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GECKOS

Mocquard's Madagascar ground gecko

Paroedura bastardi

Paroedura bastardi is a medium-sized, ground-dwelling, nocturnal gecko from south-eastern Madagascar with powerful limbs, a broad, triangular head and spiny tubercles on the tail. It can climb tree trunks, but it bites readily when picked up, so it suits those who would rather watch than handle.

Family: Gekkonidae Former name: *Phyllodactylus bastardi*

KEY FACTS

THE ANIMAL

Adult size	**12-15 cm** total length incl. tail
Lifespan	**6-10 years**
Active	**At night**
Lifestyle	**Arboreal and terrestrial**
Habitat	**Semi-desert and dry forest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**50 × 30 × 30 cm** L × W × H for 1 adult
Temperature, day	**25-28 °C**
Basking spot	**29-31 °C**
Temperature, night	**21-23 °C**
Humidity	**60-70%**
Water	**Water dish**
UVB	**Optional**
Diet	**Insects**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**9-10 months**
Clutch size	**1-2 eggs**
Incubation	**51-65 days** at 29 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Paroedura bastardi is a medium-sized gecko with a snout-to-vent length of about 7 cm. The head is triangular and clearly wider than the neck, and the ear opening is a vertical slit. The back is covered with enlarged, keeled scales in longitudinal rows, and the tail has small, spiny tubercles that are more regularly arranged in young animals than in adults. The legs are powerful, and the toes have lamellae that make them wider than the rest of the digit.

The body is golden brown with scattered greyish spots and three paler crossbands. The bands are clearest in young animals, where they can be white with a dark edge, and they become less distinct with age. The young also have a marking on the head that has been described as butterfly-shaped or bat-shaped, and it fades with time. There are no bands on the toes.

The species was described in 1900 by François Mocquard as *Phyllodactylus bastardi*, based on five animals from Mahafaly, and was moved to the genus *Paroedura* in 1974. The type series later turned out to contain animals from at least two different lineages, and a juvenile has now been designated as the name-bearing specimen of the species. The scientific species name honours Eugène Joseph Bastard, a French administrator, naturalist and palaeontologist with an interest in the wildlife of Madagascar.

The taxonomy is complicated. For a long time *P. bastardi* was regarded as a widespread species in western and southern Madagascar, but DNA studies have shown that it covered several cryptic species, including *P. guibeae*, *P. rennerae* and *P. manongavato*. *P. bastardi* in the strict sense occurs only in the far south-east. Animals sold as *P. bastardi* may therefore belong to another species in the same species complex, and it is unclear how many are correctly identified.

There is little documented experience with the species in captivity. The size of 12-15 cm including the tail is an estimate based on the body length and on the closely related *Paroedura picta*, not a measured value.

Distribution and habitat

Paroedura bastardi is found only in Madagascar. Older accounts say that it occurs in western and southern Madagascar at elevations of 40-800 metres, but that covers the whole species complex. After the split, *P. bastardi* in the strict sense is known only from the far south-east, including around Tolagnaro and at Berenty, and records further west and north belong to other species.

At Tranoroa the species lives side by side with *P. guibeae*. The map shows only a roughly delimited area in the south-east, and recorded finds outside it may come from the cryptic species or from misidentifications.

> **Native range:** Madagascar.

HABITAT

The species complex as a whole lives in dry forest, scrub and rocky areas; for *P. bastardi* in the narrow sense the habitat is not described in detail. The species is seen on the ground and on vertical tree trunks and other wooden surfaces. It is ground-dwelling, but can climb. During the day it stays hidden, and it goes hunting after dark.

The dry forests and scrub of southern Madagascar have a long dry season. Measurements of temperature and humidity from the species' habitat are not documented, and the figures for care and breeding are therefore based on the closely related *Paroedura picta*.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A single adult needs an enclosure of at least 50 × 30 × 30 cm (length × width × height). A male with a couple of females needs more floor space. The species lives on the ground and needs floor space, not height. High perches are not a good idea, because the animal does not climb very well and can be injured in a fall. The lid must still be secure, because geckos may climb on glass.

Furnish with low hides, stones and pieces of wood, fixed so they cannot topple and crush the animals. Give each animal its own hide. Small live or artificial plants and dry leaves provide extra cover. Remember a damp hide, e.g. a small plastic box with a hole in the side and damp substrate, in both the warm and the cool end.

Coconut fibre works well as substrate, preferably with scattered dry leaves, and in a simple setup kitchen paper or paper. Avoid sand, gravel and corn cob, which are difficult to clean and can cause impaction if the animal swallows them. Keep only one male in each enclosure, because males may fight.

TEMPERATURE

During the day the enclosure should be 25-28 °C, and a warm area can reach 29-31 °C. At night the temperature may fall to 21-23 °C. Switch off the light at night to preserve the day-night rhythm.

The heat can come from an incandescent bulb or a weak infrared lamp above the lid, possibly supplemented with a heat mat under the substrate at one end. That way the animals can choose between warm and cool. A heat mat that runs around the clock keeps the substrate warm without light. Never use heat rocks, because the animal's skin is sensitive and can be burned. Measure the temperature with a digital thermometer instead of guessing.

