



## Arizona's Raptor Experience, LLC

February 2018

~Newsletter~

*Greetings from Chino Valley!*

*We hope all is well with you and that you're enjoying the warm weather and all the bird activity in your yard. Here in Chino Valley things are getting exciting! The Bald Eagles are back and preparing their nest and the local Red-tailed Hawks can be seen sitting together daily. This can only mean one thing – spring is on its way and courtship has begun.*

*Courtship serves several purposes in birds and can include elaborate displays, beautiful song, mutual preening and courtship feeding.*

*In this issue we will focus on courtship in owls. We hope you enjoy it!*



Photo by Tina Deniece

## ***Bird partnerships...a little vocabulary***

Birds use a variety of mating strategies that can be somewhat complex when considering their evolutionary benefit. Although the strategies vary among birds, those seen in owls will be the focus here.

The most common mating system in birds is *monogamy*, whether the bond is seasonal or for life. This relationship is primarily dictated by how the birds feed and how much care their offspring require. Owls are predatory and their chicks are born *altricial*, so both the parents are required to catch the owlet's food, keep them warm and protect them from predators.

Even so, there are documented cases of *polygamy* in owls and there are potential advantages in these scenarios. *Polygyny* allows the male to have two separate mates and two nests of owlets, thus increasing the number of offspring he produces and genetic material he passes to the next generation. However, because his role is to provide food he may sacrifice some young to starvation. A better plan for him is to copulate with a female in a neighboring territory where another male will be responsible for providing food for all the young in the nest. Polygyny has been recorded in Short-eared, Boreal, Burrowing, Barn, Snowy, Tawny and Northern Hawk Owls. *Polyandry* is by far less common, but in Boreal, Long-eared and Northern Saw-whet Owls a version of this strategy has been noted where a female has a brood with one male and then abandons those chicks to his care and has a brood with another male. She then passes on more of her genetic material and the traits of two different males.

### ***Vocabulary:***

***Monogamy*** – One male and one female rearing a family together. This may be seasonal only, with the pair separating at the end of the breeding season, or it may be a partnership that lasts for life.

***Altricial*** – born or hatched helpless, often with eyes closed and lacking fur or feathers. The opposite of altricial is precocial, where young are furred or feathered and able to leave the nest and feed themselves within hours of being born or hatched.

***Polygyny*** – when a male has two or more female mates.

***Polyandry*** – when a female has two or more male mates.



## ***Mate Choice and Courtship***

Male and female owls have distinct roles when raising a family. Therefore, choice of a mate is serious business. Females are drawn to a male's territory when he sings. During her visit she can assess the quality of his territory which includes potential nesting sites, things possibly more important than the quality of the male himself. However, during courtship the male will prove himself through song, courtship flights (in some species) and courtship feeding. Typically, females prefer older more experienced males as partners, who also tend to have procured better territories than younger birds. Males, on the other hand, tend to accept the first female to visit his territory in the interest of time.

### *Interesting fact:*

Some evidence suggests male owls with a choice between females can compare the health of the females and select his mate on that basis. For example, male Barn Owls may prefer females with stronger breast spotting which has been shown to correlate with better resistance to parasites.

The purpose of courtship is to allow the owls to assess each other's potential as a mate and more specifically their ability to meet parental responsibilities. In addition, the rituals involved also prepare the owls for breeding. Owls that are long-term mates still perform courtship rituals each year prior to breeding.

Courtship begins with song. Owls are well known for what is called duetting – the male sings, sometimes for hours and hours, until he attracts a female who sings back as she approaches him. Once paired, the birds sing together which helps build attachment to one another and deter others of both sexes. The female's song is usually similar to the males but can be shorter, simpler and higher pitched.

In diurnal owls (those active during daylight hours) display flights may also be used to attract a mate. They are normally performed by the male



*Barn Owls – often called sweetheart owls because of the heart-shaped facial disk-male preening the female.*

who may sing or call during these flights. In some cases, the female will join in the ritualized flight.

In all owls, courtship feeding occurs with the male offering a prey item to the female. This often precedes copulation and occurs many times. Courtship feeding is a way for the male to demonstrate his ability to provide for the female and their offspring. It also helps the female to put on weight – in other words bodily resources for the energy demanding process of producing eggs and then incubating them.

Perhaps the sweetest aspect of courtship is mutual preening. The birds sit closely, usually side-by-side and touching, and preen each other's head, neck and breast feathers. Some suggest this behavior aids in keeping plumage in good condition, but may simply serve to build closeness between the pair.

## ***Nesting***

The nest site is actually the most important part of the territory. Once the male locates a territory he searches for potential nesting sites. When a female has been attracted to the territory, he lands near the available nest site or sites and sings to show them to the female. She then visits each possible site and chooses. Owls do not build their own nest, but will use tree holes, stick nests built by other birds or cliff edges. The best nest sites will be used year after year for decades unless disturbed by a predator, which results in the abandonment of that site.

The female owl is solely responsible for incubating the eggs. During this time the male hunts and brings her food. Once the owlets have hatched, it is the male's responsibility to feed not only the female but the owlets as well. The female remains on the nest to keep the owlets warm and protect them from predators. Once the owlets are old enough to keep themselves warm, both parents hunt to provide them with food.

### *Reversed Sexual Dimorphism*

In most owl species, the females are larger than the males. Several theories exist as to why this is the case. Two different sized owls can access a wider range or prey types in their territory; the larger female is more likely to be responsible for nest defense; and the female is the one that incubates the eggs.

A larger body would be a more effective incubator.

***Featured photo:***



*Northern Hawk Owl*

*A rare sighting in Lyndonville, NY, January, 2006*

*Photo by Paul Schnell*