



## **The New Caledonian Crested Gecko: A very complete care sheet**

*Rhacodactylus ciliatus*

### **Introduction**

In the wild the crested gecko is found on the southern tip of New Caledonia, a large island northeast of Australia. They are also found on the Isle of Pines, a much smaller island just off the coast of New Caledonia, and the adjoining island of Komoto.

Crested geckos were thought to be extinct until their rediscovery after a tropical storm in 1994. They are now one of the most commonly kept geckos in the world and export from their native New Caledonia is prohibited.

Crested geckos are arboreal (they live in trees, high above ground for the most part) and grow to a total body length of 8 to 10 inches, including the tail.

### **Selection** **Health**

Signs of a healthy gecko will include clear eyes, mouth and vent. They should be relatively active (babies especially), and not sluggish. Avoid geckos that tremble, cannot close their mouth, have rubbery-looking limbs, appear to be off-balance, or have trouble climbing or 'sticking'. The geckos should be stocky, not thin, and not have protruding ribs or hips.

### **Colour**

Crested geckos are extremely popular due to the variety of colours and patterns available, called 'morphs'. Colours include but are not limited to reds, olives, yellows, oranges, peaches, grays and browns, and patterns include fire, dalmation, harlequin, striped, tiger, brindle and more.

It is difficult to assess from the appearance of a hatchling what the gecko will look like when it is an adult. The pattern and general colours will remain the same, but may vividly brighten or fade as they grow. The parents may be a good indicator of what the baby will look like as an adult.



LEFT: A dark rust hatchling with orange patterning at a few weeks old. RIGHT: The same hatchling at six months old, with a bright red/peach colour and gold/yellow pattern and more definition of the gold on the sides.

### **Morphs**

For a more in-depth look at crested gecko 'morphs', please see our morphology page, complete with pictures. ([LINK](#))

## **Sexing**

Crested geckos can be sexed around 4 to 5 months of age. This is when males will start developing large hemipenial bulges that make them easy to distinguish from the females, who have no bulges. The bulges can develop anywhere between 5 and 9 months of age.



LEFT: Male hemipenial bulge. RIGHT: Female showing no bulge.

Sexing younger geckos that have not yet developed these bulges is possible by looking for pre anal pores just above their vent area. Males have pores, females do not. Pores look like scales with small indents in the centre.



ABOVE: Pre anal pores are circled in white, running across the base of the legs just above the vent and hemipenial bulge.

## **Habitat/Setup**

### **Heating/lighting**

Unlike most other gecko species, crested geckos do not require any extra heating or lighting. In fact, they do not do well at higher temperatures at all. They can be kept comfortably at room temperature.

An ideal temperature range for crested geckos is about 72°F – 78°F. Temperatures can drop anywhere from 69°F -74°F at night. Temperatures in the enclosure should never exceed 82°F. If extra heat is necessary because your home does not maintain these temperatures, or if extra UV light is necessary for plant or display purposes, a low wattage light bulb can be placed carefully over one side of the enclosure. A 40 watt bulb should be adequate for a smaller enclosure. The temperature at the top of this basking spot (the tops of branches, not the bottom of the tank) should be around 78°F-80°F. A good thermometer is essential to make sure temperatures do not get too high. If the temperature drops too much at night, a 40 watt infrared bulb can be used in the same manner as above.

Crested geckos are nocturnal and studies have not proven they need UVB light to absorb calcium properly. However, UVB lights do not have any negative consequences and can be used. It is very important when using any heat sources or lights that your gecko is able to 'choose' whether or not to be near them. The lights should only be on one side of the enclosure.

## **Size**

Since crested geckos are arboreal, taller is better when it comes to your enclosure. The ideal housing for adults is nothing smaller than a 20-gallon tank. A pair of adults can be kept in an 18x18x18 glass tank. Exo-Terra tanks are perfect for crested geckos, and come in several sizes/heights. Hatchlings can be kept in smaller critter keepers to ensure the ability to find food.

## **Setup**

Your enclosure should have plenty of hiding spaces and things to climb, provided by numerous plants, cork bark pieces, and other cage décor.

It is up to the individual if they would prefer a simple enclosure (paper towel lining the bottom, a few fake/live plants and logs) or a complex vivarium (soil/leaf litter/coconut husk substrate, live plants). It is a good idea to keep small hatchlings on paper towel to eliminate the chance of them ingesting and choking on dirt or other substrates when eating crickets. Adults can be kept on paper towel, newspaper, coconut bark, sphagnum moss, or a peat moss/potting soil blend. Do not use cedar shavings, they are **toxic**.

