

## Care of Leopard and Fat-Tailed Geckos

Leopard geckos (*Eublepharis macularius*) and Fat-Tailed geckos (*Hemitheconyx caudicinctus*) belong to the family of Eubleparidae, which includes all geckos with moveable eyelids. This family also lacks toe pads, thus are unable to climb vertical surfaces.

The leopard gecko is found in Afghanistan, India, and Pakistan. As far as reptiles go, the Leopard gecko makes one of the finest pets. They are one of the hardiest lizard species, reach a maximum length of 8 inches, are relatively docile, easy to keep, easy to breed, are potentially long-lived and are undeniably beautiful. Females have been known to live 20 years, and males seem to live longer, the eldest male reported nearly reached 30 years old. There are at least 10 different color and pattern varieties (morphs) of Leopard geckos available in the pet trade.

Fat-Tailed geckos are from West Africa and can be as hardy and docile as Leopard geckos. Male Fat-Tailed geckos grow to ten inches while females are less than 8 inches long.

### Sexing

There are slight differences between males and females. Males have a V-shaped row of enlarged pre-anal pores in front of the vent, are more heavy-bodied and have a broader head and thicker necks than females. Males also have paired hemipenial swellings at the tail base.

### Enclosure and Substrate

Leopard and Fat-Tailed geckos do not require the company of other geckos and seem to thrive by themselves. Males will fight and should never be kept together. If you wish to keep two geckos, two females of the same species would be best. The best enclosure would be a 10-20 gallon aquarium with a screen top. A pair of geckos need a minimum of a 20-gallon cage and would do better in a larger area.

The best substrate for juvenile geckos is paper towels or newspaper. This makes it easy to clean and avoid the possibility of the gecko eating the substrate and becoming impacted. Adults can be housed on Repti-sand or Calci-sand if a few requirements are met. First, insects should be fed on a plate to avoid sand ingestion and secondly, the cage should still be cleaned every other week. We recommend using 10% bleach solution to clean the cage and contents. This will require replacing the sand at each cleaning, otherwise, adults should be housed on newspaper or paper towels.

### Shelter and Landscaping

Leopard and Fat-Tailed geckos are nocturnal animals and remain concealed from predators in the wild. Most of their time is spent inside various shelters such as burrows or rock crevices. It is essential to provide shelter in their captive environment. You can use a commercial reptile shelter made from plastic or molded concrete or other landscape products such as cork bark, dried woods, and rock. Be careful with heavy items such as rocks and make sure they are securely positioned. Ground level shelters and basking sites can easily be formed by securely overlapping sections of wood or cork bark. Plants can be added for



decorative purposes and to help maintain humidity levels. Safe plants include Snake plants, Pontailed Palms, Philodendron, Climbing Aloe, Caudexed figs, or Opuntia trees. Also supply a large, shallow water dish. Again, the water dish should be disinfected with bleach every other week when the cage is cleaned. In between the deep cleanings, clean the dish 2-3 times weekly with an antibacterial soap.

## **Heating and Lighting**

Like most reptiles, Leopard and Fat-Tailed geckos fare better in environments that provide a heat gradient. Place two thermometers in the cage, one at the cooler end and one near the warmer basking area. The reading on the cooler end during the day should be about 84F and the basking area should reach a maximum of 90F. An undertank heater and a 40-60 watt incandescent bulb can achieve this. During the night, temperatures can cool down to the mid 70s. If additional heat is needed at night to maintain the temperature, then a 25-watt red night light or extra undertank heater can be used.

Leopard and Fat-Tailed geckos are not known to require UVB lights, but a source of UVB is recommended for growing plants and general light quality. We do recommend a full spectrum light (Vitalight or ZooMed Reptisun) for all geckos since their health may benefit from the UVB rays, especially if they are breeding. Place all lights on a timer to provide 12-14 hours of daylight. For three months during the winter decrease daylight to 10-12 hours.

## **Humidity**

Despite being desert animals, Leopard geckos require a moderate amount of relative humidity. Fat-Tailed geckos require higher relative humidity than Leopard geckos. It is thought that their shelters or burrows in the wild, where they spend most of the day, have a high relative humidity. Proper humidity levels also reduce dehydration and help with the shedding process. Misting the cage twice daily is recommended but is not enough and a humidified shelter is needed. Use a plastic container with a small door cut out. Place moistened sand and vermiculite inside along with moist sphagnum moss. Check daily and mist as needed to maintain moisture. Also provide a dry hiding area as well (previously discussed).

