FROGS

















Grey toad



Gray toad is a species of toad in the family Bufonidae that is known from the eastern Andean slopes of Ecuador, Peru, and Bolivia, as well as from Serranía de Sira in Amazonian Peru. Its distinctiveness from Rhinella marina has been debated, but it is currently accepted as a valid species. It is named after Eduard Friedrich Poeppig, German botanist and naturalist who made scientific expeditions to South America.

Males measure 81–111 mm and females 122–128 mm in snout-vent length. They are grayish brown in colour and with rough, tuberculate skin. Belly has lighter colour and lacks markings, or has pale markings only.

Natural habitats of Rhinella poeppigii are cloud forests on the Andean slopes, and tropical moist forest in the Amazonian foothills. It is typically found near streams and standing water. Its altitudinal range is 260–1,800 m.

There are no threats to this reasonably abundant species. It is also present in many protected areas.

Common toad



The common toad, European toad, or in Anglophone parts of Europe, simply the toad, is an amphibian found throughout most of Europe (with the exception of Ireland, Iceland, and some Mediterranean islands), in the western part of North Asia, and in a small portion of Northwest Africa. It is one of a group of closely related animals that are descended from a common ancestral line of toads and which form a species complex. The toad is an inconspicuous animal as it usually lies hidden during the day. It becomes active at dusk and spends the night hunting for the invertebrates on which it feeds. It moves with a slow, ungainly walk or short jumps, and has greyish-brown skin covered with wart-like lumps.

Although toads are usually solitary animals, in the breeding season, large numbers of toads converge on certain breeding ponds, where the males compete to mate with the females. Eggs are laid in gelatinous strings in the water and later hatch out into tadpoles. After several months of growth and development, these sprout limbs and undergo metamorphosis into tiny toads. The juveniles emerge from the water and remain largely terrestrial for the rest of their lives.

The common toad seems to be in decline in part of its range, but overall is listed as being of "least concern" in the Red List of Threatened Species. It is threatened by habitat loss, especially by drainage of its breeding sites, and some toads get killed on the roads as they make their annual migrations. It has long been associated in popular culture and literature with witchcraft.

The common toad can reach about 15 cm in length. Females are normally stouter than males and southern specimens tend to be larger than northern ones. The head is broad with a wide mouth below the terminal snout which has two small nostrils. There are no teeth. The bulbous, protruding eyes have yellow or copper coloured irises and horizontal slit-shaped pupils. Just behind the eyes are two bulging regions, the paratoid glands, which are positioned obliquely. They contain a noxious substance, bufotoxin, which is used to deter potential predators. The head joins the body without a noticeable neck and there is no external vocal sac. The body is broad and squat and positioned close to the ground. The fore limbs are short with the toes of the fore feet turning inwards. At breeding time, the male develops nuptial pads on the first three fingers. He uses these to grasp the female when mating. The hind legs are short relative to other frogs' legs and the hind feet have long, unwebbed toes. There is no tail. The skin is dry and covered with small wart-like lumps. The colour is a fairly uniform shade of brown, olive-brown or greyish-brown, sometimes partly blotched or banded with a darker shade. The common toad tends to be sexually dimorphic with the females being browner and the males greyer. The underside is a dirty white speckled with grey and black patches.

Other species with which the common toad could be confused include the natterjack toad (Bufo calamita) and the European green toad (Bufo viridis). The former is usually smaller and has a yellow band running down its back while the latter has a distinctive mottled pattern. The paratoid glands of both are parallel rather than slanting as in the common toad. The common frog (Rana temporaria) is also similar in appearance but it has a less rounded snout, damp smooth skin, and usually moves by leaping.

Fire-bellied toad



The European fire-bellied toad is a fire-bellied toad native to mainland Europe. Other common names used for the European fire-bellied toad include ringing frog, fiery toad, fire frog, and firebelly toad.

