General Leopard Gecko Care: Breeding

If you keep leopard geckos successfully for very long, you'll probably come to the point where you think you want to start breeding them. It's only natural for you (and your geckos) to become interested in the breeding process. Most people get started simply out of curiosity, and it is a pretty interesting experience to witness life happening before your very eyes. There are a few things you should consider, however, before you ever begin the process.

- Do you have at least one male and one female? (if you don't get the importance of this crucial step then you are probably not fit to breed leopard geckos)
- Do you have adequate space and materials to house more geckos?
    - A single female can produce up to 20 eggs in a season and those quickly add up, especially if you have 3 or 4 breeding at once.
    - Male geckos will have to be housed individually once they reach sexual maturity. I ran into this problem when I first started breeding because I didn't have an incubator and all my original offspring were male (and I eventually had to sell them off at much lower prices than I wanted just to get rid of them)
- Are you willing to risk your prize gecko's life?
    - Breeding can be a risky business for your female. There are lots of complications that can occur, such as egg-binding, which can be fatal (see section on breeding problems)
    - Breeding can also take a toll on your gecko's overall health. It takes a lot of extra energy to produce offspring (especially two huge eggs every three weeks). Will you be able to provide your geckos will optimal husbandry conditions during the full term of the breeding season?
- What are you going to do with the offspring?
    - Will you just give all the hatchlings away to friends? (you might need 20 willing participants)
    - Are there any local pet stores in your area who would be willing to purchase them from you at whole-sale? (remember, chain and franchise stores like Petco and Petsmart can only buy from certain breeders, and you're not one of them)
    - Will you be able to advertise locally in a newspaper with free classified ads?
- Finally, how's your cash flow at the moment?

- Breeding can often mean spending more money than you make selling offspring. This was certainly the case for me when I first began breeding, and it often takes at least two years before you begin to catch up on your monetary investment.
- You'll have to spend extra cash on housing, heating, and feeding for the animals you produce.

If you think you still want to proceed (and you probably do), the following is a little advice on how you should go about breeding leopard geckos.

Conditioning

In order for your animals to breed properly, they must be in good health to begin with. I recommend that you wait until your animals (especially your females) are a year old before you consider breeding. By this time they should be sexually developed, have a nice fat healthy tail, and naturally searching for a breeding opportunity. A big part of the conditioning process that should begin before mating introductions is an increased supply of food and an increased supply of dietary supplements, especially calcium. The biggest problem people have when they first start breeding is vitamin deficiencies in their breeders, particularly calcium. The primary harm this will cause is infertility on the part of both the males and the females. This puts your animals at unnecessary risk because you are breeding them (which is a stressful process) and not producing any offspring to show for it. What often ends up happening is your females will lay eggs that are fertile, but the offspring will hatch prematurely. I have a photo gallery full of pictures to illustrate this point because this problem plagued me forever when I first began.

Notice in the picture the egg on top is hatching. This gecko hatched about a month too early and died shortly after. If you look closely you can see that the shell of its egg looks almost transparent and stretched in some places. Compare that with the eggs below which look quite solid and white (except for the peat moss on them). The next picture is actually a shot of this same gecko later that day, still attached to the unabsorbed yolk sac (circled in orange). The other picture is of a gecko in a similar situation. It hatched early but was developed enough to be

saved by a little intervention. All I did was dip some scissors in a little alcohol to disinfect them and cut the animal free. Usually, if the animal is developed enough, it will live (as this one did).

This animal did not live but for a few days. You can clearly see the yolk still attached (circled in orange)

This gecko was in a similar predicament but was fortunately developed enough at hatching that it was saved by being separated from the unabsorbed egg contents.

Mating

Mating is obviously the crucial beginning to the breeding process. There are a lot of methods that work towards a successful union between two geckos and they all have their advantages and disadvantages.

