

A Quick Reference Guide to Unique Pet Species

Leopard Gecko Pet Care

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[Marc Kramer, DVM](#) ; Edited by [Peter Fisher, DVM](#) 

| Vital Statistics | |
|---|---|
| Lifespan —Avg | 30 years 10–15 years |
| Body length | 7–10 inches (15–25 cm) |
| Body weight —Avg —Maximum | 45–60 g 100 g |
| Ambient temperature —Daytime —Nighttime —Optimum | 75–80°F (24–26°C) 65–75°F (18–24°C) 84–88°F (29–31°C) |
| Age of sexual maturity | 10 months |
| Clutch size | 2 |
| Breeding season | January–September |
| Number of eggs laid per year | 6–16 |
| Incubator temperature | 78–92°F (25–33°C) |
| Incubator relative humidity | 75–100% |
| Incubation period | 6–15 weeks |

Leopard geckos (*Eublepharis macularius*) are native to the deserts and dry rocky plains of Afghanistan, India and Pakistan. Leopard geckos are now well established in captivity following decades of large-scale commercial propagation.

Pet Potential/Behavior

- Gentle lizards.
- Hardy, long-lived.
- Easy maintenance.
- Moderate size, attractive appearance.
- Nocturnal.



Anatomy

- Unlike many other geckos, leopard geckos possess movable eyelids.
- Leopard geckos lack the adhesive lamellae on their feet that enable many other geckos to cling to glass or walls. Instead, on each digit is a small claw, suiting them well to a terrestrial lifestyle.

Sexing

- As juveniles, there is little visual difference between male and female leopard geckos.
- The sex of the gecko can be predicted based on the temperature at which it was incubated as an egg.
- In temperatures from 78–82°F (25–28°C), the great majority of hatchlings will be female; from 85–87°F (29–31°C) there will be fairly equal ratios of males and females; and around 90°F (32°C), one can expect mostly males.
- As adults, males have a V-shaped row of enlarged preanal pores along their inner thighs, whereas females have only small pre-anal pits.
- Males also have paired hemipenial swellings at the base of the tail, which females lack.
- Males are slightly more heavy-bodied and robust with a broader head and thicker neck than females.

Male

Note the V-shaped row of enlarged pre-anal pores, which produce a waxy secretion, and the prominent hemipenial bulges in the male.

Female

Females lack prominent pre-anal pores, having only very small pre-anal pits. Hemipenial swellings are absent.

Housing

- Quarantine new geckos in a separate area of the house for at least 30 days.
- Leopard geckos can be housed in groups provided there is only one adult male per enclosure, as males are highly territorial and aggressive when mature.
- Standard 10-gallon (or larger) aquariums work well as enclosures.
- Cage size should be at least 36" x 15" x 12" (90 x 38 x 30 cm); a cage height of at least 6" (15 cm) is recommended for a group of 2–3 animals.
- The cage should have a screen top for adequate ventilation.
- Acceptable substrates include paper towels, newspaper, orchid bark or fine sand (controversial).
- Coarse sand, corncob, walnut shell and/or sand-like calcium ground litter should be avoided as substrates, as they have been implicated in gastrointestinal impactions.
- Feces should be removed regularly and substrate replaced as necessary.
- Geckos should be prevented from free roam of the house and exposure to cats, dogs, or other predators.
- A moist hide box filled with damp sphagnum moss, cypress mulch, or vermiculite is especially important for both security and proper shedding.
- It is important to mist the hide box substrate daily, which promotes normal skin shedding.
- The shelter should be cleaned and the vermiculite or moss changed weekly.
- While these animals are well adapted to a dry climate, the lack of a moderately humid shelter will make a leopard gecko prone to dysecdysis.
- A common shedding problem is retention of skin around the toes with subsequent avascular necrosis and loss of the distal phalanges.



Aquariums emphasizing horizontal space work well as enclosures.



A moist hide box is important for both security and proper shedding.



Skin shedding occurs at regular intervals, and leopard geckos generally consume the shed skin.



Skin retention around the toes is common in geckos that are not provided with a moist shelter.



Orchid bark is a good choice for a substrate



Clean fresh water should be provided in a shallow container.

Heating and Lighting

- Leopard geckos fare best at temperatures in the mid-80s°F (30°C).
- A gradient of temperatures should be available in the enclosure, from 70°F (21°C) on the cool end to 84–88°F (29–31°C) on the warm end.
- Heat should be provided by a heat pad, heat tape or basking light.
- Hot rocks or direct contact with heating elements or light sources should be avoided.
- UVB or other supplemental lighting is not essential to these primarily nocturnal lizards but can be used.
- A reduction in light intensity within the vivarium may be used to encourage diurnal activity.

