

- ⇒ [CLASSIFICATION](#)
- ⇒ [CHARACTERISTICS](#)
- [FEET](#)
- [TAIL](#)
- [EYES](#)
- [EARS](#)
- [VOCALIZATION](#)
- [SLOUGHING](#)
- ⇒ [NATURAL RANGE](#)
- ⇒ [FOOD HABITS](#)
- ⇒ [BEHAVIOR](#)
- ⇒ [REPRODUCTION](#)
- ⇒ [MYTHS & LEGENDS](#)

**CLASSIFICATION :**

<b>Kingdom</b>	:	<i>Animalia</i>
<b>Phylum</b>	:	<i>Chordata</i>
<b>Subphylum</b>	:	<i>Vertebrata</i>
<b>Class</b>	:	<i>Reptilia (reptiles)</i>
<b>Subclass</b>	:	<i>Lepidosauria</i>
<b>Order</b>	:	<i>Squamata (lizards &amp; snakes)</i>
<b>Suborder</b>	:	<i>Sauria (lizards)</i>
<b>Infraorder</b>	:	<i>Gekkota</i>
<b>Family</b>	:	<i>Gekkonidae</i>
<b>Subfamily</b>	:	<i>Gekkoninae</i>
<b>Genus</b>	:	<i>eg : Ptychozoon</i>
<b>Species</b>	:	<i>eg : Kuhl</i>

**CHARACTERISTICS :**

Geckos are any lizard of the harmless but noisy family Gekkonidae, which contains about 80 genera and about 750 species. They are found in the warm areas of the world, at least a few species on each continent. Geckos are small, usually nocturnal reptiles with a soft skin and a short, stout body, a large head and limbs often equipped with suction-padded digits. Most species are 3 to 15 cm (1.2 to 6 inches) long, including tail length (about half the total). The Tokay gecko (Gekko gecko), one of the largest species, attains a length of 25 to 35 cm (10 to 14 inches).

Geckos' colors are usually drab with grays, browns, and dirty whites predominating though there is one genus, the Phelsuma (daygeckos of Madagascar), which shows types of bright green that are activated during daytime. Tokay geckos (Gekko gecko) have soft, granular skin that feels velvety to touch and is usually gray in color, with several brownish-red to bright red spots or flecks. It has the ability to lighten or darken the coloration of its skin depending on the need of becoming visible to others or not.

Unlike other reptiles, most geckos have a voice. The call differs among species and ranges from a feeble click or chirp to a shrill cackle or bark. These calls are used for communication or as a means of defense.

The nose is used for breathing and smelling. Scents are detected by a large number of sensory cells located on a membrane in the nostrils. Scents are also perceived in the Jacobson's organ which develops similarly to the nose, except that it separates from the nose during embryonal development and forms its own attachment to the palate.

Most species are oviparous insectivores.



## FEET :

Most geckos have feet modified for climbing allowing them to cling to vertical and over-hanging surfaces and to move at fast speeds. Contrary to the popular misconception, the pads of their toes are not "sticky" to touch.

The pads on the feet are covered with small plates that are in turn covered with numerous tiny hooks forked at its end. To be more exact, these pads are covered on the bottom with dead, keratinized scales called lamellae. The lamellae scale surface is itself composed of thousands of microscopic hooks, hairlike structures, called villosities or setae. These villosities catch in the slightest irregularities and enable geckos to climb absolutely smooth and vertical surfaces and to run across ceilings and surfaces as slippery as glass. Because the hooklike cells are bent downward and to the rear, the gecko curls its toes upward to disengage them. Thus, when walking or running up a tree or a wall, the gecko must curl and uncurl its toes at every step.

The nocturnal Namid gecko (*Palmatogecko rangei*) is web-footed, this allows it to run across fine and soft sand or to dig tunnels in compacted sand. The webs are fleshy and they are composed of a support system of tiny cartilages surrounded by delicate muscles that permit fine coordinated sand-scooping motions of the feet. Their pads are as described above.

Some geckos have retractable claws. For instance, the leaf-tailed gecko (*Phyllurus cornutus*) lacks the adhering characteristics of many gecko species. Instead, as an arboreal species, it has clawed toes that assist it in climbing over rough surfaces.

## TAIL :

The tails of geckos may be long and tapering, short and blunt or globular. Geckos store fat in their tails from which the lizard can draw during the lean periods. Because geckos maintain a reduced metabolism at low temperatures, their tail fat can sustain them for up to 9 months.

