

Keeping and Breeding Crested Geckos

All the information necessary for successfully keeping crested gecko lizards.

By Robbie Hamper

Crested geckos (*Rhacodactylus ciliatus*) are docile and easy to handle lizards.

What's not to love about crested geckos (*Rhacodactylus ciliatus*)? They are docile and easy to handle. They don't bite, are simple to keep and come in an astonishing number of colors and patterns. They even wear a perpetual smile. Relatively new in the reptile trade, crested geckos are fast becoming one of the most popular pets.

Description and Natural History

Crested geckos are one of only six species and two subspecies of the genus *Rhacodactylus*. Indigenous to New Caledonia, an island group located northeast of Australia in the southern Pacific Ocean, the geckos are found mostly on the Isle of Pines. French naturalist Alphonse Guichenot first discovered and described *Rhacodactylus ciliatus* in 1866. It was later thought to have become extinct. However, on an expedition by Robert Seipp in 1994 and a subsequent trip the same year by Philippe de Vosjoli, the crested gecko was rediscovered (Seipp and Henkel, 2000; de Vosjoli and Fast, 1999).

In the wild, crested geckos inhabit tropical lowland rain forests kept cool and humid by the moist Pacific Ocean trade winds. They can be found in the canopy zones of treetops 10 to 50 feet above the forest floor (Seipp and Henkel, 2000). Crested geckos are nocturnal, sleeping during the daytime and foraging for food at night. Agile and equipped with adhesive toe and tail pads, crested geckos seeking out nectar, fruit and insects can easily transverse tree branches.

Crested geckos are one of approximately 800 gecko species. They are easily identified by a triangular-shaped head, huge eyes and a soft, spiky fringe extending over the eyes and down the back. Crested geckos have an elongated, robust body and a long, slender, semiprehsensile tail. They measure 8 to 10 inches in total length and weigh an average of 32 to 45 grams.

These geckos have interesting skin. It is covered with tiny, smooth scales that are soft and feel like suede. Although the skin appears fragile, it is very tough and protective. It will not tear when the gecko is handled. Crested geckos can darken their color for camouflage under certain physical and physiological conditions. A gecko sheds its skin when it's outgrown the old one; it pulls the skin off and swallows it.

Like the other *Rhacodactylus* species, crested geckos have well-developed senses, which they rely on to locate their food in the dark and to alert them to predators. These geckos lack eyelids but possess a protective transparent membrane covering each eye. They must lick their eyes to keep them clean and moist. Their ears appear as large openings on the side of the head with no external projections. A tympanic membrane covers the opening for protection.

Crested geckos vocalize with various chirping noises. These sounds possibly help to locate a mate or are used as a defense mechanism against predators.

Crested geckos have short stocky legs, small feet with tiny claws and a long slender tail. Adhesive pads are underneath each toe and at the end of the tail. These pads contain thousands of tiny hairs called setae. The hairs give the gecko the ability to climb up almost any surface, including glass. Recent research indicates that the geckos' sticking power is the result of a weak electrical phenomenon known as van der Waals forces.

The tail makes up about half of a gecko's total body length. Under stress, whether from a predator, excessive heat, breeding or other factors, the gecko can detach its tail — a trait called "autotomy." Small fractures in the tailbone and a superior vasoconstrictor mechanism allow the tail to neatly detach and wiggle for approximately three to five minutes. This provides a distraction for predators and serves as a self-defense mechanism for the gecko. Although dropping its tail does not harm the gecko, it will not regenerate a new one.

Crested geckos are ectothermic reptiles, so they rely on their environment to achieve a body temperature best suited to their needs. Like other animals that thermoregulate, they use their food for growth and not to maintain body warmth.

Choosing Your Crested Gecko

Although crested geckos are low-maintenance pets, several things should be taken into consideration before buying one. First, potential keepers should read and educate themselves about these geckos to understand their behavior, food and housing requirements, and care. The best keepers buy a gecko because they can provide the proper care, not because the gecko is cute and a novelty.

A quarantine period of 30 to 45 days is recommended for all new crested geckos coming into a collection. Quarantined geckos should be kept in a separate area from all other geckos and reptiles. The cages are best kept simple for easy cleaning, and food and water bowls, and other husbandry items that come into contact with quarantined geckos should be thoroughly cleaned with a mild bleach solution before being used with established geckos. Keepers should wash their hands between working with quarantined geckos and established geckos.

A new environment can possibly stress a gecko and make it more susceptible to illness. When the new arrival is eating well and appears healthy and established, it can be introduced into an existing collection.

Keeping Cresteds

Crested geckos are one of the easiest reptiles to keep in captivity. Proper housing is important because geckos must feel secure and comfortable but still have ample room to move around. Enclosures should always be in proportion to the size of the geckos.

Plastic carriers or 5-gallon aquariums with screen lids make good enclosures for hatchling geckos. These enclosures are adequate for one to three geckos until they are approximately 3 to 4 months old. Keep the inside of the enclosure simple so the geckos can easily find their food. Use several layers of paper towel for a substrate with a small piece of cork bark and a little artificial greenery as hiding areas.

For drinking water, spray the enclosure daily. A shallow water dish can also be added, but hatchling geckos can easily drown in a deep water dish.

