

Leopard Gecko Care Guide

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Rescue and Rehabilitation

Science-based Education

Advanced Husbandry Practices



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Introduction

Leopard geckos are popular pet reptiles because of their small size and relatively docile nature. They can be found in a wide range of environments, to semi-arid, rocky terrain, to humid, semi-tropical regions. These animals are widely available in pet stores and from breeders, but we do encourage that you look into getting a gecko from a rescue. Leopard geckos are inquisitive in nature, and if you foster a good keeper-animal relationship with them, they will actively seek you out to interact with you. These little animals can potentially live for a long time; 20 year old geckos are not uncommon, and some may live well into their 30's! To ensure your gecko lives a long, healthy and happy life, we should aim to give them everything they need to thrive in captivity. This is not a definitive guide, but will help you start out on the right foot. Gathering research on your own from multiple, reputable sources is recommended so you have a well-rounded knowledge base for leopard gecko care.

Shopping List

1.) Supplies:

- 40 Gallon Front-Opening Terrarium (36x18x18 or larger)
 - This is the British Herpetological Society's minimum recommended size for ONE adult leopard gecko
 - Please refrain from cohabitating multiple geckos unless you have extensive experience to do so safely. Cohabitated geckos may fight, even after years of living with one another. If you are unsure of your geckos' sex, they may also breed, which is unsafe for the female
- Linear UVB (long tube, half the length of the enclosure)
 - Zoo Med ReptiSun T5HO 5.0 UVB Kit
 - Arcadia ProT5 7% Shadedweller UVB Kit
 - Reptile Systems T5HO Zone 2 5.0 UVB Kit
 - IMPORTANT! Please avoid knock-off Chinese brands of UVB you may find on Amazon! These are NOT safe and could harm your pet. Brands to avoid for UVB include ReptiZoo, Giangarden, OIIBO, Lucky Herp, Reptile King, etc. The brands listed above are SAFE and thoroughly tested by experts
- Incandescent Basking Bulb
 - Reptile Systems Eco Halogen
 - ReptiZoo Intense Basking Spot Lamp
 - Exo Terra Intense Basking Spot Lamp
 - Arcadia Basking Spot Lamp
 - Wattage may vary based on your house temperatures and enclosure size, but typically a 60-100w bulb will work well
- Dimming dome for your heat lamp, OR a pulse proportional dimming thermostat
- Laser thermometer gun
- Natural, safe substrate options
 - 70/30 Mix of Scott's Organic Topsoil (no fertilizers!) and Quikrete Play Sand
 - Josh's Frogs Desert BioBedding

- BioDude Terra Sahara
- Hygrometer/thermometer devices x 2
- Temperature probe
- Water dish
- Calcium dish
- Flat stones for basking, stacking
- Cork bark and logs
- Multivitamin with preformed vitamin A (Important!)
 - Reptivite with D3
 - Repashy Calcium Plus with D3
 - Arcadia Revitalize D3
 - Please note, if you choose Arcadia Revitalize D3, this needs to be paired with their other products EarthPro-A and CalciumProMG
- Plain calcium WITHOUT D3
- Outlet Timer/Power Strip
- At least 3 hides
 - Hides can be created by stacking stones, driftwood, or using pre-made hides (Zilla, Exo Terra and Fluker's have good options)
 - One hide should be a designated humid hide, essential for shedding
- Sphagnum moss
 - Use in humid hide to hold humidity for shedding

2) **Products to Avoid:** (This is not a complete list, just a compilation of the most common unsafe items on the market)

- Coil Florescent UVB Bulbs
 - These bulbs are not inherently bad, but because of their compact size, they should be used in a horizontal position for a wider spread. For many medium and large-sized reptiles who openly bask during the day, they may not provide enough coverage on the animal's body for proper D3 synthesis
- Mercury Vapor Bulbs
 - These bulbs can lead to serious UVB and heat burns. They do provide UVB and heat all in one, but are dangerously inconsistent in their output and cannot be controlled with a dimming device. MVB's also produce an unnatural green light, which may affect an animal's color vision and inhibit natural behaviors
- Reptile Carpet
 - Snags nails and teeth, holds bacteria
- Walnut Shell Substrate
 - Serious risk of impaction, oral, nasal and eye blockages. If ingested, this material can cause internal damage
- Calcium Sand
 - Encourages reptiles to eat it to supplement calcium, but can cause serious and sometimes fatal impaction
- Freeze-dried or canned insects
 - These feeding options do not provide the necessary nutrition geckos need
- UVB "test" Cards
 - These items do not accurately detect UVB. They react to light emitted by heat lamps as well, and do not tell you exactly how much UVB is being emitted by a bulb
- UVB "test" Accessories and Décor
 - Just like "test" cards, these items do not accurately detect UVB, and will react to UVA as well.