Like in many lizards, the tail of geckos will break off as a defense mechanism if grabbed by a predator or handled roughly. This permits the gecko to get away if attacked, but unfortunately leaves a valuable food resource behind. The tail will be regenerated fairly quickly, though the coloration and scale patterns of the new tail will never quite match those of the original.

The Leaf-tailed gecko (*Phyllurus cornutus*) has developed a special protective mechanism with a tail that looks like a leaf and is similar in shape and size as its head. When disturbed the gecko raises and moves the tail to misdirect the

predator to its tail (as opposed to its head). If the predator then grasps the fatty tail the gecko is able to drop it off and escape.

Similar is the important characteristic of the Tokay gecko (Gekko gecko) with its ability to cast off its tail in defense and regenerate a new one. The tail has several sections that can break off. The part of the tail that has been cast off will continue to move violently for several minutes thereafter, giving the gecko enough time to escape. It takes approximately three weeks for the tail to be completely regenerated although it never reaches its original length.



#### EYES :

Most members of the family Gekkonidae are nocturnal. They have a clear protective plate covering the eyes instead of "eyelids" like snakes. The pupils of common nocturnal species are vertical like in a cat and are often lobed to form four pinpoints. The eyelids of the Tokay gecko (Gekko gecko) are fused together and translucent. In this species, you also find a rudimentary third eye on the top of the head, which is believed to coordinate the activity to light conditions.

Members of the diurnal genus *Phelsuma* have a clear, fixed plate covering their eyes and no eyelids.

Members of the Banded geckos (genus *Coleonyx*) are now considered to be in the family *Eublepharidae* because of its moveable eyelids and lack of expanded toepads. This sets them apart from the gekkonids.

#### EARS :

The ears of the Tokay gecko (Gekko gecko) can be seen on the outside of the head as small holes. This makes it possible to see straight through the head.

As G.K Brain in "African Wild Life" notes for the *Palmatogecko rangei* (Web-footed gecko) family "one can see the light coming from the opposite side when looking through one ear".

The hearing range for the Gekko gecko is from about 300 Hertz to 10,000 Hertz.

#### VOCALIZATION :

Calls are used for communication and in order to attract mates during the breeding season or as a means of defense.

Tokays (Gekko gecko) are so named because of their distinctive rather booming bark "TO-kay! TO-kay!". They also emit a sound that is between a trill and a bark. When being attacked the sound is more like a hissing or a croaking noise.

The Banded gecko (genus *Coleonyx*) on the other hand, emits a squeak or a chirp when protecting its territory against other males or when captured.

As for the Web-footed gecko (*Palmatogecko rangei*), it has complex vocalizations ranging from squeaks and clicks to croaks and barks. These calls are used to find a member of the opposite sex or as a reaction on disturbances.



### SHEDDING :

Lizards periodically slough the outer layer of their skin after producing a replacement layer underneath like snakes. During the time interval between sloughing the old and producing the new skin, the reptile takes on a dull, almost milky color. While snakes rub against an object to simply ease and crawl out of the old skin, most lizards slough their skin in patches and may devour the cast.

### NATURAL RANGE :

Geckos live in subtropical and tropical areas but have also adapted to habitats as dry as deserts. Many species are frequently found in human habitations.

The nocturnal arboreal Tokay geckos (*Gekko gecko*) are seen in the area ranging from the northeast India to the Indo-Australian Archipelago. They live in rain forests, on cliffs and trees. People love them as pets.

Leopard geckos (*Eublepharis macularius*), which are also nocturnal, live in southern Central Asia (Pakistan, Afghanistan, Iran and India). They inhabit arid regions, particularly rocky deserts and sparse grasslands. They avoid sandy deserts and often form loose colonies.

All day geckos (*Phelsuma*, family *Gekkonidae*) are composed of over 68 known living species and subspecies. Most are found in Madagascar and in the surrounding islands of the Indian Ocean. Their habitats are primarily humid (as high as 50-85%) with the exception of the day geckos from southwestern Madagascar which prefer it dry and hot.

Web-footed geckos (*Palmatogecko rangei*) live in Africa, in the South of the Sahara Desert but particularly in Namibia.

### FOOD HABITS :

Most geckos feed on a wide variety of insects. Some can even eat baby scorpions and other small arthropods.

In the wild, day geckos (*Phelsuma*) feed on insects, other invertebrates, nectar and pollen. In captivity, they are fed on crickets, wax moths, houseflies, papaya and baby-food fruits.

Leopard geckos (*Eublepharis macularius*) can be fed on mealworms or crickets with an occasional meal of wax worms or a pink mouse when they grow older .

