

## Lined Day Gecko (*Phelsuma lineata*)

**Difficulty:** Intermediate

Lined day geckos (*Phelsuma lineata*) are a diurnal, omnivorous type of arboreal gecko primarily native to Madagascar. They prefer tropical forest for habitat, and as a strictly arboreal species, they spend most of their lives up off the ground.

Lined day geckos generally grow 4-6" / 10-15cm long, and like most day geckos, are popular because of their vibrant colors. Males are medium-green in color, with a many small red dots on the lower half of the body and a red marking on top of the head. They also have a thick brown to black lateral stripe on each side and a pale belly. Blue may also be present, particularly on the tail and back of the neck. Females are duller in color. The body features a sharply tapered snout, round lidless eyes, sticky toe pads, a shortish tail, and delicate velvety skin.

Lined day geckos are a relatively hardy species of day gecko, particularly when acquired captive-bred. When you pay attention to providing appropriate lined day gecko care, you may expect a lifespan of up to 15 years.

### Shopping List

- Front-opening 12"L x 12"W x 18"H terrarium, or larger
- 25w white basking bulb
- 5.5" dome heat lamp with dimmable switch
- Lamp holder bracket
- 26w Zoo Med Reptisun Compact Coil 5.0 UVB bulb
- 12" reflective terrarium hood with ceramic socket
- 6500K LED grow light
- Power strip with digital timer function
- Digital probe thermometer/hygrometer, x2
- Pump-style pressure sprayer
- Tropical reptile substrate, 5+ quarts
- Environmental enrichment
  - live tropical plants
  - vines
  - branches
  - cork hollows
  - magnetic ledges
- Magnetic gecko ledge, small
- Gecko feeding cups, small
- Crested gecko meal replacement powder
- Calcium supplement powder, no D3

### Housing

Lined day geckos need an enclosure that is large enough to give them adequate opportunity to explore, hunt, and generally exercise natural behaviors. They are also arboreal, which means that they need a terrarium that provides a generous amount of climbing space. Considering that lined day geckos can grow up to 6"/15cm long,

the minimum recommended enclosure size for a single lined day gecko is **12"L x 12"W x 18"H / 30 x 30 x 45 cm** or similar. Where possible, larger is always better!

### **Can multiple lined day geckos be housed in the same enclosure?**

Day geckos have been historically housed together successfully in breeding pairs or small breeding groups of one male and multiple females. However, if you don't intend to breed day geckos, then it's best practice to keep only one or a group of strictly females.

To house multiple day geckos together, the size of the enclosure needs to be proportionately increased so the geckos can get away from each other as needed.

## **Lighting & UVB**

Lined day geckos are diurnal, which means that they are primarily active during the day. This means that they need access to a basking area and are exposed to direct UVB during the day. Provide 13 hours/day during summer, and 11 hours/day during winter, with gradual adjustments in-between.

### **UVB Lighting**

Lined day geckos require UVB lighting as part of their setup in order to survive and produce their best color. UVB lighting can be tricky, because in order to get the right strength of UVB (measured by UV Index, or UVI), distance must be considered.

As a rough estimate, to provide appropriate UVB to a lined day gecko, you will need one of the following lamps, depending on the enclosure's height:

- 26w Zoo Med Reptisun 5.0 — 2-4" / 5-10cm
- 18" Zoo Med T8 Reptisun 5.0 — 2-4" / 5-10cm
- 18" Arcadia T8 Forest 6% — 2-4" / 5-10cm
- Arcadia ShadeDweller Arboreal kit — 4-6"/10-15cm

For best results, coil UVB bulbs should be mounted horizontally in a reflective fixtures such as the Zoo Med Naturalistic Hood or Exo Terra Compact Top. Tube UVB bulbs should be mounted in highly reflective, reptile-specific fixtures (ex: Zoo Med Reptisun T8 Terrarium Hood, Arcadia ProT5), not hardware store fixtures.

UVB bulbs must be replaced every 6-12 months in order to remain effective.

*(These recommendations are approximations. It is strongly recommended to use a Solarmeter 6.5 to determine the best placement to achieve a UVI of 3.0-4.0 in the basking area at the top of the enclosure.)*

### **General Illumination**

For diurnal species, it's also best practice to provide bright light with a color temperature of around 6500K in addition to UVB and heat lamps. Lined geckos with access to bright lighting are likely to be more active, have better appetites, and display better color.

The Arcadia Jungle Dawn LED Bar and Bio Dude Glow & Grow are both excellent lamps for this purpose. You will need one long enough to span at least half of the enclosure.

## **Heating**

Humans are *warm-blooded*, which means that our body temperature is automatically regulated. Lined day geckos, however, are *cold-blooded*, and they need to move between areas of different temperatures in order to

regulate their body temperature. In the wild, lined day geckos may warm up by basking in a warm patch of sunlight. In captivity, sunlight can be replicated with a white incandescent heat lamp.

