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GECKOS

Peacock day gecko

Phelsuma quadriocellata

Phelsuma quadriocellata is a small, light green day gecko from the east coast of Madagascar, with red markings on the back and dark, blue-edged spots on the sides. It is diurnal and lives high up in the branches, so it suits a large, densely planted enclosure, but not handling.

Family: Gekkonidae Former name: *Pachydactylus quadriocellatus*

KEY FACTS

THE ANIMAL

Adult size	**10-13 cm** total length incl. tail
Lifespan	**8-15 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Rainforest and montane forest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**45 × 45 × 60 cm** L × W × H for 1 adult
Temperature, day	**22-26 °C**
Basking spot	**30-32 °C**
Temperature, night	**15-20 °C**
Humidity	**60-70%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 3
Diet	**Insects, fruit, nectar and complete diet**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Clutches per year	**3-6**
Incubation	**42-53 days** at 28-30 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Least Concern (LC)**

About the species

Phelsuma quadriocellata is a small, slender day gecko with a clear green or blue-green ground colour. The back has small reddish to orange spots, the underside is pale, and the tail is often bluish. The most telling feature is the large, dark spots on each side behind the forelegs, edged with light blue. Some populations have two such spots, others four. Like other day geckos it has lidless eyes and adhesive lamellae under the toes, so it moves easily on leaves, bamboo and glass.

The species was described in 1883 under the name *Pachydactylus quadriocellatus*. The species name means "with four eye spots" and refers to the dark spots, of which some subspecies have four. There are three subspecies, *P. q. quadriocellata*, *P. q. bimaculata* and *P. q. lepida*, and the species is probably a species complex. A fourth subspecies, *Phelsuma parva*, has now been raised to a species in its own right.

As an adult, *P. q. quadriocellata* reaches about 11-12 cm including the tail, while the subspecies *P. q. lepida* can reach 13 cm. In captivity the species typically lives 8-10 years, a few animals up to 15 years.

The animal is diurnal and almost always visible in the upper part of the enclosure, which makes it a fine display animal. On the other hand, it is shy and lightning fast and tolerates being picked up poorly. Day geckos can also shed a piece of skin if they are grabbed, and it takes time for it to grow back. Handling is therefore not recommended.

Distribution and habitat

Phelsuma quadriocellata is native to Madagascar and is found especially along the east coast. The subspecies *P. q. bimaculata* is known from the area around Fandrarazana in the east, and *P. q. lepida* from the north-eastern part of the island, among other places Nosy Mangabe. The species has also been found on the islands of Nosy Be and Nosy Komba off the north-west coast.

The species is common to abundant and widespread within its range. Mauritius and Réunion are sometimes also mentioned, but this is not confirmed, and the native range is here regarded as only Madagascar.

> **Native range:** Madagascar.

HABITAT

The species is first and foremost a rainforest animal and is found from the lowlands up into the mountain forests of eastern Madagascar, but also in forest edges, scrub, cultivated land and around settlements. It prefers plants with broad leaves and has therefore often been found in banana plantations. In several places it is associated with screw pines of the genus *Pandanus*, whose stiff leaves provide cover and collect rainwater.

The climate is humid with a lot of rain, in the mountain forests about 3,000 mm a year. In summer the daytime temperature reaches 30 °C and more, while the southern winter in July and August is cool: by day the temperature only just exceeds 23 °C, and at night it falls below 10 °C. The gecko spends the day in trees and bushes, where it basks on trunks and leaves and drinks rain and dew droplets from the foliage. The clear shift between warm days and cool nights should also be there in the enclosure. It is imitated with a warm basking spot, a cooler zone below and regular misting, so the humidity is high without becoming stagnant.

Read more: Heat and temperature Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

An adult needs a tall enclosure of at least 45 × 45 × 60 cm (length × width × height). Height is important because *Phelsuma quadriocellata* lives up in the branches and uses all the space it is given. A smaller enclosure makes it hard to provide a warm basking spot and a cooler floor without overheating the animal.

Glass or PVC is best, because wood is damaged by the high humidity. Furnish with many branches, bamboo tubes and lianas at different heights. The gecko prefers smooth surfaces to rest and bask on, e.g. hollowed bamboo or tubes. Rough branches can also be used, but then the animal sits on the glass more often. Because the species is shy, there must be dense foliage both high and low as well as hiding places such as cork bark and hollow pieces of wood.

For substrate, a moisture-retaining mix of coconut fibre or peat moss works, preferably as a bioactive substrate with live plants and woodlice. The species does well in a bioactive enclosure because it is small and does not destroy the plants. Ventilation must be good enough that droplets on the glass have dried by the next day.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

Phelsuma quadriocellata needs a clear temperature gradient. The basking spot at the top should be 30-32 °C and the cooler zone down in the enclosure about 22 °C. The rest of the air is kept at 22-26 °C. The basking spot is created with a heat bulb or a ceramic heat emitter over a branch, both controlled by a thermostat so that the animal cannot overheat.

At night the temperature may fall to about 15-20 °C, and that is more natural than heating the night. Only if the room falls below about 15 °C is a weak heat source without light an advantage. Measure with digital thermometers both at the top and at the bottom. Watch the animal: if it sits constantly in shade with its mouth open, it is too hot.

HUMIDITY AND WATER

The humidity should be 60-70 %. This is achieved with a moisture-retaining substrate, regular misting and possibly a small fogger or a waterfall. Mist once or twice a day, so the air is humid and the foliage dries between mistings. Measure with a digital hygrometer.

