

Tokay Gecko Information

An introduction to the popular pet store lizard - the Tokay gecko.

By Robert Baldwin

Regardless of its reputation for fierceness, the tokay gecko's beauty, hardy nature and modest price have made it a popular "pet store" lizard. With the large numbers of imported specimens entering the United States every year, the tokay is one of the most frequently encountered gecko species in the pet market. Many pet stores across the nation, even those that don't specialize in "exotic" animals, may have a terrarium with a few specimens for sale at any given time.

Because of their ready availability and low cost, the tokay is often the first gecko that many people purchase. Unfortunately, many first-time owners are rudely awakened when the lizard that the pet store staff labeled "a good beginner's gecko" turns out to be an animal with a personality that is pure evil! While it's true that these lizards are easy to maintain, their willingness to bite any hand that dares enter their domain should exclude them from the "pet" lizard label.

This does not necessarily mean that the tokay is not a good terrarium subject, it just means that those people who like to handle their lizards on a regular basis may prefer a gecko species that is a bit more docile, such as a leopard gecko. However, if you are interested in maintaining a species that is large, colorful and interesting to observe, then a tokay may be right up your ally.

The Name Game

I have always found the scientific name of the tokay gecko to be somewhat amusing because it is so repetitive. The tokay is classified in the family Gekkonidae, subfamily Gekkoninae, genus Gekko and species gecko. Is it just me, or is that kind of humorous? (Maybe I just need to get out more.)

Anyway, the tokay gets its common name from vocalizations these lizards make that are described as a kind of "to'-ko," or "to'-kay" sound. Tokays are highly vocal geckos and are capable of producing many different sounds. Territorial specimens will make a barking type of call and startled individuals will often scream in surprise, fear or protest. Tokays will also vocalize when introduced to a cagemate or when courting.

This is the largest species in the family, and some males can grow to an impressive 12 to 14 inches in total length, with females slightly smaller. The tokay's color and pattern is strikingly beautiful, and no two specimens look exactly alike. The base color can be off-white, grayish or various shades of blue, with orange red, brown or maroon colored splotches scattered over the entire dorsal area. The overall color tends to darken with age.

Unlike the more "primitive" geckos (such as leopard geckos) that have movable eyelids, the tokay's eyes cannot close. Instead, the tokay eye has a clear, protective spectacle, much like those of snakes. The gecko keeps the eye lens clean by frequently licking it. The eye has a vertical pupil that is indicative of this species' nocturnal nature.

The tokay gecko is adapted to a primarily arboreal existence and possesses enlarged toe pads equipped with lamellae to aid in gripping. These adaptations allow the tokay gecko to climb virtually any surface with ease, including glass. The limbs are short and stocky, and the tail is semi-prehensile to aid in balance and maneuvering. The tail also serves as a means of defense and can be autotomized, or dropped, when the gecko feels threatened. A new tail will eventually grow back to replace the missing appendage. If the gecko feels threatened and cannot escape, it will gape its mouth, and may attempt to attack and bite a perceived aggressor. A bite can be a traumatic experience for both the lizard and the handler.

These geckos have large heads and powerful jaws. Not only can their bite be extremely painful, but once a specimen latches on it often refuses to relinquish its hold. For this reason, tokays are not recommended for small children, as a bite from a large specimen could cause serious damage. An occasional specimen will eventually tame down and allow itself to be handled on occasion. However, this is the exception rather than the rule, and this species should be regarded as a "hands off" terrarium subject only.

Natural History and Interaction With Humans

In its natural range, the tokay is found from northeast India across to southern China, throughout the Malay Peninsula, the Andamans, the Philippines and throughout much of Indonesia. Feral populations have also become established in sections of southern Florida, Hawaii and the island of Martinique. They adapt well to secondary, or disturbed, environments, especially around homes, buildings and other human structures. Because of their close contact with humans, they have

become the objects of many superstitious beliefs. In various sections of its native range, the tokay gecko is regarded as a messenger of omens, both good and bad. Depending on the situation, a tokay's presence or vocalization can mean good luck and prosperity for a family or individual.

In contrast to this, if a deceased specimen is found it is often considered a sign of bad luck. Injuring or killing a tokay gecko is also considered bad luck in many areas throughout its range, and the species is a welcome guest in people's homes because it eats pest insects such as roaches.

Unfortunately, in many areas the tokay gecko is still a valued ingredient in folk medicine. Sometimes the geckos are killed, tied to a stick and left in the sun to dry. Various body parts are ground up as needed and ingested in the belief that the powder will cure ailments such as asthma, coughs and tuberculosis. Tokay geckos also are eaten, and in parts of their range are considered a delicacy. The high demand for specimens for folk remedies, the pet trade and as food items has severely impacted certain populations. In some regions, the species is becoming exceedingly scarce. If this trend continues, a possible solution would be to start farming specimens, much like is being done with green iguanas in Latin America.