For one or two juvenile or adult geckos, a 10-gallon aquarium with a screen lid or a screened cage approximately 12 inches long by 12 inches wide by 18 inches tall is an excellent housing setup. Breeding groups, consisting of one male and three to four females, can adequately be housed in a screened enclosure approximately 18 inches long by 18 inches wide by 24 inches tall or a 20-gallon long aquarium.

Add plenty of artificial or live foliage, branches and cork bark. Ficus is a good plant to use in larger enclosures. Foliage helps maintain the higher humidity level crested geckos need while providing adequate climbing and hiding areas. Add an egg-laying box and a water dish.

A variety of substrates can be used for larger enclosures, including mulch, orchid bark, Bed-A-Beast, newspaper or other substrates crested geckos will not accidentally ingest. Never use cedar shavings; they are toxic.

Crested geckos do best in a room temperature of approximately 70 to 80 degrees Fahrenheit. If the temperature drops below the ideal range, a small heat pad can be put under one end of the enclosure, or a light fixture with a low-wattage bulb can be placed on top. Caution must be used so the enclosure does not get overheated. Overall ambient temperature should never exceed 83 degrees, and temperatures should not drop lower than the upper 60s. Keepers should mist the sides of the enclosure and foliage several times daily to maintain a higher humidity.

Special lighting is not required as crested geckos are nocturnal. However, ultraviolet or special terrarium lights can be used to simulate a daytime/nighttime cycle.

Gecko Fare

Crested geckos are fruit and insect eaters. Babies usually do not eat for three to five days after hatching; they are still nourished by the absorption of egg yolk at this time. Hatchlings can be started out on quarter-inch crickets, fruit baby food mixed with turkey baby food or the T-Rex Crested Gecko Diet. The powdered T-Rex diet can be added to the fruit baby food and alternated with the crickets.

Feed crested geckos in the evening when they are more likely to be active and looking for food. They can be fed every other day, alternating the T-Rex and fruit mixture with crickets. To determine the correct cricket size for crested geckos, keepers should estimate the distance from the gecko's eyes to its mouth. Crickets of this length will be small enough for the gecko to easily ingest.

Gut loading crickets before feeding them to geckos is a good idea. This is accomplished by feeding crickets grains, dark

leafy greens, carrots, oranges or a commercial gut-loading product. Crickets should also be dusted with a calcium, vitamin and mineral supplement.

Keep It Clean

Cleanliness is an important part of maintaining a healthy crested gecko. Keepers should immediately remove any dead crickets, uneaten food and fecal material. Each week everything inside the enclosure should be removed. The cage should be washed with mild bleach solution and thoroughly rinsed before the gecko is returned. Any branches, cork bark or foliage being used inside should be washed with clean tap water but never with the bleach solution.

It is critical to frequently change the water. Stagnant water can be a breeding ground for bacteria or other pathogens.

Sexing and Breeding

Crested geckos cannot be accurately sexed until they are approximately 3 to 4 months old. Once mature, geckos are relatively easy to sex. Males develop external hemipenial bulges located at the base of the tail with preanal pores directly in front of the vent. Females have a flattened area at the base of the tail with small external bulges. Both males and females exhibit cloacal spurs, so this cannot be used as a determinant of the sex.

Crested geckos become sexually mature at about 9 months old. Breeding can occur at this age, but it is advisable to wait until the geckos have reached their overall growth, which occurs at approximately 1 year of age. Breeding can be achieved with a single pair of crested geckos or with a group of one male and three to four females. More than four females in one enclosure could lead to problems, such as overcrowding, the male not mating with all of the females, low egg production, infertile eggs and overall stress.

An egg-laying container with a lid, approximately 6 inches long by 6 inches wide by 4 inches tall, should be placed inside the enclosure. Keepers should cut a hole in the lid, so the female can easily go inside to lay her eggs. A suitable medium for the egg-laying container is vermiculite, or a peat moss and vermiculite mixture. The medium should be about 2 inches deep and kept moist at all times. In a naturalistic enclosure without an egg-laying box, keepers should provide a moist area so the female has a specific place to lay her eggs, and the eggs can easily be found later.

Males can be overly aggressive toward females before and during breeding. This is normal behavior. Breeding usually occurs at night. Approximately 28 to 40 days after mating, the female will lay two eggs.

Keepers should remove the eggs from the egg-laying box, and place them in a separate container with damp vermiculite, perlite or HatchRite for incubation. Eggs can be placed on top of the medium or half-buried. Incubation can be done on a shelf with variable room temperatures between 70 to 80 degrees Fahrenheit. Crested gecko eggs usually hatch in 65 to 75 days. Using an incubator set between 78 to 82 degrees makes hatching occur sooner, usually between 55 to 65 days.

Viable eggs are leathery and pearly white. Eggs with a yellowish look and a thin, soft shell are likely bad. Possible causes include nonfertilization, a lack of sufficient calcium or a female that is too old, too young or unhealthy.

Conclusion

Nickel mining, deforestation and natural and introduced predators are reducing wild crested geckos' numbers and habitat. Yet at this time, *R. ciliatus* and other *Rhacodactylus* species are not considered endangered.

However, crested geckos have a promising future now that they are successfully being bred in captivity. Their endearing qualities make them a hobbyist favorite. This should ensure their longevity and safeguard them from extinction.