



Arizona's Raptor Experience, LLC

May 2019

~Newsletter~

Greetings from Chino Valley! We hope you are well and that you've had a chance to enjoy the flowers this spring – it's amazing what happens here when it rains. The flowers at our place are wonderful for the new bees that arrived a few weeks ago. It's fascinating to watch them return to the hive carrying pollen of different colors. We are also enjoying our four baby chickens and watching them grow!

The raptors are all molting now and Andromeda (pictured below) is incubating her first eggs. Although they are infertile, she will go through the process which is important to prevent her laying more eggs at this time. More on that later...

Wild birds are busy laying their eggs too. It is egg laying behavior that we will cover in this issue. Hope you enjoy it!



Andromeda (Eurasian Eagle-owl) incubating three eggs.

Intriguing Behaviors: Egg Laying Strategies

A neat story has been circulating online recently about a Screech Owl that incubated the egg of a Wood Duck. She was captured on film sharing the entry hole of a nesting box with the duckling. Click here to read the story:

<https://www.nationalgeographic.com/animals/2019/04/screech-owl-ducklings-nest-florida/>

This adorable story and photo got me thinking about egg laying behavior, as did Andromeda's experience with her first eggs. So, this became the topic of this month's newsletter!

The Practice of Egg Dumping

There are several reasons why a bird might lay her eggs in the nest of another bird (remember – not all male birds are involved in rearing young so some females are left to nest on their own). Perhaps she was unable to find a suitable nesting site, had her nest disturbed by a predator or lost a nest site to another bird. Or, she may simply be leaving an egg to be raised by other parent birds to increase the chances of passing on her genetics.

The practice of egg dumping is common in birds like Wood Ducks, Chickadees and Tree Swallows to name a few. The eggs are incubated by the (usually) unsuspecting owner of the nest. Then, of course, the chick is raised by its “foster” parents. In nature this is considered a form of parasitism, with one bird benefitting at the expense of another – the “dumpee” ends up using time and energy to raise the offspring of another bird who does not share its genetic material.

Two types of brood parasitism exist: intraspecific (or conspecific) brood parasitism which occurs within the same species and obligate brood parasitism which occurs between members of different species. Conspecific brood parasitism has been documented in over 200 kinds of birds. Only two obligate brood parasites, or those who must lay their eggs in the nest of others and do not build nests of their own, occur in North America and include Bronzed and Brown-headed Cowbirds. Around the world there are many obligate brood parasites, the most notable and best studied being the Common Cuckoo found in Europe, Asia and Africa (in winter).

Cuckoos are not just significant to other birds because they lay their eggs for others to incubate, but also because the young Cuckoo hatches first and instinctually pushes anything it comes into contact with out of the nest. Therefore, they remove the eggs of the foster parents, and are left as the only offspring to raise. The parent birds do not recognize that they are fostering

another species, but respond quickly to feed the often larger, demanding Cuckoo chick.

Cowbirds have been documented laying eggs in the nests of at least 140 host species. The female will typically remove an egg from the host's nest and replace it with her own. The Cowbird egg has a short incubation period and the chick hatches first and grows quickly. It usually outcompetes the other chicks for food from the parents. There are many species, however, that do recognize and have learned to reject Cowbird eggs, or simply an egg that is not their own, removing them from their nests. But there are many others who don't.

The story of the Screech Owl incubating the Wood Duck egg is an example where the owl did *not* recognize the difference between its own eggs and the duck egg. Both Screech Owls and Wood Ducks are cavity nesting birds and will both readily use a man-made nesting box. It is very common for Wood Ducks to "dump" eggs in several boxes near their own. In some cases, so many eggs get deposited in a box that the female simply abandons the super-sized clutch that she cannot possibly incubate.

Restoration of Species – A Result of Egg Laying Behavior

We are very familiar with the fact that chickens will lay eggs repeatedly, regardless of whether they are fertile. We do not, however, often consider this same behavior in other birds. Birds in captivity, whether they are pet birds like Cockatiels or raptors that are education or falconry birds will commonly lay eggs as Andromeda has done. Although the eggs are infertile (if they are not housed with a male), this is an important natural behavior. The eggs should not be removed, and the female should be allowed to incubate them to the normal term. For Andromeda this is between 31 and 36 days. Why should the eggs not be removed? Well, many birds will simply lay more eggs if the original eggs are removed. *This is how we get so many chicken eggs!* This process is called double clutching and if repeated over and over can take its toll on the bird.



Marlee's mother (Barn Owl) produced infertile eggs for years despite being housed with her mate. When Marlee hatched she came from the one fertile egg out of a clutch of six eggs!

In addition to the farming industry taking advantage of this process, scientists have been able to use double clutching to help restore endangered species of raptors. For example, California Condors in captivity have been induced to lay more than one egg when the original was removed (and placed in an incubator), thus increasing the number produced. Wild California Condors naturally produce one egg every two years. If the egg is destroyed or taken by a predator, they will typically mate again and produce another. Taking advantage of this behavior has helped increase the Condor population. Captive breeding and the use of double clutching have also been used to restore populations of Peregrine Falcons and Bald Eagles devastated in the wild by the use of DDT and many other raptors around the world at risk of becoming endangered.

Interesting Fact

In one study, a captive American Kestrel was induced via double clutching to lay five clutches of eggs within a 61-day period, for a total of 23 eggs. Their normal clutch size is five.

Odin's Story



Odin and Coda (Harris's Hawks) are both captive bred. Coda was raised by her parents as well as humans, but Odin's story is a little different. The breeder was trying to induce a pair of non-native Steppe Eagles to mate and produce eggs. A technique that can be used in these situations is to introduce an egg into the nest, stimulating mating and parenting behavior. So, the breeder who had fertile eggs from captive Harris's Hawks placed one egg in their nest. The female did not lay any other eggs, but successfully incubated Odin's egg and the pair raised him as their own. No wonder Odin has a big attitude!