Captive Care

Tokays are one of the easiest species of gecko to keep and breed in captivity, but, ironically, most specimens offered for sale are wild-collected animals. By the time these geckos reach your neighborhood pet store, they have been captured, held in an exporter's facilities for days or weeks, shipped over oceans and possibly exposed to disease or parasites along the way. These stressful situations can cause a gecko to become more prone to infections or illness, so it is important to know what to look for when selecting a tokay.

When choosing a tokay gecko, look for one with a robust appearance. Healthy tokays are bulky animals, and the spine, ribs or pelvic bones should not be visible. If the gecko is resting on the glass, look at the vent area and make sure there are no caked or smeared feces present. Safely pick the gecko up and gently examine the lizard's body with your free hand, to make sure there are no abnormal bumps or depressions anywhere on the body, because they may indicate an infection or broken bones. When grabbing a tokay, place your hand directly (and gently) behind the gecko's head to avoid being bitten.

As I stated before, these geckos are cantankerous, and when touched, a healthy tokay will gape its mouth and more than likely try to bite you. It may also let out a loud bark or scream in protest. If the gecko is limp, weak, or indifferent, pass on the animal and choose a different one. While it is true that there is the occasional specimen that does not seem to mind being handled, the vast majority of tokay geckos never really tame down enough to allow a handling session to be an enjoyable experience.

When the gecko opens its mouth, check the inside. A healthy tokay's mouth is black and bright pink. Red, irritated-looking tissue or the presence of a cheeselike substance is a sign of stomatitis (mouth rot). Also look for any excessive saliva or mucus in the mouth or bubbling out of the nostrils, because this may indicate a respiratory infection. The skin should not be loose or wrinkled, and the eyes should be clear and not sunken.

All newly acquired specimens should go through a strict quarantine period of no less than 30 days, with 60 days being more desirable. It would be safe to assume that the vast majority of wild-collected tokay geckos harbor at least one type of endoparasite, and fecal analysis by a qualified veterinarian should be mandatory for all newly purchased animals.

I house all new geckos individually in 10-gallon tanks. A tight-fitting lid is required because these lizards can climb almost any surface, and they will escape with ease. Aside from a water dish and a few cork bark slabs for hiding and climbing areas, I keep the quarantine tanks fairly simplistic to make observation easier. White paper towel is not the most attractive substrate, but I think it is the best choice during the quarantine period, because it is easy to clean and allows the keeper to easily monitor whether the gecko is passing regular, healthy-looking feces.

It is unnatural for these arboreal geckos to descend to the ground and bask on a heating rock or heating pad, so provide heat by placing a 25- to 75-watt black bulb or infrared heating element over one side of the enclosure to allow a thermal gradient. The daytime temperature should be around 75 degrees Fahrenheit on the cool side and 85 to 88 under the heating element. Nighttime temperatures can safely fall into the mid-60s. Although these hardy lizards come from tropical regions of the world, their humidity requirements are not exacting, and the geckos do well when the enclosure has a humidity level of 55 to 85 percent. Sean McKeown and Jim Zawarski state that the humidity levels can fall as low as 40 percent with no ill effects (1997).

Offer the geckos fresh water every day. Provide water by misting the cage furnishings twice a day. This gives the geckos

multiple drinking sites and helps keep humidity levels high. Some keepers place water containers on the enclosure floor as well, but this should not replace regular misting. If a specimen seems to have a hard time shedding, you may need to raise the humidity levels and provide more frequent misting.

Tokay geckos feed on a wide variety of food items. Crickets can be the main component in the diet, along with the occasional serving of mealworms, moths or other inoffensive insect. I "gut-load" all prey items prior to feeding time to boost nutritional value. A vitamin/mineral supplement can be offered once a month, and prey items can be dusted with a calcium supplement once or twice per week. A dish of calcium should be placed in all enclosures containing mature females (especially during the breeding season) and juvenile animals. These geckos will also consume vertebrate prey. Larger specimens can be fed pinky mice. Tokays also enjoy an occasional serving of fruit baby food. Feral tokays have been observed raiding aviculturists' facilities, eating hatchling chicks still in the nest boxes. The geckos initially were introduced to the aviaries to control pest insects like roaches (Samuelson, pers. com.).

To recant a funny story, a couple who lived in Florida kept a large female loose in their kitchen so it would feed on pest palmetto bugs (large roaches). One evening the wife baked a lemon meringue pie and left it on the counter to cool before going to bed. In the middle of the night, she got up for a drink of water, and as she turned on the light, let out a bloodcurdling scream. Thinking a burglar was in the house, the husband ran into the kitchen with a baseball bat, only to find the fattest, most bloated gecko in the world sprawled on the kitchen counter. Their sweet "Mrs. Tokay" had devoured nearly half the pie!