- **Colored Heat Bulbs**
 - Colored bulbs (red, blue, purple) wash out a reptile's color vision. This can interfere with their natural circadian rhythm and behavior. Heat bulbs should mimic the warm/white color of sunlight
- **Heat Mats**
 - Heat mats do not provide the correct Infrared heating reptiles need for proper warming, metabolism, digestion. Even with thermostat use, power failures can occur leading to severe, even fatal burns
- **Heat Rocks**
 - Heat rocks do not provide the correct Infrared heating reptiles need for proper warming, metabolism, digestion. These items have been known to cause serious, sometimes fatal burns.
- **LED UVB Products**
 - As of current research (2025), LED UVB products are not recommended for safe usage in reptile keeping. They do not produce vital UVA2 wavelengths, which signal an animal's body to stop producing pre-D3. This can potentially lead to **hypervitaminosis D3**, and **photoconjunctivitis**

Quarantining

1.) Why Should You Quarantine?

- Quarantining should be done when you first bring your new leopard gecko home. This is to monitor behaviors, and to give you time to have fecal testing done to check for parasites before moving your gecko into their permanent setup
- Typically a quarantine period will last **2 to 3 months**
- Quarantine setups are simplified for the sake of maintenance and monitoring. Keeping accessories to a minimum as well as using paper towels will make clean-up and finding droppings for sampling easier.

2.) How to Safely Quarantine:

- New animals should be kept separately from your other pets, if other pets, especially other reptiles, are present in the home. If possible, keep them in a separate room
- Sanitize the new animal's equipment and accessories separately from other pets' items
- Use separate feeding tools for the new animal
- Use paper towel flooring for easier clean-up and sanitizing
- Schedule fecal and physical exams to check for parasites and possible underlying health issues
- For sick animals, wear gloves when handling, and thoroughly sanitize afterwards



Quarantine enclosure example: Paper towel flooring, as well as 1.) Incandescent heat lamp, 2.) Arcadia Shadedweller ProT5 7% UVB, 3.) Hot hide/basking platform, 4.) Humid hide with damp paper towels inside, 5.) Cool hide, 6.) Dish of plain calcium, 7.) Water dish

- Once your gecko has passed their quarantine period and been given a clean bill of health, you can move them into a more advanced setup (see **Enclosure Examples**)

Nutrition

1.) Diet:

- Leopard geckos are strict insectivores. They do not eat vegetation or vertebrate meats (mice, rats, birds, etc). Live feeder insects should be provided for leopard geckos, with at least 3 different types of feeders in their rotation
- Feeder insects should be no larger than the space between their eyes
 - Good staple insects:
 - Crickets
 - Dubia roaches
 - Silkworms
 - Locusts
 - Feed in moderation:
 - Black Soldier Fly Larvae
 - Mealworms
 - Captive-bred hornworms
 - Feed rarely:
 - Wax worms
 - Butter worms

- Superworms

2.) Feeding Frequency:

- Juveniles 0-6 months: 3-6 insects every other day
 - Monday: Calcium
 - Wednesday: Multivitamin
 - Friday: Calcium
 - Sunday: Calcium
- Sub Adults 6-12 months: 3-6 insects every 3 days
 - Sunday: Calcium
 - Wednesday: Multivitamin
 - Saturday: Calcium
- 12+ months: 3-6 insects two times a week
 - Monday: Calcium
 - Thursday: Calcium (Use a multivitamin on the second week/4th feeding)