## **Feeding**

Leopard and Fat-Tailed geckos feed on living, moving insects. Crickets, mealworms, and superworms can be offered to provide a varied diet. Occasionally pinky mice (frozen-thawed) can be offered. The food items should be no more than the length of their head. It is recommended to “Gut-load” the insects at least 24 hours prior to feeding. Unfortunately, no one knows the ideal vitamin requirements of Leopard and Fat-Tailed geckos, but calcium is known to be very important. We recommend coating the insects with a Calcium powder (Rep-Cal) prior to every feeding. Use a multi-vitamin/mineral supplement (Reptivite) every 1 -2 weeks. Only offer the number of insects your gecko will eat in a single feeding and place these in a shallow dish (to avoid ingestion of the bedding along with the insects). Feed juveniles every 1-2 days and adults (2-3 times weekly). Most geckos will consume 3-5 insects per meal.



## Medical Problems

- **Shedding Problems:** Low temperature, low humidity, malnutrition and weakness from other diseases (injury, parasites, bacterial infections, calcium deficiency) are all factors that can contribute to shedding problems. Shedding problems may cause geckos to lose their toes from damage to the blood vessels, can set up eye and skin infections and in rare cases can be fatal if all the skin is retained. Care involves increased humidity levels, daily baths and seek care from a reptile veterinarian.
- **Tail Loss:** Leopard and Fat-Tailed geckos will drop their tails if threatened, traumatized or grabbed by the tail. After the tail separates from the body, it will often twitch on the ground in attempt to hold the attention of the predator. Geckos can re-grow their tail, but the new tail will be shorter and more round. A gecko that has dropped its tail has lost a significant amount of fat reserves and is more vulnerable to stress. It is important to closely monitor the gecko for a month after the tail is lost.
- **Hypocalcemia (Metabolic Bone Disease):** Hypocalcemia results from improper calcium supplementation. Symptoms include lethargy, anorexia, weakness, painful movements, swollen limbs and a soft “rubbery” jaw. Seek care from a reptile veterinarian immediately. Treatment includes calcium injections, fluids, nutritional support and antibiotics if concurrent infections are present.
- **Diarrhea:** Diarrhea may be accompanied with weight loss, regurgitation, lethargy, anorexia or passage of undigested insects in the stool. Diarrhea is commonly due to an intestinal bacterial infection or intestinal parasites. The most common parasites include flagellated protozoans, like Trichomonas and Giardia, and Coccidia. Diagnosis is made by microscopic fecal examination and fecal bacterial culture. Treatment involves appropriate antibiotics or anti-parasitic medications. Environmental cleaning is essential in hopes of curing the gecko of parasites. Newspaper should be used for bedding for ease of daily cleaning. The cage contents and dishes should be bleached daily to once per week. Your veterinarian can properly instruct you based on which parasite(s) is involved.
- **Sand Impactions:** Fine sand, gravel and other granular substrates can lead to intestinal impactions that could be fatal. This is more common in juveniles. Symptoms include anorexia, lethargy, constipation and possibly rectal prolapse (pink tissue hanging out of the rectum). Treatment involves keeping the tissue moist with a lubricant and seeking care from a reptile veterinarian immediately. Housing geckos on newspaper or paper towels can prevent this problem.
- **Stomatitis (Mouth Rot):** Symptoms include swelling of the mouth and lips, anorexia, yellow-white pus in the mouth and bleeding or odorous gums. Systemic antibiotics are usually needed, so seek care from a reptile veterinarian immediately.
- **Respiratory Infections:** Chronically cool temperatures in reptiles can suppress their immune system and result in secondary respiratory infection. Symptoms include anorexia, lethargy and rapid or forceful breathing. Immediately increase the heat to the high 80s during the day and no cooler than 80 F at night and seek care from a reptile veterinarian immediately.

- **Egg Binding:** Occasionally a gecko will fail to pass an egg during the breeding process. This is usually due to a lack of proper calcium and humidity. Irreversible damage can be done if you attempt to assist your gecko in egg-laying. Seek care from a reptile veterinarian immediately.