. Even when incubating, the female came out for bathroom breaks and to stretch at dawn and/or dusk. She just was never out for long. Dr. Mealey wrote "The cam gives an entirely new perspective on females. In field studies we rarely see incubating females since we are at the site less than 10 minutes."³ He asked us to watch for an exchange in incubation duties between the male and female, but we rarely saw the female for very long, so she was doing most of the incubating.³

How Many Owlets?

So I guessed two owlets on January 14. The teacher at the school said she would be thrilled with two owlets on January 12 and then recalibrated to January 21. We had talked about the June nest lost to flooding and that this was a re-nest. Another volunteer guessed four owlets but said no idea on the date. Dr. Mealey wrote us the maximum number of owlets he had seen in south Florida was six.³ January came and went. Then on February 5th we saw two tiny fluffy heads in the burrow. On February 7th another tiny head bobbed up out of the burrow and on February 9th a white baby was seen, so four owlets. By February 13th there was a new little gray baby and now we had seen 5.

Owlets versus Fledges

The term owlet is a specialized term for a young owl. It refers to a recently hatched bird that has not developed its mature plumage and has not fledged and so is still dependent on its parents.⁴ Young owls have white natal down and lack distinct markings, but their facial disks are some of the first plumage features to develop.⁴ A burrowing owlet is fledged when, if approached, it flies away rather than retreating into the burrow.¹

Nestling Development – The First 30 Days

The Playpen – Mother owl excavated an area out at the burrow's entrance where all of the babies could hang out in the fresh air, but where they would still be very safe. They could barely be seen by predators and could be pushed down into the safety of the burrow easily.

Culinary School:

Begging and Chirping – It was hard to tell if they were begging or chirping sometimes, but they were often doing one or the other. Both behaviors seemed to indicate a desire to be fed. Most feeding occurred in the burrow, but we did see the mother owl feeding the babies a couple of times.

Live Prey – We saw father owl deliver live prey to the owlets on 2 occasions. He gave them a live lizard and a grasshopper to practice with. He may have also been flying live prey in with his overnight and early morning deliveries.

Bugging – Very early on the owlets could catch bugs right at the burrow's entrance. The parents were cultivating a bug garden with all of the poop and animal debris left there, so there were a lot of bugs for the owlets to catch and eat while still safe at the burrow's entrance.

The Rocking Chair – That is what we called it when the owlets sat with their legs out in front of them and using their wings to balance. They would pick at the grass and eat bugs. They would lean forward to grab the bug out of their talon and wobble backwards, rocking back and forth. Their legs were weak and they needed to rest them often.



Peeper in the Rocking Chair – February 16, 2014

Flight School:

Natal Down and Flight Feathers: The babies look all white with their natal down to start. The first three owlets had already lost their natal down and were looking brown and fluffy by the time they emerged from the burrow. The fourth owlet was all white when we saw him and the fifth one appeared gray as the brown feathers came in.

Flapping, Hopping and Wing Stretching – All of the precursors to flying. They were testing their wings from the very start and trying to get some air. They stretched their wings above their head in a W shape and in the beginning the wings were so short, but they get longer every day. Within a week we saw owlets hopping and stretching and within two weeks their flight feathers were growing in.

Longer Hops and Short Flights – The owlets flapped their wings frantically as they gain a little more air each time. The cam's view is very small and within two weeks, the owlets were hopping and flapping out of sight. We did see some good hovering and landing on the big stick father owl positioned right at the burrow's entrance and we thought maybe he did that to help the owlet learn practice perching and landing. In the first month, we did not see any official take offs or landings and never saw the owlets perched anywhere but near the burrow.

Head Bobbing: The owlets would stare at objects and move their heads around, up and down and around in a circle. We even saw their heads go upside down sometimes.

Parallaxing – Parallaxing in owls is the vertical head bobbing motion. One of the definitions I found the easiest to understand was by Ron Dudley at Featheredphotography.⁵

“It is the effect where the position or direction of an object appears to differ when viewed from different positions. When an observer moves, the apparent relative motion of several stationary objects against a background gives hints about their relative distance which the brain can interpret to provide absolute depth perception.... this can be very helpful to birds for flight and for judging prey position. The movement required comes automatically during flight but it can also be provided while perched by exaggerated movement of the head...”⁵

Nearby objects have a larger parallax than those further away. Astronomers use the parallax principle to determine distances to the moon, sun and the stars.