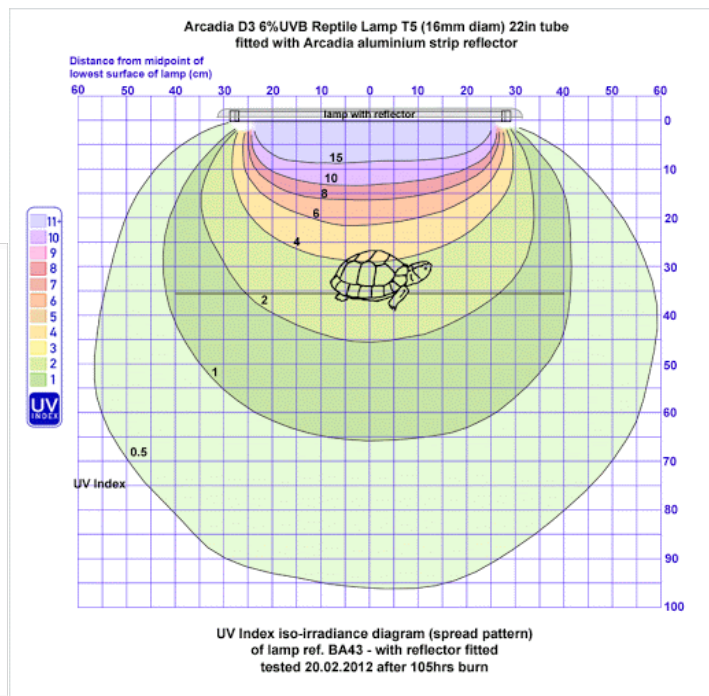
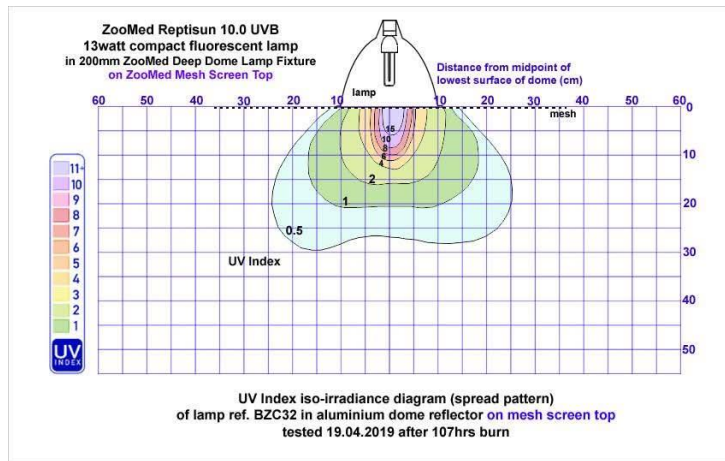
3.) Supplementation:

- Plain calcium should be dusted on insects except for multivitamin days
- **If UVB is NOT provided, calcium WITH D3 needs to be dusted on all meals**
- A multivitamin with preformed vitamin A (also labeled as Retinol, Retinyl, Vitamin A Acetate) should be dusted on feeder insects once a week, or on every 4th feeding for adults
- Calcium without D3 should be left in a small dish in the enclosure at all times. Refresh calcium powder once every two weeks
- **If using the Arcadia supplement product line:** CalciumProMG will be left in the enclosure at all times. EarthPro-A is dusted on all meals, and the multivitamin RevitalizeD3 is used once a week, or on every 4th feeding for adults
- **Do not use a multivitamin on every feeding. This can lead to Hypervitaminosis A, E and/or D3**

UVB, Heating and Visible Light

1.) The Importance of UVB

- UVB lighting is superior to D3 powder supplementation for the following benefits:
 - Creates beta-endorphin “feel-good” hormones in the skin
 - Promotes better organ health
 - Stimulates white blood cells and promotes better immune health
 - Facilitates natural D3 synthesis for calcium absorption
 - Simulates natural UVB that would be provided by the sun in the wild and promotes more natural behaviors