Tokay geckos (*Gekko gekko*) are usually fed on springtails, mealworms, cockroaches, crickets, grasshoppers, pink mice and locusts.

## BEHAVIOR :



Geckos inhabitate rodent burrows where they hunt insects, spiders, baby scorpions and small arthropods. Prey is stalked to as close as an inch, then captured in the jaws with a final lunge. They may also eat their old skin, which peels off during the shedding process. They use their tongue to clean the face after a meal.

Tokay geckos (*Gekko gekko*) are solitary creatures. They only encounter the opposite sex during the breeding season. When threatened, they stand tall on their legs and wave their tail over their back while hissing and puffing loudly and holding their jaws wide open, ready to attack. They will defend their territory against intruders of the same species and of other species, ensuring less competition for food. If their space is violated, it will definitely end up with a fight. The territory is generally guarded by males but may occasionally be watched by females. These geckos can inflict severe bite wounds if they are sufficiently threatened. Their bites are powerful, "one might say they are the pit bulls of the gecko world". They hang on and let go only when it suits them. The teeth are so sharp that the bites can bleed profusely. On the other hand, their distant cousin Leopard gecko (*Eublepharis macularius*) seldom attempts to bite unless being severely threatened.



## REPRODUCTION:



In the Tokay gecko (*Gekko gekko*) family there are obvious male and female differences. The male is brighter colored than the female and as a general rule, is slightly larger than the female. A conspicuous difference between the sexes is the small amount of swelling at the base of the male tail due to the presence of the two hemipenes. Furthermore, the males have visible preanal and femoral pores as well as postanal tubercules.

During their breeding season which lasts about 4 to 5 months, males copulate frequently with females, often grasping them with their mouth. The male approaches the female from the rear and they move together side to side while he holds her in place with his teeth, biting her in the neck region. In order to attract a mate, a male has a call that can be heard over a wide area.

Females produce eggs about every month during the breeding period. The incubation time for the eggs ranges from 2 to 6 months. Eggs are laid in rocky crevices or under the leaves of

houses and are guarded by both parents until the babies hatch a few weeks later. Young Tokay geckos are 6 to 8 cm (2-3 inches) long when hatching.

Leopard geckos (*Eublepharis macularius*) are good breeders and lay about 6 times a year (when living in a cage). The courtship involves 3 phases : display, pursuit and copulation. Males copulate with a female several times within a short period. Females can retain sperm, so they do not need the constant presence of a male in order to produce several clutches of eggs. They usually lay two eggs per clutch doing it a few times over several months.

It is very difficult to differentiate female from male Leopard geckos before they are about three months old, when the sexual characteristics of the male can be seen. The male is identified by the presence of hemipenes, seen as bulges at the base of the tail. It is also distinguished by femoral (preanal) pores above the tail pointing in a V-shape at the abdomen. Whereas the male has visible pores, the female has a row of modified cells. These pores/cells are glands producing pheromones which help the gecko looking for a mate.

Furthermore, the sex can already be determined by incubation temperature. While virtually all babies are male at 32°C (90 deg. F), at near 27°C (80 deg. F) they are most probably female, at least in captivity.

The breeding season for the Banded geckos (genus *Coleonyx*) occurs in April and May, a few weeks after emerging from winter hibernation. The female lays 1 to 3 clutches of 2 eggs each. Hatchlings appear about 45 days later from July to November.

The breeding season for the Namib web-footed gecko (*Palmatogekko rangei*) begins in springtime (April and May). The male gecko bites the female's neck and subsequently holds her tightly while maneuvering his tail under hers to complete copulation. Females lay eggs in pairs, although young females that have never laid eggs before may lay only one egg. The young are hatched in about eight weeks. They emerge between July and October depending on when the female lays the eggs (usually between May and August).

## MYTHS & LEGENDS :



In many North American tribal cultures, geckos could appear in dreams, ceremonies or during daily life as a good omen, symbol of harmony and good fortune. Alike in parts of southeast Asia, Tokay geckos (*Gekko gekko*) are regarded as harbingers of luck, good fortune, and fertility.

In many countries, superstition about geckos is very widespread. They are believed to be highly venomous and a bite is expected to be lethal. They may poison man's food &

drink and be the cause of leprosy after having run over the face of someone sleeping.

The Leopard gecko (*Eublepharis macularius*) is known by the name of Khun or Han Khun by the Sindhis (Pakistan). They believe that being bitten by one is deadly and that any contact with its body fluids results in instant death.