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GECKOS

Ornate day gecko

Phelsuma ornata

Phelsuma ornata is a small, fast day gecko from Mauritius and the surrounding islands, with a blue-green body, red dots on the back and a turquoise tail with red crossbands. It feeds on insects, nectar and soft fruit, does best in a tall, densely planted enclosure, and is more an animal to watch than to handle.

Family: Gekkonidae Former name: *Phelsuma ornatum; Phelsuma vinsoni*

KEY FACTS

THE ANIMAL

Adult size	**10-13 cm** total length incl. tail
Lifespan	**10-12 years**
Active	**By day**
Lifestyle	**Arboreal and rock-dwelling**
Habitat	**Dry forest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**30 × 30 × 45 cm** L × W × H for 1 adult
Temperature, day	**26-28 °C**
Basking spot	**31-33 °C**
Temperature, night	**20 °C**
Humidity	**50-90%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects, fruit, nectar and complete diet**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**6-12 months**
Clutch size	**1-2 eggs**
Incubation	**40-85 days** at 26-29 °C

PROTECTION AND PAPERWORK

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

About the species

Phelsuma ornata is a day gecko that grows to about 10-13 cm including the tail. The neck and head are greyish brown with white neck stripes. The body varies: blue-green, green with a blue patch at the front of the back, or almost entirely blue, and the sides are brown. The back is covered in red dots, the head has a T-shaped pattern, and the tail is turquoise with red crossbands. The snout has a pattern of cyan, white, red and dark blue.

The species was described in 1825 by J.E. Gray. It has had several scientific names, among them *Phelsuma ornatum* and *Phelsuma vinsoni*, and has at times been regarded as a synonym of other day geckos, among them *Phelsuma cepediana*. The scientific species name comes from Latin *ornatus*, 'adorned'. The subspecies *inexpectata* has since been raised to a species of its own.

Like all day geckos, the animal has round pupils and no eyelids, but a transparent disc over the eye, which it keeps clean with its tongue. Fine lamellae under the toes let it walk on smooth, vertical surfaces and glass, and this makes the species a skilled escape artist. Day geckos are fast and shy in captivity, and the animals tolerate handling poorly: the skin is thin, and the tail can be dropped. It is a species to be admired from a distance.

Distribution and habitat

Phelsuma ornata is found on Mauritius in the south-western Indian Ocean, where it lives in the coastal areas of the main island and on several of the surrounding islands. The known islands are Round Island, Gunner's Quoin, Coin de Mire and Île aux Aigrettes. The type locality is Sebastopol on Mauritius.

Records outside Mauritius and the surrounding islands on the map do not belong to the native range.

> **Native range:** Mauritius.

HABITAT

Phelsuma ornata lives in the drier areas of Mauritius, from the coast up to about 300 metres above sea level, and on the small islands, among other places in palm savanna. It is found on trees and bushes and, where the native vegetation has been cleared, on rocks, garden walls and house walls. In gardens and near houses the animals can move over all the masonry, and a few seek their way into houses at night.

In the wild it feeds on insects and other invertebrates and licks nectar and pollen from flowers, for example bottle palms, as well as soft, sweet fruit. It prefers coloured nectar to clear and helps pollinate several of the island's endemic plants. The climate is tropical and coastal, with warm days and slightly cooler nights. Exact measurements of temperature and humidity from the species' habitats are not documented, so the figures in the care section are based on experience from captivity.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A single adult *Phelsuma ornata* can live in a tall enclosure of at least 30 × 30 × 45 cm (length × width × height), but bigger is always better, because the species is very active. A pair should have at least 45 × 45 × 60 cm so that the female can get away from the male. Height matters more than floor area, and an enclosure with front doors is easier to look after than one that opens from the top. Care of this particular species has not been described in detail, so the advice here is based on related day geckos.

Furnish with vertical and sloping branches, bamboo tubes, cork bark and large-leaved plants, e.g. sansevieria, pothos and bromeliads. The animals have many natural enemies and therefore seek cover. Give them many hiding places at different heights and round trunks and tubes that they can slip around behind. Eggs are often laid in bamboo tubes or between the leaves.

For substrate, unfertilised soil, orchid bark and sphagnum work, preferably as a bioactive substrate with springtails and a layer of dead leaves. Never use sand or gravel, which the animal can swallow. Provide good ventilation and tight-fitting doors, because the gecko is fast and slips out at the first opportunity.

Read more: Terrarium construction and bioactive substrate Read more: Feeder animals: keeping and breeding

TEMPERATURE

For *Phelsuma ornata* the enclosure should be 26-28 °C during the day, and at night the temperature falls to about 20 °C. A small hot spot under a lamp should be 31-33 °C. Keep the rest of the enclosure cooler so that the animal can choose for itself.

Use a low-wattage heat bulb or a lamp outside the enclosure and a thermostat so that it does not overheat, especially in small enclosures. Heat mats on the floor hardly work, because the species lives up in the branches. Measure the temperature with digital thermometers both at the top and at the bottom. Low temperatures combined with high humidity cause respiratory infections.

