

# Care Cards

## Day Geckos



There are currently over fifty species and subspecies of day geckos. All day geckos belong to the genus *Phelsuma* and the family Gekkonidae. In nature, their range is limited to a region of the Indian Ocean encompassing Madagascar, the Andaman Islands and southeastern Africa. They are arboreal animals that thrive in tropical forests. For the most part, day geckos are diurnal, with *P.guentheri* being the only nocturnal variety. Day geckos vary in length from the tiny 5cm *P.p.pusilla* to the huge 30cm *P.madagascariensis grandis*. They have immovable eyelids and circular pupils covered by a transparent disc called a brille. Their toes end in flared pads that allow them to climb smooth vertical surfaces. Day geckos are very colorful and all of them usually include some shade of green. Their coloration is useful for camouflage in their tropical surroundings. Some varieties are sexually dimorphic in both size and color. All male day geckos have femoral pores. Female day geckos have endolymphatic chalk sacs on the sides of their necks that serve as calcium reservoirs during egg production. Small and medium sized day geckos should be thought of more as a display animal than a pet, since most varieties do not tolerate excessive handling.

### HOUSING

Aquariums make adequate enclosures for keeping day geckos. Because they are arboreal, the tall variety of aquariums with more height than floor area is preferred. Regardless of the size or configuration of the tank, a tight-fitting, secure lid is a must. Because of their ability to climb smooth surfaces, day geckos are excellent

escape artists. To help reduce the stress of captivity, the enclosure should be full of items for climbing and hiding. Driftwood, cork bark and bamboo can be arranged in the enclosure for climbing and basking. Live plants will provide a substance for both climbing and hiding. The moist soil of a potted plant will help maintain a high humidity level within the enclosure. The most commonly used live plants are Sansevieria, Pothos, Dracaena, and Monstera. Substrates vary upon the owner's aesthetic interest in the enclosure. Newspaper is easy to replace and inexpensive; however, items such as artificial turf, orchid bark or crushed walnut can also be used.

### HEAT AND HUMIDITY

The majority of day geckos have similar humidity and temperature requirements. Most day geckos require a humidity level between 60 and 80 percent. Misting live plants twice daily will help increase humidity levels. The misted water should be completely evaporated a few hours following the misting. Day geckos come from tropical environments and should have a daytime temperature gradient between 80 and 85 degrees Fahrenheit. A basking site should be slightly higher, around 88 degrees. The nighttime temperature should drop to between 72-77 degrees. Because day geckos are arboreal animals, hot rocks and under tank heating pads will do little to maintain proper enclosure temperatures.

### LIGHTING

Full spectrum lights are mandatory for day geckos. The main requirements for a full spectrum light when keeping day geckos are: a color rendering index (CRI) of over 90, the light must be within a wavelength range of 290 to 400 nm, and the color temperature should be between 5,000 and 7,000 degrees Kelvin. If correct lighting is not used, a noticeable decrease in the intensity of the gecko's color will be noticed. For maximum effect, the basking site should be within 6 to 8 inches of the light source. The daylight cycle should be 14 hours during the summer and decreased to 10 hours during the winter to help maintain adequate enclosure temperatures. When using a black light, use the BL type, not the BLB type.

## FEEDING AND NUTRITION

Day geckos are mostly insectivorous. In captivity they should be maintained on crickets, waxworms and giant mealworms. For hatchling or very small day geckos, pinhead crickets or wingless fruit flies may be necessary. In the wild, day geckos will use nectar and pollen as a food source. Although this is relatively impossible to duplicate in captivity, many alternatives are available. Day geckos should be offered fresh papaya, fruit flavored baby food (peach or apricot preferred), or an avian nectar mixture twice weekly. All day geckos must be given calcium and vitamin supplements regularly to help maintain their normal skeletal structures as well as their color intensity.

## REPRODUCTION

Most day geckos can be easily sexed by observing the area around the cloacal opening or vent. Males will have noticeable pores above the vent for marking territory. They also will have noticeable hemipene bulges just below the vent. Prior to breeding, the photoperiod should be decreased to 8 hours of light and the temperature lowered to 75-78 degrees for two weeks. After this period, raise the photoperiod to 12 hours of light and the temperature to 83-86 degrees Fahrenheit. Breeding day geckos should be kept in pairs to avoid fighting. Commonly if two males and occasionally if two females are housed in the same enclosure they will fight. Breeding females should be given extra vitamin and calcium supplementation. After successful breeding, a female can lay fertile eggs for an entire year. Females will only lay one or two eggs per clutch, but may lay as many as five clutches in one season. The clutches are usually separated by two to four weeks.

Occasionally, a female will continue to lay for an excessively long time. To stop the laying cycle, decrease the photoperiod to 9 hours daylight for a week or two. Newly laid eggs are soft, and the shell slowly hardens over time. Eggs should be incubated around 78 to 83 degrees Fahrenheit with a humidity level over 75 percent. Incubation usually takes between 40 and 85 days, depending on the species and incubation temperature. Hatchlings can be housed in groups for the first couple of months, and then they should be separated. One-gallon glass jars will provide a starting home for juveniles but eventually they should be transferred into a more permanent enclosure.

## DISEASES

The most commonly observed disease of day geckos is metabolic bone disease, or more specifically, nutritional secondary hyperparathyroidism. This condition usually occurs from a deficiency of minerals, especially calcium, in the diet. Additional causes include inadequate lighting and poor food items. Clinical signs of the disease include soft, malformed head or jaw, swollen legs, curvature of the spine or scoliosis, paralysis, and sometimes seizures. If diagnosed early and treated aggressively, most geckos will make a good recovery.

Another common abnormality among day geckos is dysecdysis or improper shedding. This condition is almost always associated with an environment too low in humidity. Regular misting and/or soaking prior to and during shedding will help correct the problem. Unshed skin left around legs or toes can act as a tourniquet and possibly lead to tissue necrosis.

Day geckos can occasionally suffer from impactions, usually as a result of ingesting a substrate item. Inadequate substrate items include small gravel and sand. When using these items, a dish or bowl should be used as a feeding area to prevent any accidental ingestion. Minor impactions may respond to a simple lubricant such as mineral oil, while more severe ones will need surgical intervention for their correction.

Fighting among cagemates or improper handling can lead to skin damage and even tail loss. Affected animals should be separated and kept warm. Occasionally hand feeding is necessary during the recovery phase. Antimicrobial therapy and suturing may be necessary in extreme cases.

In conclusion, day geckos make a nice addition to any terrarium or vivarium, however, they should not be considered like other pets. Due to their delicate skin and nervous behavior, day geckos are better seen and not held. Once the owner clears this hurdle, day geckos are a colorful and relatively easy to raise and maintain animal.