## **Housing multiple geckos**

Crested geckos can be housed individually, in pairs, or in small groups. Larger is definitely better with higher numbers of crested geckos. Male crested geckos can be housed with up to five females; depending on the size of the tank, and males should not be housed together, especially with females present. This can lead to fighting, which can result in injury or death.

Crested geckos housed together should be roughly the same size to avoid intimidation or injury.

## **Feeding**

In the wild, crested geckos eat soft, rotting fruit and any small invertebrates they can catch. One reason crested geckos make great pets is that they do not need a steady diet of crickets and other bugs to flourish, and can be fed premade powdered diets. However, crested geckos eagerly pouncing on crickets are certainly a joy to watch, and one can alternate between calcium-dusted crickets, fruit, and premade diets. Any fresh fruit fed to crested geckos should be pureed beforehand, as the gecko's jaws are not strong enough to eat hard, solid fruit.

## **Foods to avoid:**

Most recommend staying away from too much banana or banana baby food, as excess potassium binds the absorption of calcium. Citrus fruits should be avoided as well, as crested geckos cannot handle the excess of citrus acid.

## **Feeding schedules:**

Feeding schedules, according to the *Rhacodactylus* book (de Vosjoli, P., Fast, F., Repashy, A. (2003) *Rhacodactylus: the complete guide to their selection and care*. California: Advanced Visions Inc.)

can be as simple as:

- Premade diets twice a week and dusted crickets once a week.
- Premade diets once a week and dusted crickets twice a week.
- Premade diets three times a week.

Our feeding regimen for all of our hatchling crested geckos is as follows:

Monday: Crested Gecko Diet/Repashy Superfoods MRP\*

Tuesday: Dusted crickets (dusted with multi-mineral D3 and calcium supplement)

Wednesday: Fruit and yogurt smoothie\*\*

Thursday: Dusted crickets

Friday: Crested Gecko Diet/Repashy Superfoods MRP

Saturday: Dusted crickets

Sunday: Break!

The geckos are given small amounts at each feeding, just enough for them to finish all at once. Premade diets and the yogurt smoothie are taken out the same day as mold can grow if left in too long.

\* Repashy Superfoods Crested Gecko MRP and Crested Gecko Diet by TRex are available in some pet stores and should be available at most reptile shows. Both are a complete diet, containing everything a crested gecko needs to thrive.

You may feed exclusively either of these diets and obtain complete nutrition, but we like to mix it up a bit and do not use them every feeding. We do, however, prefer the Repashy Superfoods MRP based on its ingredients and a delicious banana flavour which the geckos themselves seem more eager to eat.

Do not mix these diets with baby food, as it will throw off the nutritional balance.

\*\* Also called the “Hilde diet” after developer Hilde of Woodland Edge Herps. We have found this to be a great way to provide a variety of fruit and nutrition to our geckos, and they lap it up eagerly. It is composed of: a few fresh figs, a papaya, a mango, a pear, a banana, a can of peaches in juice (not syrup) and one half cup of 3 per cent Astro plain yogurt (all natural, no sugars or artificial sweeteners). It is pureed in a blender and then doled out into ice cube trays to be frozen for later use. The above amounts of fruit can fill about five trays.

### **Water**

Crested gecko habitats should receive a thorough misting nightly. Geckos will drink from the drops resting on the sides of the enclosure or on plants. A shallow dish (shallow enough that hatchling geckos will not fall in and drown) of water can be left in the enclosure, and some geckos will readily drink that way. Misting is still strongly recommended over water dishes as it helps maintain proper humidity in the enclosure, assisting with shedding.

### **Breeding**

Crested geckos are one of the easiest gecko species to breed in captivity. For the most successful breeding, the male and female should be around the same size and the female no younger than a year old, or 35-40 grams in weight. Upon being introduced, most pairs will start mating right away.

Many breeders find success in using a lay box, the simplest of which is a plastic margarine container with a hole cut in the top. This container can be filled with potting soil, coconut husk, or peat moss. If provided with no other place to lay an egg (no potted plants, no dirt-like substrate), females should readily lay their eggs in this box. Crested gecko females lay two eggs per clutch. If provided with alternate laying areas, (dirt substrate, potted plants), the gecko may lay in those as well. The calcium intake of the laying females should be closely monitored, as egg-laying is a real calcium-sucker. Eggs should be carefully removed as soon as possible to prevent them from drying out.