Day geckos seldom come down to the floor to drink. They lick water droplets from leaves and glass instead. Broad leaves where the water can collect are therefore a good help. A shallow bowl of fresh water can also be placed in the branches, but it must be shallow enough that juveniles cannot drown. Keep all water sources clean to avoid bacterial growth.

LIGHTING AND UVB

The species is diurnal and needs strong light and UVB. A T5 tube with 6 % UVB, placed 30-40 cm above the highest basking spot, gives a UV index of about 3-4, corresponding to Ferguson zone 3. If the distance is greater, up to 40-60 cm, a stronger 12 % tube is a better choice. Without UVB the animal can develop metabolic bone disease (MBD), which can be fatal.

UVB tubes lose strength after 6-12 months, even while they still light up, so replace them regularly. Keep the light on 12 hours a day and switch it off at night, so there is a clear change between day and night. A heat bulb or halogen lamp can provide both heat and UVA, but it is not a substitute for a UVB tube. Remember that plant and aquarium lights do not give UVB.

Read more: Lighting and UVB Read more: Common diseases and signs of illness

FEEDING

Phelsuma quadriocellata is omnivorous and in the wild eats insects, nectar and soft fruit. In captivity the easiest option is a ready-mixed powdered diet for fruit-eating geckos, mixed with water and placed in a shallow dish high up in the enclosure. The diet can be left for two to three days if it is kept moist. It already has the necessary nutrients added and is better than pure fresh fruit.

In addition, give live insects regularly, and pay attention to variety. Small crickets, grasshoppers, flies, calciworms and roach nymphs are good choices. As a rule of thumb, the insect must not be longer than the distance between the animal's eyes. Adults typically get the powdered diet once a week and small insects more often, while juveniles are offered food every day.

All insects are dusted. A workable plan is a calcium-rich multivitamin at every feeding, calcium with magnesium at every fourth and D3 at every eighth feeding. Fresh fruit such as banana, strawberry and mango can be given as a supplement, but not as the staple diet.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Phelsuma quadriocellata is shy, quick and nervous, and is best kept as a display animal. It cannot be accustomed to handling. When it feels threatened, it can shed a piece of skin. Do not hold the animal in the hand, and catch it with a butterfly net if it escapes.

Two males must never be kept together, and two females can also become territorial towards each other. A pair can be kept together, but the male easily makes the female lay eggs continuously, and that wears her down. It is therefore also not recommended to keep the pair together outside breeding. The safest is to keep a single animal; a pair needs a large enclosure with many hiding places. Hiding places throughout the enclosure make the animal less stressed, and it still comes out at feeding and for basking.

Breeding

SEXUAL MATURITY AND SEXING

The sexes are hard to tell in juveniles but easier in adults. The males have a row of enlarged pores on the underside of the thighs by the vent, the scales around them are often yellow, and the head is more robust. The females have distinct calcium sacs under the chin. Size is not a reliable sign of sex. Age and weight at sexual maturity have not been documented. A female should in any case be fully grown before she is bred, so that she is not drained of calcium.

MATING

The species can be bred as a pair, and the animals usually breed when kept together. A cool period corresponding to the southern winter starts the breeding: the animals are kept cooler from November and are given full day and night temperatures again only in February. Precise temperatures for the rest period are not documented, but in the wild the winter days lie just

above 23 °C and the nights below 10 °C. Since females are strained by many clutches, it is a good idea to separate the pair if the female loses weight or if the male chases her. Give the female plenty of calcium and insects throughout the season.

EGG-LAYING AND CLUTCHES

The female lays two eggs at a time, and a new clutch comes every month or every second month in the breeding season. After the cool period, three to six clutches are laid from March to September. The eggs are often laid loose in the leaf axils of sansevieria or in bamboo tubes, but can also be stuck to plants, branches or the walls of the enclosure. If an egg is stuck, never try to tear it off, because it will break. Watch the female's calcium sacs under the chin, and give her extra calcium and insects when she lays. Stop breeding if she becomes thin. A clutch of one egg can occur.

INCUBATION

Eggs that are stuck to a branch or a hiding place can stay in the enclosure, or you can move the whole substrate with the egg to a small incubation box. At about 28-30 °C the eggs hatch after 42-53 days. Humidity and substrate are not documented for the species; slightly damp substrate and high humidity as for other day geckos is a reasonable starting point.

Read more: Incubating eggs

REARING THE YOUNG

Newly hatched young are very small and do not yet have any red markings; these come only with time. Rearing is relatively easy. The young are given small fruit flies and powdered diet, and as they grow, small crickets are added. Dust all insects with calcium and vitamins. Keep the young in a small, humid enclosure with leaves and hiding places, and mist every day so they can drink droplets. Water bowls must be very shallow, because juveniles can drown. Animals of the same sex become territorial, so separate them as they approach adult size.

Health and common mistakes

Phelsuma quadriocellata is hardy when temperature, light and diet are right, but there are some typical mistakes:

- Lack of UVB, calcium or D3, which causes metabolic bone disease (MBD) with soft jaws, bent limbs and tremors. Replace UVB tubes after 6-12 months, and dust the food.
- Humidity that is too low or poor ventilation, which causes skin problems, fungus and bacteria in stagnant water.
- Overheating at the basking spot. Use a thermostat on all heat sources.
- Skin damage when the animal is grabbed or squeezed. The skin can come away in large pieces, so avoid grabbing the animal.
- Stress and fights if animals of the same sex are kept together.
- Females worn down by laying continuously.

A healthy animal is active, has clear eyes and a plump tail. See a vet experienced with reptiles if the gecko loses weight, stops eating or becomes lethargic.

Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.