Read more: Heat and temperature

HUMIDITY AND WATER

The humidity should fluctuate over the day. By day it is kept at about 50-60 %, and at night it rises to 80-90 %. Mist the enclosure thoroughly in the evening, and let it dry out to about 50 % before you mist again. Live plants and a moisture-retaining substrate make it easier to keep to the rhythm.

Phelsuma ornata mostly drinks water droplets from leaves and glass and seldom from a bowl, but a small bowl of fresh water, changed daily, can be left out. A drip system or a fogger can save some of the daily misting. Use water without chlorine, for example water that has stood open for a day, or rainwater. Humidity that is too low causes shedding problems, and humidity that is too high without ventilation causes mould.

Read more: Common diseases and signs of illness

LIGHTING AND UVB

Phelsuma ornata is diurnal, and light is important for both colours and calcium metabolism. Use a UVB tube suited to species that bask in partial shade (Ferguson zone 2), and keep the light on for 12-14 hours a day, preferably controlled by a timer.

Mount the lamp over the mesh lid so that the animal can choose between light and shade, and allow for the heat from the lamp so that the enclosure does not become too hot. Without good light and warmth the animals become dull and dark over time. It must be dark at night.

Read more: Lighting and UVB Read more: Calcium, vitamins and supplements

FEEDING

In the wild, *Phelsuma ornata* eats insects and other invertebrates as well as nectar, pollen and soft fruit. In captivity, a mixture of live insects and a ready-made food for fruit-eating geckos works as the staple diet. Good insects are small crickets, dubia roaches, fruit flies, mealworms, silkworms and waxworms. Provide a varied diet, and keep the insects smaller than the distance between the animal's eyes.

Feed the insects nutritious food for at least a day before they are given to the gecko, and dust them with calcium with vitamin D3. This is given at every feeding for egg-laying females and otherwise at every second feeding. A multivitamin can be given once a week. Ready-made food is mixed into a thin paste and placed in a shallow dish high up. Nectar, honey or juice from tropical fruit can be given as a treat, but should make up less than 10% of the diet.

BEHAVIOUR AND HANDLING

Phelsuma ornata is fast and shy in captivity. In time it can get used to you and stay in view when you stand by the enclosure, but it should not be handled. The skin is thin and can tear, and stress may cause the animal to drop its tail, which does not grow back with the same colours. Therefore open the enclosure calmly and avoid grabbing at the animal.

The animals are best kept singly or in pairs in a well-planted enclosure. Two males must not be kept together, because they are territorial. Watch for fighting and bites, and separate the animals if there is unrest. The species is not known to make any sound.

Breeding

SEXUAL MATURITY AND SEXING

In *Phelsuma ornata* the males have distinct pores on the underside of the hind thighs, and the females have calcium sacs on the sides of the neck, which store calcium for the eggs. This makes the sex relatively easy to see in adults. The animals probably become sexually mature after 6-12 months. Do not breed females until they are fully grown and in good condition.

MATING

Phelsuma ornata is kept for breeding as a pair in a well-planted enclosure. The pair probably mates freely, and the female lays eggs for most of the year. Provide the female with plenty of calcium and insects, and separate the pair if the male is too pushy. Watch that the female does not lose weight.

EGG-LAYING AND CLUTCHES

The female lays 1-2 eggs at a time, most often two like other day geckos. The number of clutches per year has not been documented. The eggs are laid in bamboo tubes, between leaves or on cork bark, where they harden. Whether the species glues them in place has not been documented. Place bamboo tubes and large-leaved plants in the enclosure so that the female has places to lay them.

Give the female plenty of calcium so that the calcium sacs are full, and stop breeding if she loses a marked amount of weight.

INCUBATION

The eggs of *Phelsuma ornata* can stay in the enclosure if they are not disturbed, or be moved carefully to an incubator, if necessary together with whatever they are attached to. Incubate at 26-29 °C, preferably 28 °C, where the young hatch after about 40 days. At lower temperatures it takes longer, up to 85 days. Humidity must be high without the eggs becoming wet, and they must not be turned. Keep the temperature even and avoid large fluctuations.

Read more: Incubating eggs

REARING THE YOUNG

The young of *Phelsuma ornata* are about 35 mm long at hatching. Keep them in small enclosures with plants, sphagnum and many hiding places, and mist daily. They eat fruit flies, small crickets and fruit purée, and they must be fed every day for the first three months, with calcium and vitamin D3 on the food.

Separate the young as soon as they begin to squabble, and weigh them regularly.

Health and common mistakes

Phelsuma ornata is hardy when diet, warmth and humidity are in order. The typical problems are:

- Metabolic bone disease (MBD) from too little calcium and vitamin D3. Signs are a bent spine and altered jaw shape. Dust the insects and use UVB light.
- Faulty shedding from low humidity. Remnants on the toes can cut off the blood supply. Mist more and provide a humid hide.
- Respiratory infection from low temperature and high humidity. Signs are lethargy, open mouth, blocked nostrils and loss of appetite.
- Constipation if the animal swallows sand or gravel.
- Parasites, which are seen only in a faecal sample. Have a sample taken for wild-caught animals.
- A dropped tail from stress. It does not grow back with the same colours.

See a vet experienced with reptiles if the animal loses weight, does not eat or looks limp.

Read more: Buying animals: captive-bred, wild-caught and transport

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.