Diet

- Leopard geckos feed primarily on live moving insect prey.
- Commercial diets are available, including dried or canned insects and frozen prepared meats.
- Leopard geckos need to be conditioned to feed on nonliving food sources, and some may be hesitant.
- An appropriate diet may consist of commercially-raised crickets with smaller numbers of silkworms, roaches, mealworms (*Tenebrio* sp.), superworms (*Zophobas* sp.), waxworms and other live insects.
- Large leopard geckos will also consume baby “pinkie” mice and other lizards, but these food items are not required.
- Prey items should be fed a high quality diet (“gut-loaded”) for at least 24 hours prior to using.
- Live prey may be offered in shallow containers, which will prevent mealworms from burrowing, reduce cricket dispersal and reduce accidental ingestion of substrate.
- Appropriate-sized prey items should be offered every 1–2 days for juveniles and 2–3 times a week for adults.
- Crickets should be no bigger than half the size of the gecko’s head.
- Feed no more than the animal will consume within 15 minutes, which usually amounts to 4–6 food items.
- Beware that hungry juveniles housed together may nip toes or tail tips off their cage mates.

- Clean fresh water should be provided in a shallow container and changed daily.

Supplementation

- A jar lid full of calcium powder should be available at all times and will particularly benefit breeding females.
- While vitamin and mineral supplementation is controversial, leopard geckos will tolerate a wide range of supplementation regimens.
- Dusting prey items with a calcium supplement is probably beneficial. Prey are dusted daily for juveniles and every 2–3 feedings for adults.

Restraint

- A leopard gecko should not be caught or lifted by the tail; its body must be fully supported.
- Leopard geckos have the capability of autotomy, or self-amputation of the tail, which they will often execute when restrained or stressed excessively.
- A lost tail will take several months to grow back, and a regenerated tail is not as aesthetically pleasing as the original.



Gentle restraint should be used to examine leopard geckos, being careful not to apply excessive pressure to the tail.

Physical Examination

- Physical examination should include sexing, husbandry review (diet, sanitation, humidity delivery), zoonosis discussion, handling (nail trimming or soft claws), skin evaluation, weight/growth, fecal flotation and direct smear, vent/choanal culture and sensitivity (good indication of normal flora).
- Normal feces are dark and firm and are deposited in one corner of an enclosure (defecatorium). Sticky, soft, or excessively malodorous urofeces may indicate a gastrointestinal disorder.
- Depending on health, CBC and chemistries may be warranted (especially blood calcium and phosphorous).
- Radiographs may be used to diagnose bone disease, ingestion of substrates, metabolic calcification and egg retention.



Normal leopard gecko droppings consist of prominent white urates with dark feces.



A light can be shone in the ear for easy visualization of the tympanic membrane.



Juveniles have a banded black and yellow pattern, with stronger contrasts and brighter colors than adults.

Anesthesia

- Sedation using isoflurane is recommended for improved restraint, to prevent autotomy and to obtain a cleaner and more accurate blood sample.
- A small induction chamber (mask, clear plastic bag or small plastic container) is filled with 5% isoflurane and the gecko is left undisturbed for 10–20 minutes or until its righting reflexes are lost.



Induction of inhalant anesthesia should Leopard Geckos be accomplished without excessive restraint. A large plastic mask is suitable.

Blood Collection

- Blood collection from leopard geckos is challenging because excessive immobilization for venipuncture may cause them to drop their tails.
- Blood collection sites include the ventral abdominal vein, ventral tail vein or cardiac puncture.

Most Common Disorders

- Intestinal parasites
- Metabolic bone disease
- Egg binding
- Gastroenteritis/diarrhea
- Sand impactions
- Shedding problems
- Loss of digits
- Tail loss
- Stomatitis
- Respiratory infections
- Rectal or hemipenal prolapse
- Poor aim when catching prey

Zoonotic Potential

- *Salmonella*
- *Aeromonas*
- *Campylobacter*
- *Erysipelothrix rhusiopathiae*
- *Mycobacterium*
- *Candida*
- *Trichosporon*

What to Look for in a Healthy Leopard Gecko

- Eyes of equal size, not reduced or enlarged (“bug-eyed”)
- Bright body colors
- Alert and responsive attitude
- Nose and eyes clear of discharge
- Normal alignment of maxilla and mandible when mouth is closed
- Clean pink oral cavity
- No sign of old skin adhered to toes



Formulary of Commonly Used Drugs

| <i>Drug</i> | <i>Dose</i> |
|---|--|
| Enrofloxacin* | 5–10 mg/kg PO, IM q24h |
| Trimethoprim/sulfa | 15–30 mg/kg PO, SC, IM q24–48h |
| Metronidazole | 20–50 mg/kg PO q24–48h |
| Piperacillin | 50–200 mg/kg SC, IM q24–48h |
| Ceftazidime | 20 mg/kg SC, IM q24–72h |
| Amikacin | 2.5–5 mg/kg IM q24–72h |
| Fenbendazole | 25–50 mg/kg PO q24h x 3–5 d, then repeat cycle PRN |
| Sulfadimethoxine | 50 mg/kg PO q24h x 3–5 d, then q2d PRN |
| Ivermectin | 0.2 mg/kg PO, SC, IM once, repeat in 2 weeks |
| *Repeated IM administration may result in tissue necrosis or sterile abscesses. Should be used only for initiating therapy. | |

References

1. Johnson-Delaney C: Exotic Companion Medicine Handbook for Veterinarians. Lake Worth, Zoological Education Network, 2000, (www.exoticdvm.com)
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