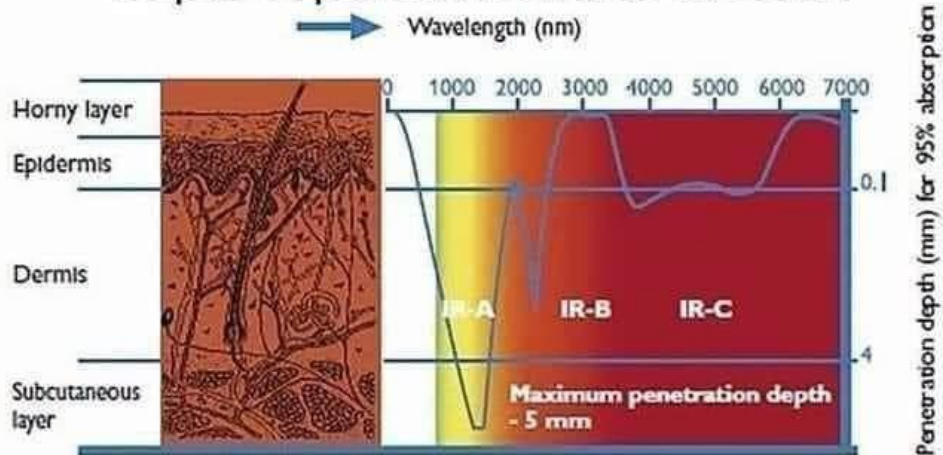


Difference between Coil/Compact UVB coverage, versus Linear T5HO tubes

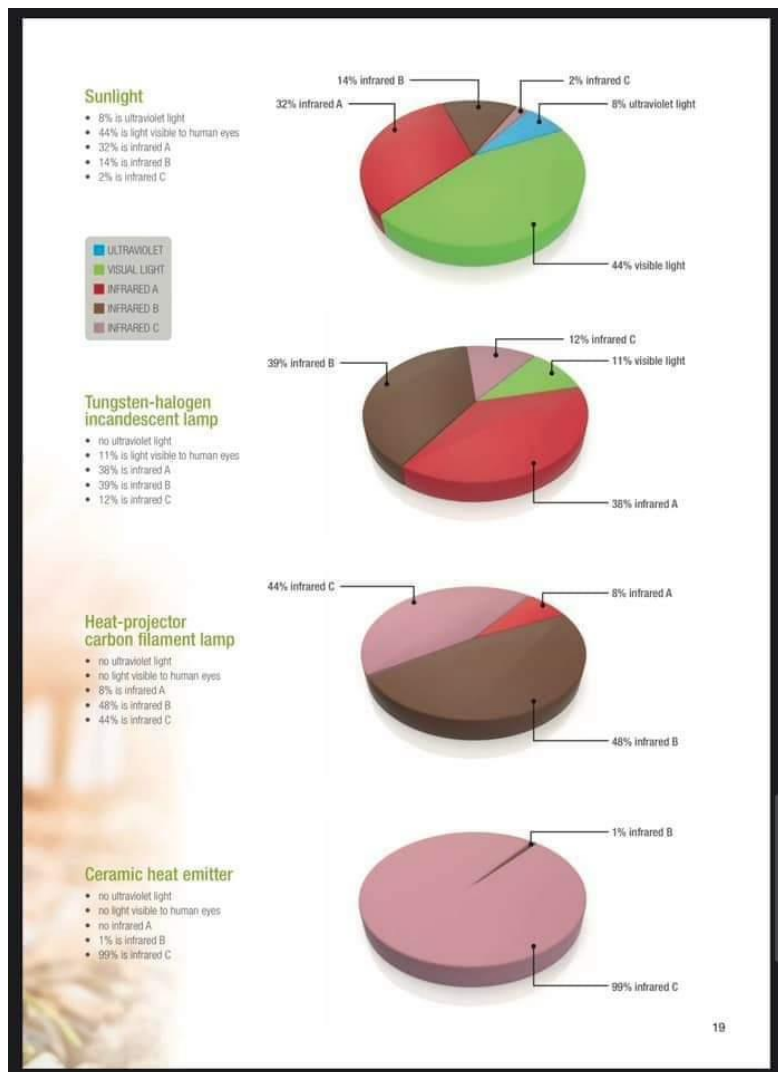
2.) The Importance of Infrared Heating

- Heat sources that provide Infrared A and B are important for:
 - Deep tissue-penetrating heat
 - Faster warming of the animal's body
 - Less time needed to bask
 - Better metabolism and digestion
 - Promotion of more natural behaviors
 - Surfaces below the basking area that absorb IR-A wavelengths will radiate that heat back out as IR-C, so your animal gets the full spectrum of Infrared heating

Depth of penetration into the skin



Penetration depth between IR-A, IR-B and IR-C wavelengths. IR-A penetrates into the subcutaneous layer, where IR-C is relatively surface-level on the epidermis



The difference between various heating elements. Incandescent lights provide the most natural array of IR

3.) Bulb Power Density

- Power density is the intensity and spread of infrared radiation from an incandescent/halogen heat lamp. This is measured by **wattage-per-meter squared (W/m^2)**.
- Power densities vary between bulb styles and brands, and providing infrared is not one-size-fits all.
- It's important to note that basking surface temperatures don't tell us much about the power density of a bulb. This is because different basking surface materials don't absorb and radiate infrared the same (i.e., a slate basking surface and a faux resin rock may give different temperature readings, even when under the same heat lamp and at the same distance).
- Ultimately, we want to aim to provide irradiance between **200–350W/m²**. The distance for this range is different between bulb styles and brands, but there is an easy “test” to measure this distance for the bulb you have. This will help you determine how high or low your basking area should be.
 - **The Hand Test:** Human skin is just as sensitive to infrared radiation as that of reptiles. The tingly sensation of sunlight on your bare skin is the effect of infrared penetrating the epidermis and down into muscles. For this test, think of your hand as your pet reptile's back.
 - Let your basking bulb warm up for a few hours
 - Place your hand on the bottom of the enclosure and raise it until you feel tingly warmth
 - If you can comfortably keep your hand under the lamp at this distance for 60 seconds, **you are within the 200–350W/m² range**