After the quarantine period you can house the gecko(s) in a more aesthetically pleasing environment. Perhaps the most appealing aspect of maintaining geckos in captivity is the opportunity to create an attractive vivarium that brings a piece of nature into your home. The tokay can be housed in an elaborately designed, naturalistic vivarium complete with living plants and decorative wood. I encourage the use of naturalistic vivaria whenever possible because it is more pleasing to look at and the geckos may behave more naturally, as well. I have always found maintaining an enclosure with live plants and decorative furnishings more satisfying than keeping a bare tank with a few lizards pathetically stuck to the glass for lack of a better resting spot. (Although there are those strange few that enjoy pasting themselves to the glass regardless of the number of suitable resting areas that I have generously provided them.)

Tokay geckos will spend the daylight hours resting in a vertical head down position, and will often sleep in the same place day after day. Because of this, it sometimes seems as though these geckos never move. However, tokays are highly active after the lights go out. A 20-gallon, vertically oriented tank is the bare minimum size to house a pair of these lizards, but a larger tank is always better. Males are territorial and cannot be housed together because they will fight. Females are territorial to a lesser extent, but one male and multiple females can usually be kept together in a large enclosure. Introduce all specimens into the enclosure at the same time so that you are not placing one lizard into another's established territory. Be sure that all geckos housed together are of similar size. If you decide to house your geckos in a colony situation, be watchful for any cagemate aggression, because combat can be fierce and fatal. If an individual is wounded or seems stressed, remove it from the enclosure and house it individually. During the breeding season, a male may inflict superficial injuries upon a female as he attempts to secure a better hold while attempting to copulate.

Reproduction and Care of Young

It is fairly easy to determine the sex of adult tokay geckos. Males are generally larger than females and have a more robust appearance. The pre-anal pores are also more pronounced in adult males. Males also have slight hemipenile bulges at the base of the tail. Sexual maturity is reached at 12 to 24 months of age. Captive tokays will often mate at any time of the year, but providing seasonal changes may improve the frequency of mating attempts. Many keepers simulate seasonal changes by slightly decreasing the temperature, humidity level and photoperiod for six to eight weeks. During this time, the animals still need to be fed, but less frequently. After this rest period, environmental conditions can be slowly brought back to optimum levels. Heavily misting the enclosure several times a day will raise humidity levels enough to mimic the rainy season. Courtship and mating will usually take place during this time.

During courtship, the male will vocalize while approaching a potential mate in fast, jerking movements. Mating can be an aggressive, rough affair. Many keepers assume that a female with bite marks on various parts of her body has been the subject of a cagemate's aggression; however, during the breeding season it is also an indication that copulation has taken place. If the female has only superficial lacerations, still maintains good body weight and does not seem to deteriorate further, you need not worry; she can still be housed in the same enclosure as the male.

The female will deposit one or two marble-sized, hard-shelled eggs four to eight weeks after copulation. Like most female geckos, female tokays can store sperm, and multiple clutches can result from a single successful mating. When the eggs first leave the cloaca, they are soft and delicate. The female gently molds them into shape with her hind feet and deposits them against a solid surface. Jim Zaworski (1997) has observed males shaping the eggs after the female deposits them.

This is very unusual behavior, because males of most gecko species do not participate in the care of eggs.

As the eggs harden, they usually adhere to each other and the surface they were laid upon. This can present a problem for herpetoculturists, because the eggs will be damaged or destroyed if any attempt is made to remove them from the surface they are on. If the eggs are glued to the side of the vivarium, you can place a deli container over them for protection. Punch multiple holes into the container for ventilation.

Luckily, eggs do not always adhere to the laying surface. Remove loose eggs from the enclosure and place them on a slightly moist substrate in a ventilated deli container. Put the container in a warm dark place and check it periodically. When the eggs are incubated in a fairly consistent temperature range of 80 to 85 degrees Fahrenheit, they will usually hatch in approximately 60 to 100 days. However, there have been reports of eggs taking as long as 200 days to hatch. Both parents have been observed protecting offspring, and tokay geckos seem to care for their young in captivity, as well. Unfortunately, other geckos (and occasionally one of the parents) may consider the youngsters a meal, so it is best to house neonates in their own enclosure, away from adults. The hatchlings are around 3 to 4 inches in length and can be housed individually in 1-gallon containers. Small groups of hatchlings can be housed in 10-gallon tanks. As always, be sure to watch for cagemate aggression, and remove any animals that do not thrive in a community setup. I like to house my neonates in a rather simplistic environment, much like the one I outlined earlier for recently purchased specimens. A paper towel substrate, and a few pieces of cage furniture are all that I provide, because I like to be able to monitor the progress of the young tokays as easily as possible. Care for hatchlings in the same manner as the adults, and if conditions are favorable the neonates will grow quickly.

Conclusion

The tokay gecko has been available through the pet trade for decades and is one of the most popular gecko species among beginning hobbyists. Because of the tokay's wicked temperament, it should not be the first choice for people who want to interact with their animals on a regular basis. However, I think that anyone interested in geckos should eventually try their hand at keeping these beautiful tough guys of the gecko world. As REPTILES editor Phil Samuelson once put it, "it's hard not to admire a small lizard with that much spunk!"

References and Recommended Reading

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