Stereo Vision – Sometimes the head is rotated or moved in all three dimensions. In Featheredphotography, Ken Britten provides two other possibilities for these specific types of head movement.⁵

“One is that the owl is getting stereo vision from different features in the image. Since “normal” stereo vision rests on the horizontal disparity of image features, it is best informed by vertical contours in the image. A horizontal feature is useless. By rotating its head, the owl might be getting depth for these features. Stereo vision only works for fairly near objects...probably out to about 15-20 feet or so.”⁵

Hearing – Tipping the head and moving it around may sometimes be related to hearing and not seeing. Ken Britten also provides this explanation in Featheredphotography⁵:

“Owls are superb at sound localization, and horizontal acuity is better than vertical... by turning its head sideways, it is using its hearing to better define your vertical position. Naturally, none of these ideas are exclusive of each other – the owl might be doing all of this at once.”⁵

There are several very serious reasons why owlets do this, but when they actually do it, they look silly and are cute and funny. It is these behaviors that make the burrowing owlets so endearing to everyone and there are hundreds of pictures and videos showing them do this. Some of the best pictures and discussion we have seen on this was at Featheredphotography.com and here is the link:

<http://www.featheredphotography.com/blog/2013/02/09/juvenile-burrowing-owl-parallaxing/>



Blinky relaxing, parallaxing and anting – February 27, 2014

Sleeping, Sunbathing and Anting:

Sleeping – The babies would rest or sleep at the burrow’s entrance, usually in the sunshine.

Sunbathing – We hadn’t seen any sleeping in awhile and then one warm day the owlet lay down for 9 minutes straight, even laying its head down. We all worried it was hurt, but as we watched the owlet seemed to snack on some small bugs, stretch its legs out and then got up. Everyone worried the owlet was weak and maybe sick. We e-mailed Dr. Mealey. He responded, “Simply relaxed and resting. It’s a very normal behavior for young and I’ve seen adults/young do it especially while sunbathing. They simply lay chest down and spread their wings to maximize exposure.”³ The owlet never spread its wings this time, so maybe that was some of our confusion.

Anting – Dr. Mealey also wrote; “This behavior is also coupled with “anting”, which allows ants/formic acid to clean their feathers from parasites.”³ We did see the owlet snacking on some small bugs, which could have been ants. The owlet was taking a bug bath as opposed to a dirt bath or maybe both. We wrote Dr. Mealey back to see if “anting” was an official term and he wrote back that it was.”³ So we looked it up:

“The purpose of it is not well understood, but the most reasonable assumption seems to be that it is a way of acquiring the defensive secretions of ants primarily for their insecticidal, miticidal, fungicidal, or bactericidal properties and, perhaps secondarily, as a supplement to the bird's own preen oil. The former explanation is reinforced by a growing body of evidence on the biocidal properties of ant secretions and by an observation of a jungle Myna (*Acridotheres fuscus*) actively "anting" with a millipede, whose potent defensive secretions (evolved to fend off the millipede's enemies) could be smelled from 15 feet away. Likewise, the observed correlation of anting activity with high humidity might be explained by the documented fungicidal properties of ant secretions. Because the seasonal timing of anting and molting (spring and summer) often correspond, some have suggested that anting may soothe the skin during feather replacement. It seems more likely that the seasonal relationship simply reflects the greater activity of ants during those periods.”⁶

Anting also may make the ants edible by removing the acid from them and we did see the owlet eating.⁶ We were so relieved it was normal behavior and just a buggy baby trying to get rid of some itchy parasites.

Sources:

¹ Millsap, Brian and Cindy Bear. June, 1990. Double-Brooding by Florida Burrowing Owls. The Wilson Bulletin, Vol 102, No 2, pp. 313-317.

² http://www.burrowingowlbc.org/captive_breeding_eggs_and_hatching.htm

³ Mealey, Brian. 2014. Personal Communication.

⁴ <http://birding.about.com/od/Bird-Glossary-N-O/g/Owlet.htm>

⁵ <http://www.featheredphotography.com/blog/2013/02/09/juvenile-burrowing-owl-parallaxing/>

⁶ <http://www.stanford.edu/group/stanfordbirds/text/essays/Anting.html>