### **Incubation**

To incubate the eggs:

- Fill a small deli cup filled halfway with vermiculite, perlite, or Hatchrite as an incubation medium. If using vermiculite or perlite, add water to it first to moisten, and squeeze out all the excess water with your hands. Hatchrite is specifically for incubating reptile eggs, comes pre-moistened and does not need and water added to it.
- Poke a small indent in the incubation medium with your finger and carefully place the egg in the indent.
- It is important to not turn the egg, as the embryo can drown.
- Cover the egg with the medium about 2/3 of the way up, so the tops of the eggs are still showing.

Crested gecko eggs can be incubated at room temperature (around 74°F), but the temperature can fluctuate as it would in any room, from (68°F-82°F). Under these temperatures, geckos should hatch after 70-75 days, and under higher temperatures (76°F-82°F), around 60 days.

Sometimes, eggs don't want to follow these general rules and will hatch whenever they feel like it. Do not get discouraged if your egg is 'overdue'. As long as it doesn't mold, keeps growing and stays white, it is a healthy egg. Usually, two sibling eggs will hatch one right after the other, but it is not uncommon for the second egg to hatch as much as a month later.

Hatchlings can be kept in large groups or individually in smaller containers. They will shed 3-5 days after hatching, upon which food can be offered. Crickets fed to hatchlings should be no larger than the widest point of the gecko's head, which for hatchlings means "pinhead" or two-week old crickets.

### Diseases, Threats and Health Issues

#### **Metabolic Bone Disease (MBD)**

Like many lizards, crested geckos need calcium in their diets to maintain healthy bones and produce strong-shelled eggs. Vitamin D3 allows the geckos to absorb the calcium they ingest, the same as in humans. This is why Vitamin D3 is added in commercial milk production.

Vitamin D3 can be provided in a supplement or through a UVB light bulb, but it has not been yet proven that crested geckos can synthesize D3 from a UVB light source. MBD is caused by a lack of calcium and vitamin D3. Geckos with MBD will exhibit symptoms like: shaky movement, twitching, appearing off-balance, soft and floppy-looking limbs, a lack of appetite and a rubbery jaw. The onset of these symptoms is very fast, even overnight in the case of calcium-deficient egg-laying females (also called "calcium crashing").

MBD is preventable with proper supplementation and nutrition. MBD can be treated, but prevention is always a better solution, as the bent-spines and limbs the sick gecko incurs can be permanent. Liquid calcium and vitamin supplements (such as Emerald powder) are the general course of treatment for MBD. If the gecko is too weak to swallow the liquid calcium, a veterinarian should be consulted. Again, prevention is always best.

NOTE: MBD is the result of an **extreme** calcium deficiency. A slightly kinked, or 'zigzag' shaped tail, is the result of a **small** calcium deficiency, especially in breeding females.

#### **Tail loss**

When threatened, the crested gecko may 'drop' its tail (also called "autotomy"). The tail may wiggle independently after it's fallen off in an effort to distract a predator while the gecko escapes. It is a stressful event for the gecko, but the area where the tail has detached from the body should heal just fine on its own. Unlike the crested gecko's closely related cousin, the gargoyle gecko (also known as the New Caledonian bumpy gecko, *Rhacodactylus articulatus*), the crested gecko will not grow the tail back.

It is widely thought by many that the crested gecko's pelvis was simply not designed to hold the weight of an adult-sized tail, and that dropping the tail is quite a common occurrence. In fact, pretty much all wild adult crested geckos are tailless. Those without tails seem to be at no disadvantage compared to their tailed counterparts.

### **Floppy Tail Syndrome**

A gecko with floppy tail syndrome (FTS) will display a somewhat 'bent' looking pelvic area and a tail that may flop to the side or over its head. It is thought to be caused by a few different things.

- The gecko may have a slight calcium deficiency, resulting in weakening/bending pelvic bones.
- The weight of the still-attached adult tail which the pelvic bones are simply not designed to support.
- Sleeping in a vertical position, putting stress on the pelvic area due to its captive surroundings. In the wild, they are more likely to be seen sleeping under leaves, etc. rather than stuck to glass.

While the bending of the bones and odd positioning of the tail is permanent, FTS is **not** genetic and does not affect their health or breeding potential.

### **Wounds**

It is safe to apply Polysporin topical antibiotic to any nasty bites, cuts, scratches, and other wounds on your gecko that might have a chance of getting infected.

### **Ants**

Ants are an insect to avoid at all costs. In the wild, they are one of the largest threats to the crested gecko population. People who live in areas inhabited by ants that can kill lizards (fire ants, Argentine ants, etc.) should take precautions and keep their enclosures away from anywhere the ants may congregate, and lay out traps if at all possible.