WhitePython I-RA Basking Heat Lamps 100W

Power Density Iso Irradiance Chart (Irradiance Map)

Wattage: 100W Rated (actual 98.7W)

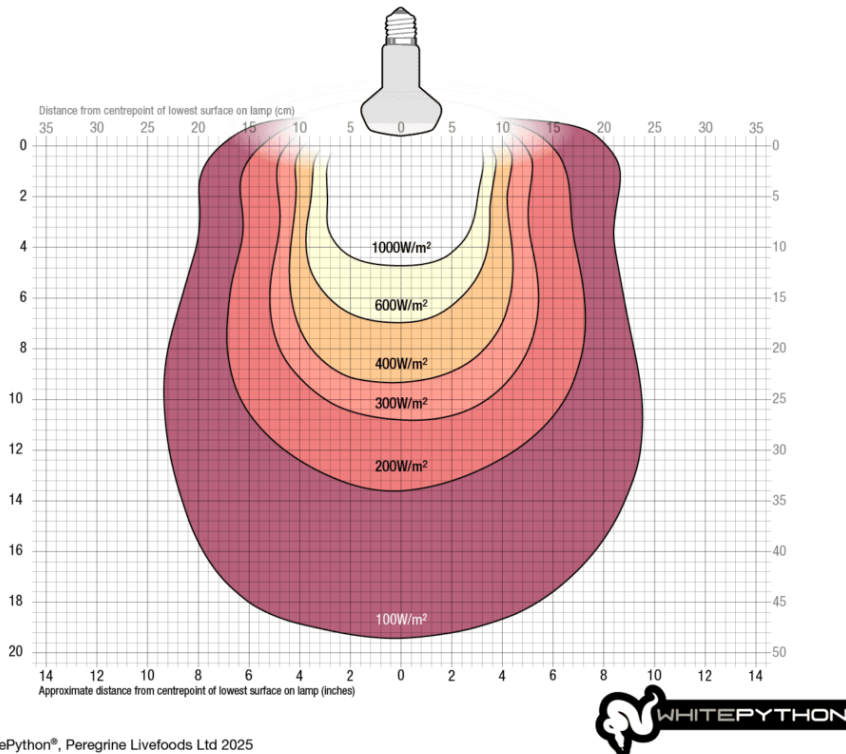
Lamp type: Incandescent Lamp - Narrow Reflector

Meter Specifications: ISM400

Voltage: 220-240V (actual 234.4V)

Power density scale (W/m²)

0-99	100-199	200-299	300-399	400-499	500-599	600-699	700 +
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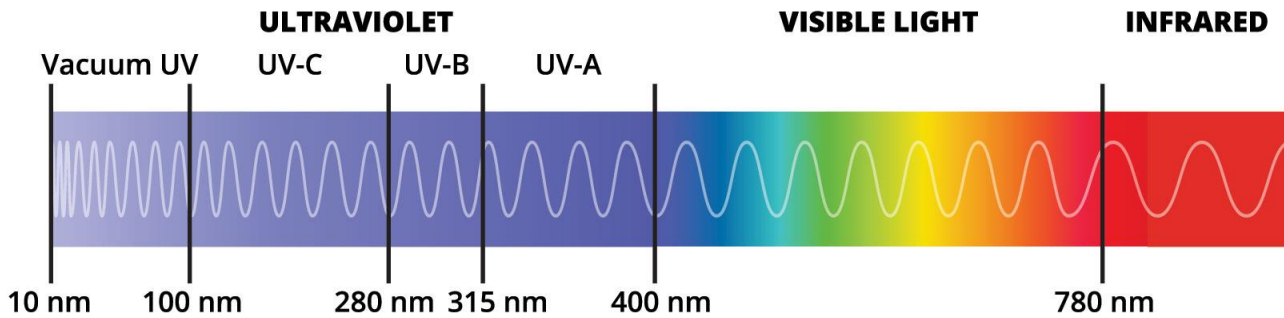
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Power Density Irradiance Chart, © WhitePython. Note the range for 200–350W/m² is between 14–10cm (5.5–3.9in) for this particular bulb, but may be closer or farther away based on bulb wattage and make. Refer to the Tomaskas LTD for irradiance charts for a variety of bulbs