- **Basking area temperature: 82-86°F (28-30°C)**
- **General temperatures: 77-80°F (25-27°C)**
- **Nighttime temperature: 68-75°F (20-24°C)**

Generally speaking, it doesn't take much to achieve such a low basking temperature, especially considering that lined day geckos are arboreal and will likely bask quite close to the heat lamp. One 25w incandescent bulb such as the Zoo Med Repti Basking Spot or Exo Terra Daytime Heat Lamp should be plenty, but results will vary based on your room temperature. If you notice that the basking area is too warm, dial down the heat down with a lamp dimmer or switch to a lower wattage bulb. If your basking area is too cool, you will need a higher wattage bulb.

**Warning:** Day geckos are known to climb upside-down on the mesh on top of their enclosure, which makes them susceptible to burns. To prevent this from happening, use a lamp stand to suspend the lamp over the enclosure, such as the Exo Terra Light Bracket.

The basking area should be a vine or branch directly under the heat lamp. Because your gecko is arboreal and will be living in a tall enclosure, the warmest temperatures will be at the top (near the heat lamp), and the coolest temperatures will be toward the bottom. You will need vines, branches, and foliage at all levels to allow for proper thermoregulation.

To track basking temperature, use a digital probe thermometer, with the probe zip-tied to the basking surface under the heat source. Most reptile-brand digital probe thermometers function well.

## Humidity

Lined day geckos do best in a moderate- to high-humidity environment, with an **average humidity of 50-80%** as measured by a digital probe hygrometer with the probe placed in the middle of the enclosure. Humidity levels that are consistently too high or low can cause health problems for your gecko. However, it is natural for humidity to be lower in the warm area and higher in the cool area. It is also normal and healthy for humidity levels to rise at night and fall during the day.

To raise the humidity in your gecko's enclosure (and provide an extra source of drinking water), use a pump-style pressure sprayer such as the [Exo Terra Mister](#) to wet down the enclosure every morning, and evening if necessary.

## Substrate

Because lined day geckos are arboreal (tree-dwelling), they don't spend much time on the ground. Although it's not necessary to use bedding for them, it's very useful for helping to stabilize humidity. It also acts as a cushion if they fall from their perch, which may happen while they are hunting. It's best to use a moisture-retentive substrate that is similar to the soil in a lined day gecko's natural habitat.

**Here are some reliable options:** DIY tropical mix (60% organic topsoil, 40% coconut fiber), Zoo Med Reptisoil, Zoo Med Eco Earth, Exo Terra Plantation Soil, The Bio Dude Terra Fauna bioactive kit. For best results, add a generous layer of leaf litter on top.

Only 2" / 10cm should be needed, unless you are planting the plants directly into the substrate. For best results, add a generous layer of leaf litter on top.

Feces and urates should be removed daily, and contaminated substrate should be scooped out and replaced. Substrate should be completely replaced once every 3-4 months, depending on your needs.

## Décor

Decorations play a vital role in your gecko's enclosure as environmental enrichment. Enrichment items encourage exercise, stimulate your pet's natural instincts, and help promote overall wellbeing. And, of course, they make the enclosure look nicer! Without décor, your terrarium is just a glass box with dirt and a feeding ledge. Just because day geckos can climb up glass doesn't mean they shouldn't have other climbing materials available. They also need places to hide that are not on the ground.

**Here are some ideas to get you started:** branches, cork hollows, vines, live plants (ex: dracaena, sanseveria, pothos, philodendron, bromelia), magnetic ledges

Arrange these items in a way that encourages your gecko to climb and explore, and provides areas of both light and shade. Artificial plants are best avoided with day geckos.

## Food

Lined day geckos are *omnivores*, which means that they need a balanced diet of both plant- and animal-based foods to get the nutrition that they need. In the wild, they eat mostly insects, flower nectar, and fruit juice. As pets, this diet can be re-created with a balance of meal replacement powder and live insects.

How often lined day geckos need to eat depends on age:

- **Juveniles (0-6 months)** — insects daily, CGD every other day
- **Subadults and Adults (>6 months)** — insects 2x/week, CGD 1x/week

Crested gecko diet (CGD) must be offered via a wall-mounted feeding ledge, not placed on the ground. Personally I prefer magnetic mounts to suction cups.

**Best crested gecko diet powders:** Pangea, Repashy, Black Panther Zoological, Leapin' Leachie, Zoo Med, Lugarti

**Best feeder insects for lined day geckos:** crickets, red head roaches, grasshoppers/locusts, flightless fruit flies, small hornworms, silkworms

The key to providing a healthy, balanced diet for your pet is VARIETY. Provide as varied of a diet as you possibly can, and you will be rewarded with a healthier pet that always looks forward to mealtime. I prefer to use a rotation of at least 3 different kinds/flavors of CGD.

## Supplements

Crested gecko diet is already fortified and balanced with a variety of vitamins and minerals. However, feeder insects need to be "dusted" with a light coating of calcium powder before every feeding to balance the calcium-phosphorus ratio.

There are many options, but Arcadia CalciumPro Mg or Miner-All Outdoor are both solid calcium supplements. For best results, use as directed by the label.

## Drinking Water

Although your gecko will get drinking water from daily mistings, it's best to always keep a bowl of clean water available on the feeding ledge. This bowl should be scrubbed out with veterinary disinfectant such as Rescue or F10SC weekly for good hygiene.