- One night stand
  - All geckos are housed individually
  - Each male is introduced to a single female enclosure for a twenty-four hour period to allow for mating, and then moved to another female's quarters after that
    - Advantages: It's easy to keep track of breeding records. You know exactly which eggs came from which female and were fertilized by which male.
    - Disadvantages: Abrupt introductions can lead to aggressive encounters and even all-out fights between potential breeding partners. This method can also tend to be a bit more stressful on your animals (especially your male who will be cage-hoping for a week or two)
- Seasonal Group Breeding
  - All geckos are housed together (one male and one or many females)
  - The male remains with the female(s) for the duration of the breeding season and is removed once the season is over.
    - Advantages: There is less aggression between animals and less stress because each gecko is given ample time to adapt to the breeding scenario.
    - Disadvantages: It's harder to keep up with who laid what egg and thus with breeding records. Also, a small amount of stress and possibly aggression can be seen at the beginning of each breeding season when introductions are made.
- Year-round Group Breeding
  - All geckos are housed together all year long
    - Advantages: Virtually no added stress or aggression because all the animals involved are accustomed to being together.
    - Disadvantages: Again, it's hard to keep track of who is laying which eggs in this situation. If strict breeding records are your aim then this might not work for you. Another disadvantage is that over-attentive males can sometime stress females out during the off season (although I've never had a problem with this)

My method of choice is the year-round breeding group. I find that it is much better to have a few small groups of breeding animals than to try and introduce males and females one at a time. Of course, I am not interested in keeping strict records for my purposes. All three scenarios work well, and I'm sure you can find breeders who would recommend each of them. As for me, I recommend keeping your breeding group together all the time.

The one thing you don't have to worry about is whether or not the animals will breed. There is no special formula or set of steps to go through to get them to mate. It will happen, given enough time (sometimes whether you are ready for it to happen or not).

Egg-laying

Once you've had a successful mating, the next step is to prepare for some eggs. This is critical because of an unfortunately well-known condition called egg-binding. Essentially, females that fail to lay their eggs and retain them within the body for an unusual amount of time are said to be "egg-bound". This condition is very serious and can often result in death. If you notice that your gecko has been carrying eggs for more than four weeks you should consult a veterinarian. Often times, egg-binding occurs because there is not an adequate site in the enclosure for the female to deposit her eggs.

You are going to need a moist hide to serve as a proper laying site. The best method for making one is to just use some cheap Tupper-ware or Rubbermaid containers, like the ones shown in the pictures below. You need to fill the container

with some type of material that you can easily keep moist. I recommend using Peat Moss or some other type of tropical substrate that will easily retain water. The female will not lay her eggs in a dry environment. You might also consider removing the water dish during the final days

before she lays the eggs (see section on feeding for alternate ways of giving your geckos water). You'll notice a change in behavior when she is about to lay them. She will usually stop feeding, start randomly wandering the cage, and even start digging in various places. What she is really doing is searching hard to find a good spot to drop her eggs. Don't make it hard for her to accomplish that goal. You probably even want to put more than one moist hide in the enclosure, especially if you have more than one female housed together. If all goes according to plan, she'll bury the eggs in your provided box and not in the water dish or in the sand (which happens sometimes, so don't be disappointed).

Incubation

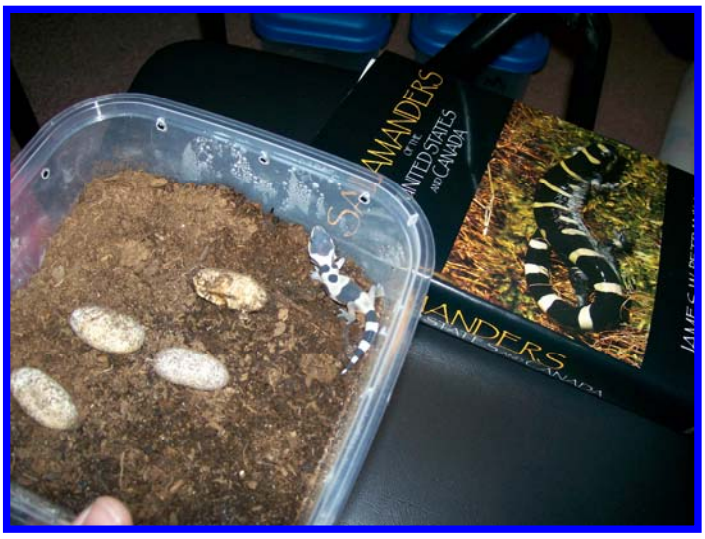
This is probably one of the hardest parts to get right (especially if you don't have an incubator). In all honesty, if you're too cheap to buy an incubator, then you're too cheap to raise leopard geckos. It is probably the single most essential piece of equipment you can have. Contrary to what you might think, incubators are relatively inexpensive. You can buy a basic Hova-bator or Little Giant incubator from most anyone who deals in reptile equipment or (as I did) you can get one at your local Tractor Supply store for about $40.00.