4.) The Importance of Full Spectrum Lighting and LUX

- Many reptiles have **tetrachromatic vision**, meaning they have four rods in their eyes for color detection and can see much more of the visible light spectrum than we can. Providing additional full spectrum lighting helps with:
 - More visible colors for your animal to see
 - Promotion of natural behaviors
 - Closer visible replication of what they would experience under sunlight
- Currently, there are very few products available that cover more of the visible spectrum (as of 2025). Companies working on true LED full spectrum products are:
 - Fauna-Lux
 - Reptile Systems
- LUX** refers to the amount of light that illuminates surfaces. Consideration should be taken that the sun's brightness is far greater than the UVB, heat lamps and LED's we offer in captivity (the sun offers 32,000 – 100,000 LUX!) Providing more **LUX** over the **basking area** in the form of bright, white light can promote:
 - More natural basking behaviors
 - Mental and physical wellbeing

ULTRAVIOLET LIGHT



Quality lighting will cover some of the visible light spectrum (here shown between 400nm to 780nm); however, the purple, or Ultraviolet spectra will be covered in part by UVB lighting. Note that UV-C wavelengths are excluded from UVB and full spectrum equipment and are dangerous

Temperature, Humidity, and UV Index

1.) Temperature

- Temperatures should be provided in a “hot-to-cool” gradient across the tank, with your basking bulb placed on one side of the enclosure.
- Temperatures can be monitored by placing a hygrometer/thermometer device on the hot side, and one on the cool side. A thermometer temperature probe can be placed just outside of the beam of light beneath the incandescent heat bulb.
 - Hot side temperatures: 80–85f
 - Basking surface temperatures: 90–95f
 - Cool side temperatures: 75–80f
- Surface temperatures can be measured with a laser thermometer gun.

2.) Humidity

- Leopard geckos live in a wide range of environments in the wild, from arid scrublands and deserts, to temperate rainforests that experience several months of monsoons.
- Leopard gecko burrows often have higher humidity levels than the outside environment.
- In captivity, we can provide humidity spikes, but should aim for:
 - 40–60% humidity ranges
 - Occasional spikes of 80% with adequate dry-out periods can be implemented
 - A humid hide with damp moss, paper towels or substrate should be available at all times
 - Ensure your enclosure has good ventilation before attempting to create humidity spikes. If air is allowed to stagnate, bacterial growth can occur and your gecko may develop a respiratory infection

3.) UV Index

- UVB should be provided through a linear tube that spans halfway across the enclosure. It should be aligned with your basking bulb to one side of the tank, with the basking bulb centered with the middle of the tube
- Not all UVB bulbs are created equally! Certain strengths, bulb styles and brands are not safe or effective for leopard geckos (refer back to the shopping list for safe UVB products)
- Leopard geckos are **cathemeral** or **crepuscular** animals, meaning they may be more active in the evenings, or randomly throughout the day and night. This does NOT mean they won't bask. You may see your leopard gecko sleeping during the day with their foot, nose or tail tip sticking out of a hide under their UVB. This is enough for them to benefit from the UVB light and synthesize essential D3 in their bodies

- Because geckos tend not to be full-sun baskers (though they may openly bask on occasion!), their UVB requirements are much lower than that of a bearded dragon, for example
- On the Ferguson Zone (the UV requirement scale for various reptile species), leopard geckos are in Zone 1. This means they need a UVB index between 0.7–1.0. A bearded dragon, for example, needs a higher UV index between 3.0–3.5. This level of UVB would severely burn a leopard gecko
- The height of your enclosure, whether your UVB is mounted above mesh or inside the enclosure, what brand of tank you have all affect how much UVB your leopard gecko will be exposed to. To figure out how to safely provide UVB for geckos, refer to the following sources:
 - Reptile Lighting on Facebook
 - Northampton Reptile Center – Ferguson Zone
 - Thomas Griffiths, Tomaskas LTD
 - Leopard Gecko Life and Husbandry on Facebook
 - You can also message Loving Leos Reptile Rescue on Facebook, or email lovingleosrescue@gmail.com