Read more: Heat and temperature

HUMIDITY AND WATER

Keep the humidity at around 60-70 %. Mist the sides of the enclosure lightly once a day, so that there are droplets to drink from and the humidity rises. A hygrometer shows whether it holds.

A shallow bowl of fresh water should be available, and the humid hide is necessary because it helps the animal to shed. Constantly wet conditions are not beneficial, however, so let the substrate dry out a little between mistings, and make sure there is ventilation.

LIGHTING AND UVB

The species is nocturnal and spends most of the day hidden. UVB is optional as long as calcium and vitamin D3 are added to the food. It has not been investigated whether the species benefits from UVB, and for *Paroedura picta* UVB is not considered necessary. If you want to use UVB anyway, provide weak light and plenty of hides, so that the animal can always withdraw from it.

Keep a fixed daily rhythm with light by day and dark at night, ideally controlled by a timer. A faint red light makes it possible to watch the animals at night, but the enclosure should still be predominantly dark.

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

FEEDING

The species eats insects. The staple is crickets, supplemented by mealworms and, in smaller amounts, wax moth larvae, which are fatty and belong only as a treat. The insects must be small enough for the animal, at most about 2 cm for an adult, and newly hatched pinhead crickets for the young.

For adults, 4-6 insects every other day is a good maintenance amount, and the young need food every day. Gut-load the insects well with nutritious food before they are offered. Dust them with calcium at every second feeding for adults, and at every feeding for gravid females and young, and use a supplement with vitamin D3 and other vitamins. A small dish of calcium in the enclosure lets the animals take what they need. Offer food with long, blunt tweezers if you hand-feed.

Lack of calcium causes metabolic bone disease, especially in egg-laying females and in the young.

Read more: Feeder animals: keeping and breeding Read more: Common diseases and signs of illness

BEHAVIOUR AND HANDLING

Paroedura bastardi and the close relatives in the species complex bite quickly when picked up, presumably in defence. In *Paroedura picta* the bite is a warning bite that seldom breaks the skin, but the animals do not like being handled. Keep handling to a minimum, therefore, and let the animal walk freely from hand to hand instead of holding on. Never grab the tail, which the animal can drop when stressed. It grows back.

Males are territorial and can fight to the death, so never keep two males together. One male can be kept with one or more females, and the species can also be kept singly. Give each animal a hide. New animals should be left in peace to settle in.

Breeding

SEXUAL MATURITY AND SEXING

Males have distinct hemipenal bulges at the base of the tail, which females lack, and the sex can be seen when the animals are 3-6 months old. Adult males also have a larger head and a stouter body. In *Paroedura picta* the animals are sexually mature at about 9-10 months. Breed females only when they are fully grown and in good condition.

MATING

Put one male with several females rather than a single pair, because a male can wear out a single female. In *Paroedura picta* breeding requires no seasonal management. Mating typically happens at night, and the male grips the female's neck, so superficial scratches may occur. Remove the male if a female is injured. One method is to let the male stay with the females for a few weeks and then take him out until the females have paused laying and can take him again.

EGG-LAYING AND CLUTCHES

The female lays the eggs in a damp hide, which must be in the enclosure. A plastic box with a hole in the side, filled one third with damp substrate such as sphagnum, coconut fibre or vermiculite, works well. When the female has laid, she has usually pushed the substrate together into a heap at one end. The eggs are small and harder-shelled than in many other geckos, but they must still be handled carefully.

The number of eggs per clutch and the time between clutches are not documented for *Paroedura bastardi*. Species in the genus typically lay two hard-shelled eggs at a time, which the female buries in the substrate, so 1-2 eggs per clutch is an estimate. Give gravid females plenty of calcium and insects.

INCUBATION

Move the eggs carefully to damp vermiculite. In *Paroedura picta* incubation takes place at about 29 °C, and the eggs hatch after 51-65 days. Use an incubator with a stable temperature. Eggs that collapse or turn mouldy are usually dead.

Read more: Incubating eggs

REARING THE YOUNG

The young are small and fragile. Keep them in a small box with kitchen paper or fine coconut fibre, a hide and a dish of water, and mist daily. Give them newly hatched pinhead crickets every day, dusted with calcium, and pay extra attention to calcium and vitamin D3, because young animals easily develop metabolic bone disease. Keep them singly or in small groups of the same size, and separate them if unrest arises.

Health and common mistakes

Paroedura bastardi is little known in captivity, and the typical problems are taken from *Paroedura picta*.

- A lack of calcium and vitamin D3 causes secondary hyperparathyroidism, with soft bones and deformed limbs. Egg-laying females and juveniles are especially at risk. Dust the food and keep a calcium dish available.
- Skin burns if the animal comes into direct contact with a heat source. Never use heat rocks.
- Problems shedding if there is no humid hide.
- Impaction if the animal swallows sand, gravel or corn cob.
- Dropped tail after fright or rough handling.

See a vet experienced with reptiles if the animal loses weight, stops eating or develops deformed limbs.

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.