

Breeding Iguanas

Plan ahead to account for a female iguana's reproduction cycle.

By Doug Mader, DVM, DABVP

There are an estimated 7.3 million reptile-owning households in the United States. Compare this, if you will, with the 50 to 55 million households with dogs and cats as pets. It is clear that reptiles are fast becoming a favorite among pet owners. Of interest, and it is of no surprise, that the green iguana (*Iguana iguana*) is currently one of the most popular reptile pets.

As with other pets, iguana owners will inevitably want to breed their charges. The problem is, iguanas can be difficult to breed in captivity. Even some zoos, with their highly skilled herpetologists, have a hard time getting these animals to consistently reproduce in captivity. If they do breed, and the eggs are fertile, oviposition (egg laying) and incubation represent yet another obstacle. Many iguanas sold through pet stores advertised as "captive born" are the progeny of gravid females that were caught in the wild, then allowed to oviposit in captivity.

Why is this a problem for the novice iguana owner? Just as in chickens, female iguanas will still reproductively cycle and ovulate, even without the presence of a male. In chickens, we want them to ovulate because that is what produces the eggs we eat. However, in captive pet iguanas, unless we are trying to breed them, we really don't want them to ovulate.

Ovulation with the subsequent egg laying is often fraught with medical problems. Reproduction in the iguana is complicated, involving the interplay between temperature, light cycles, humidity, season, availability of adequate nesting sites and more. Although iguanas are often sold as a "beginner pet," they are not.

Of particular interest at the moment is the subject of whether it is necessary to spay pet iguanas. That is, should we surgically alter these animals like we do dogs and cats in order to prevent them from breeding?

With the increasing popularity of iguanas being kept as pets, there is more demand on the veterinary community to offer the best medical care. In dogs and cats, it is recommended to have them neutered prior to their reaching puberty. Neutering refers to either castrating the male of the species (removing the testicles) or performing a spay in the female (called an ovariectomy, which is the removal of the ovaries and uterus). Note: Iguanas do not have a uterus, rather, they have a shell gland that serves a similar purpose. Either of these procedures renders the pet infertile and incapable of reproduction. In mammals, after successful completion of either of these surgeries, the pet is often more "mellow" compared to intact conspecifics.

There are several other motivating factors that play a significant role in the decision of whether or not to sterilize dogs and cats. Of particular medical significance, it is well known that spaying the female dog prior to her first heat will eliminate the possibility of mammary (breast) cancer. This is quite serious, as mammary cancer is a common disease in the older female dog, and can potentially kill the pet if not caught and treated in time. This, of course, has not been a problem in iguanas.

Of additional importance, in dogs and cats, neutering prevents unwanted pregnancies, thereby cutting down on the overpopulation problems currently plaguing the country. Millions of dogs and cats are killed each year at pounds and shelters because there are simply too many animals and not enough homes. Granted, we do not have the same problems with feral iguanas running rampant through our streets, eating out of trash cans in the alley, begging at the back doors of dimly lit restaurants and being slaughtered on the nation's streets and freeways by automobiles. In fact, with reptiles, doesn't it seem that we usually encourage captive-breeding of the animals to cut down on the importation and exportation of wild-caught animals and decrease the numbers of sick and stressed lizards?

The problem here is one of health care and home management of this wild pet (yes, iguanas are wild animals; they are not domesticated like dogs and cats, and, at best, can only be called "tame"). There is still relatively little that we know about these creatures in the wild, and until we can fully understand their needs and requirements in the great outdoors, it will be impossible to match these demands in captivity.

The Reproductive Cycle

Adult female iguanas will usually cycle once per year. There are some reports of iguanas ovipositing in both late fall and early spring. Whether that represents two distinct seasons or just a late laying (fall) is a matter of debate. Herpetological

veterinarians in northern latitudes state that reproduction occurs in the spring, coincident with warmer days and longer day lengths.

Pre-Ovulatory Conditions

Female iguanas in good health will experience one of two potential outcomes as a result of having developed follicles (developing eggs). If the female is in good body flesh or good body condition, her ovaries may develop, produce follicles, then resorb them if the conditions are not right for laying, with no further or lingering problems. The cycle will repeat again the following breeding season.

In the wild, females display elaborate nesting behavior. They lay their eggs in the sandy soil of riverbanks. If an appropriate beach area is not available, they have been seen swimming miles upstream or downstream to find such a place. If space is at a premium, female iguanas have been seen sharing beach space and even nesting space with other females.

In captivity, these animals may begin to display nest-searching and nest-building behavior. Pet iguanas have been known to dig up planters in the house in an attempt to build a nest. If an appropriate place is not available, some females are capable of resorbing their ova and recycling for the following laying season.

The problem is that a female will normally become anorectic, or lose her appetite, for about four weeks prior to egg laying. The developing eggs take up so much space within their coelomic cavity, they act like a space occupying mass, and there is no room left for stomach contents. In a healthy animal, this is not a problem, because they can easily go four weeks without a meal. The problem arises in females that have been kept under marginal or poor nutrition, because they do not have the body reserves to last for four weeks of nest finding and digging.

These animals will often collapse. It is not uncommon, as well, for these animals to show signs of hypocalcemic tetany, as their body tries to maintain the eggs at the expense of their calcium homeostasis. This occurs when a female iguana utilizes all of her body's calcium reserves to form the necessary shells around the developing eggs. In those animals that have no or low calcium reserves, tetany results. The muscles will twitch and tremor, taking on a convulsion-like appearance when the animal is excited or stressed.

Calcium is an extremely critical mineral. We hear about calcium and phosphorus all the time when discussing reptile diets. Calcium is responsible for bone growth and strength, nerve conduction, muscle contraction, blood clotting and more. If the body has a need for more calcium, as in the case of a female producing eggs, it will draw extra calcium from its own bones, the major storage site for calcium. When the storage levels get down about 40 percent of normal, problems start to develop. In adult animals, you see signs of tetany or generalized tremors. These can be quite subtle or, if the animal is stressed, quite dramatic.

Evolution selected those animals that will spare no expense to reproduce. In ecological terms, it is better for one animal to die if its death can ensure continuation of the species (the production of a clutch of eggs).

These cases of hypocalcemic tetany are an emergency. They must be medically managed, stabilized and then, if the owners are willing, taken to surgery to have the source of the problem, the reproductive tract, removed. Next Page>>