Enrichment

1.) The Importance of Enrichment

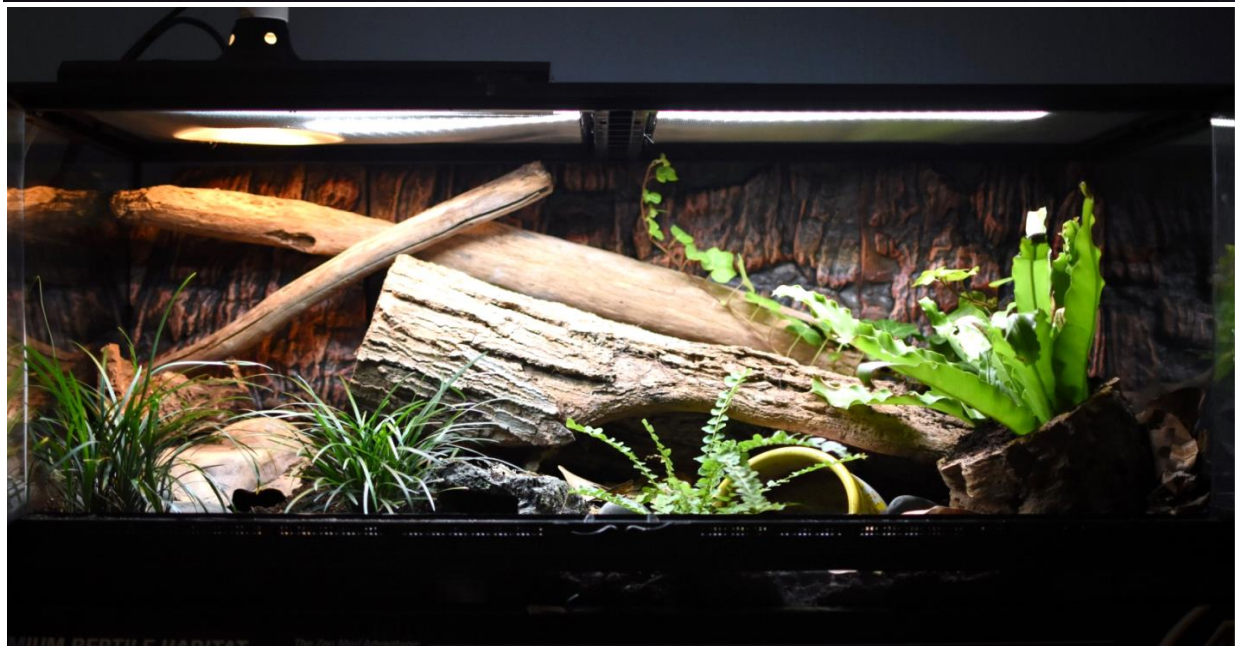
- Many reptile species, including leopard geckos, are highly curious, active animals. They enjoy living in a stimulating environment where they can climb, dig, bask, sleep, hunt and explore
- When these animals are housed in small, bare enclosures, they often exhibit “stereotypy” behaviors, which may include glass surfing, frequent hiding, pacing, pushing at enclosure doors or corners, and listlessness. These are all indicators of boredom, stress, frustration, anxiety, and eventually sensory-atrophy
- Giving our animals more space and more things to investigate, climb, etc, allows them to exhibit natural behaviors and stimulates their senses. These provisions also decrease fear and stress, and enhance the animal’s sense of security

2.) Ways to Provide Enrichment

- Enrichment can be provided by “cluttering up” your gecko’s home. Add in lots of flat, stacked stones (just make sure they are securely placed so the gecko can’t harm themselves by burrowing beneath the rocks), use natural substrates, bury cork bark rounds in the substrate to create tunnels, stack lots of driftwood to create climbing opportunities, give the gecko a new item on occasion to investigate, and let them free-hunt insects every once in a while

Enclosure Examples

- These enclosures belong to Loving Leos Reptile Rescue. They are 40 gallon front-opening terrariums, bioactive with live plants, full spectrum LED lighting, UVB and incandescent heating



Common Leopard Gecko Illnesses

1.) Metabolic Bone Disease (MBD)

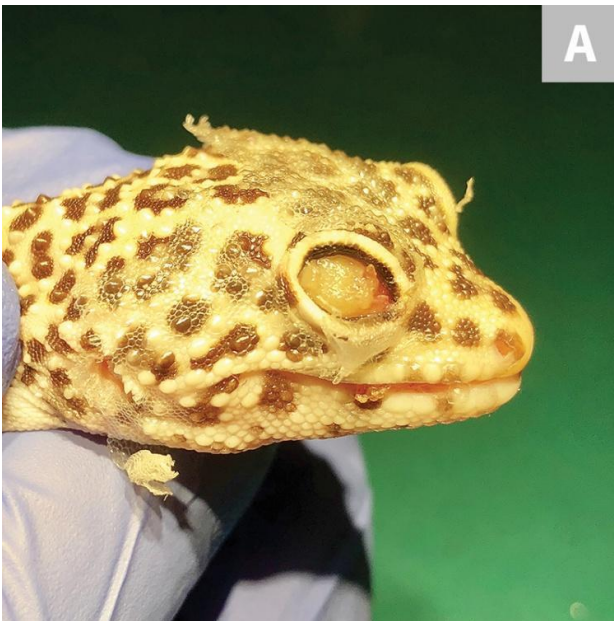
- Metabolic bone disease (MBD) is a broad-spectrum term for a variety of illnesses affecting reptiles' skeletal structures. Most commonly in captivity, it is caused by a lack of D3 in the animal's body, which prevents calcium absorption. This leads to softening bones, permanent physical deformities, disability, and death if the condition is allowed to progress
- MBD is one of the most easily preventable diseases in captive reptiles, but it is the most common ailment seen from poor keeper knowledge
- MBD can be prevented by providing species-appropriate UVB, changing out UVB bulbs according to the brand's specifications, and proper supplementation