My first attempts at incubation consisted of leaving the eggs inside the tank with the adult geckos and letting them stay between 80 and 90 degrees (as seen in picture to the left). This worked for the most part but it doesn't allow you to temperature sex geckos, and I also roasted a few eggs every now and then on extremely hot days. In all honesty, if you sell one gecko for what its worth as a juvenile, you can pretty much pay for an incubator.

The first step to incubating eggs is finding something to put them in. You need a setup that is quite similar to the moist hide boxes you've been using for your adults to lay eggs in. Many people choose to use the same materials to incubate eggs as they do for their egg-laying boxes (like peat moss). I did this for a long time but no longer recommend it. Peat moss dries out too easy and also will mold once it gets a little bit of "egg juice" on it after your first few hatchlings come into the world. The best medium to use for

incubation is vermiculite. You can get this at just about any place that carries garden supplies (I got mine at Wal-Mart). It's better than materials like peat moss because it allows the eggs to "breathe" and get more gas exchange and it also won't mold as easy. The basic strategy for setting up your eggs for incubation is to get some kind of container that is air-tight. This is, again, where cheap sandwich containers and plastic tubs come in handy. The reason you want the container to be air-tight is so that it will hold moisture. Leopard gecko eggs gain weight by absorbing moisture from the substrate they are in and the surrounding air. They will dry out quickly if the humidity drops very low. As long as you pull the top off about once a week then that should provide all the air-flow they need. Also, if the medium is too wet then they will bloat and this can cause as much trouble for the developing embryo as becoming too dry. Some people put forward exact formulas of how to mix incubation medium with X parts water and X parts medium. I don't advocate such a policy. Just keep the medium damp without it being too wet and you will be fine (too wet would be that excess water is collecting on the sides or top of the container and therefore too much moisture is in the atmosphere around your eggs).

The picture above is a good example of an incubation set-up (except that I recommend using vermiculite instead of peat moss). These small deli-cup containers are great for incubating eggs. They usually have holes in the sides but you can cover them up with a little scotch tape to lock in the moisture. The other picture is of a different setup. This is just a sandwich holder that I got from Wal-Mart (notice the incubation medium is getting a bit dry. This is easily fixed by spraying a little water around the edges of the container and not directly on the



eggs. Also notice that there are holes in the sides of the tub to let air go through…you can probably guess why I lost several eggs from this container. This was back before I really knew what I was doing. It's best to keep the containers as air-tight as possible, use vermiculite instead of peat moss, and check them regularly to keep them moist.) A better setup can be seen the following pictures. Here I have shown a basic incubator (little giant) that costs about $40.00. I also show a deli-cup with eggs incubated in vermiculite.

Candling Eggs

It's a waste of time, space, and energy to incubate eggs that aren't going to hatch so you need to find out which eggs are good and which ones are bad. Candling them is the typical method for accomplishing this task. You want to wait about two weeks before you attempt to candle the egg. By this time, you won't want to turn the egg or tip it sideways any. The way it is sitting in the incubation medium is the way you need to keep it (as if it had a "this side up" sticker attached to it). You can pick it up and candle it, though. To do this, simply take any kind of flashlight with a concentrated light-beam (maglites work great) and go into a dark room. Put the light right up to the egg so that the egg glows. The rule of thumb is that a good egg will glow pink (due to the development of blood vessels) and a bad egg will glow yellow or even green. If you are not sure what the color is then leave it in the incubator for a few more weeks.

Bad Egg

Good Egg

Once you've figured out your good eggs from your bad, the only thing left to do is wait for the good eggs to hatch. More information on breeding is included in my write-up on breeding problems.

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