Severe MBD in a leopard gecko. Note the deformed jaw, disfigured limbs, tail and chest. These deformities are permanent and painful

2.) Vitamin A Deficiency

- Vitamin A deficiencies occur when a multivitamin is not used in a gecko's supplement rotation. Vitamin A (Retinol, Retinyl, Vitamin A Acetate) is essential for immune health. Without this critical vitamin, the gecko's immunity will break down, leading to a vulnerability to bacterial infections
- Vitamin A deficiencies often present as difficulty shedding, eye and mouth infections, and in males, hemipene impactions may occur
- **DO NOT** provide a multivitamin too frequently! Vitamin A is fat-soluble, which means it stores in the body for longer periods of time than water-soluble vitamins. This can lead to Hypervitaminosis A/Vitamin A Toxicity, and can be fatal



Stuck shed is present on this gecko's face, the inner lining of the conjunctival sacs of the eyelids. Infected mucosal debris has formed over the eyes, and mouthrot is present

3.) Parasitic Infection

- Parasites are a common occurrence in captive reptiles, especially for those who are wild-caught, or who need animal or insect protein in their diets
- Parasites are normally kept in check by the reptile's immune system, but stress and incorrect care can cause parasite populations to bloom in the animal's gut
- Symptoms can include runny stools, blood in stools, lethargy, weight loss, belly bloating, regurgitation
- Most parasites can be easily treated and prevented from causing issues with proper care and routine exams. The most prevalent parasite infection that is not treatable and is fatal is **cryptosporidium**. Euthanasia is typically the best course of action for "crypto-positive" reptiles



A gecko with cryptosporidiosis. This animal was humanely euthanized

4.) Gout

- Gout can be caused by over-feeding your gecko, especially high-protein insects such as superworms, or insects with naturally high uric acid levels like dubia roaches. Providing too much vitamin A can also lead to renal issues and gout
- When gout occurs, white nodules of uric acid crystals (tophi) will appear on the joints, or on the organs (visceral gout). Shedding issues and skin tearing may occur in late stages of renal failure
- In the early stages, gout may be treatable with aggressive fluid treatment, strict dietary changes, and lowered doses of vitamin A. Symptoms may be managed long term with medicinal treatment, but are usually progressive.

Gout buildup on the joints and organs is painful, so a full quality of life assessment should be considered, and symptoms monitored with your veterinarian



Leopard gecko with advanced gout tophi in limbs

5.) Prolapse

- Prolapses can be caused by intestinal impactions, low humidity ranges, calcium or vitamin deficiencies, egg binding, parasitic infections and even neurological issues
- Prolapses of the hemipenes, cloacal, colon, or follicular tissue can occur from these problems
- If a prolapse occurs, a vet visit needs to be scheduled immediately. If these internal tissues are allowed to dry out and the problems are not corrected, tissue death can occur



Left, a hemipenal prolapse in a male leopard gecko. Right, follicle prolapse in a female leopard gecko

6.) Egg-Binding, Dystocia

- Egg-binding, or Dystocia, is a condition that can occur in female reptiles
- This condition can be caused by poor nutrition and calcium intake, improper environmental parameters, stress or egg malformation
- Dystocia can be a potentially life-threatening problem, and fast veterinary intervention of the issue should be utilized to resolve it

Resources

- Facebook
 - Reptile Lighting
 - Behavior Education
 - Leopard Gecko Life and Husbandry
 - Reptiles: Advancing Husbandry Practices

- Loving Leos Reptile Rescue Inc.
- **YouTube**
 - Leopard Gecko YouTube
 - Animals at Home
 - Reptiles and Research
 - Herp Talk
 - Jessica's Animal Friends
- **Supplies**
 - Pangea Reptile
 - Bean Farm
 - Light Your Reptiles
 - Reptile Basics
 - Dubia Roaches
 - PetCo
 - PetSmart
- **Herpetological Experts**
 - Thomas Griffiths, Tomaskas LTD, Zoo Husbandry Consultant
 - Dr. Frances Baines, Veterinary Surgeon
 - Dr. Sarina Wunderlich, light physicist
 - Lori Torrini, Behavior Education, Animal Behaviorist
 - The British Herpetological Society