European fire-bellied toads have a bright lime green dorsal traversed by black spots, and orange to bright red bellies with black bars and stripes. The skin is mildly bumpy, the eyes set high to suit a semi-aquatic life style, and also well webbed back feet. Color and body variations will be described for each of the other 3 species commonly sold as or mistaken for Oriental fire-bellied toads. They are the largest of the bombina family. They are commonly darker than Fire-bellied toads from Asia.

The European fire-bellied toad is 26-60 mm long and may weigh 2-13.9 g. The body is depressed. Above, the skin is densely covered in low tubercles with black horny spines. There are no parotids behind the eyes but paired and arched gland complexes at the neck. The eardrums are not visible. Inner vocal sacs are present at the throat and webbings are well developed at the hind feet. The pupils are heart-shaped. The body colour is grey, brown or green with dark spots on the upper side and blackish with larger orange or red and smaller white spots on the underside. The skin produces a poison to protect itself from bacteria and fungi or the animal from vertebrates. This poison is irritating to mucous membranes. The eggs are brown above and lighter below.

They are 1.4-1.8 mm large coated with a transparent jelly of 5-8 mm in diameter. Tadpoles may reach a length of 55 mm and are brownish above with two longitudinal pale bands along the backbone. The mouth field is triangular and the flipper is reticulated.

The food of the European fire-bellied toad consists of insects, spiders, millipedes, mollusks and earthworms captured in or nearby the water. The tadpoles mainly feed on algae, bacteria and plankton by grazing the surfaces of stones and plants. If attacked by a vertebrate on land the European fire-bellied toad makes a hollow-back and lifts its four legs so that the ventral warning colour is displayed. The combination of dark and red is a learned signal meaning "attention poison" to the enemy.

Reproduction takes place from April to July/August and is induced by heavy rainfall. Then, males can be recognized by some darkened, spiny swelling, the nuptial pad, on their forelegs. They help it to grasp the female properly around its hip. Males defend small territories of 2-3 m in diameter against rivals. Spawn consists of small clutches of 10-40 eggs which are attached to plants. Several such clutches are produced in a short time and thereby a female may lay a total of 80-300 eggs. Tadpoles hatch after 2-5 days and metamorphose after 5-12 weeks from July to September or after hibernation in spring. Young toads are 11-15 mm long and remain at the water's edge. Maturity is reached at an age of 1-2 years. The European fire-bellied toad may live more than 10 years. The rather loud melodic call is repeated about 10-50 times per minute, correlating with temperature, and is performed in the afternoon at temperatures of 12–34 °C while drifting at the water surface. The sound is produced when the air is pressed from the vocal sac back to the lungs which is the opposite to what "higher" frogs do. It hibernates on land in frost-resisting dens like hollows under stones or dead wood.

Panamanian golden frog



The Panamanian golden frog (Atelopus zeteki), also known as Cerro Campana stubfoot toad and other names, is a species of toad endemic to Panama. Panamanian golden frogs inhabit the streams along the mountainous slopes of the Cordilleran cloud forests of west-central Panama. While the IUCN lists it as critically endangered, it may in fact have been extinct in the wild since 2007. Individuals have been collected for breeding in captivity in a bid to preserve the species. The alternative common name, Zetek's golden frog, and the epithet zeteki both commemorate the entomologist James Zetek.

Despite its common name, the Panamanian golden frog is a true toad, a member of the family Bufonidae. It was first described as a subspecies of Atelopus varius, but is now classified as a separate species.

The Panamanian golden frog is a national symbol and is considered to be one of the most beautiful frogs in Panama. The skin colour ranges from light yellow-green to bright gold, with some individuals exhibiting black spots on their backs and legs. Females are generally larger than males; females typically range from 45 to 63 mm in length and 4 to 15 g in weight, with males between 35 and 48 millimetres in length and 3 and 12 grams in weight.

The Panamanian golden frog is endemic to Panama, living close to mountain streams on the eastern side of the Tabasará mountain range in the Coclé and Panamá provinces. Its geographic range previously extended as far east as the town of El Copé in western Coclé Province before the onset of the fungal disease chytridiomycosis, which caused the El Copé population to rapidly collapse in 2004. Vital habitat is lost each year to small farms, commercialized agriculture, woodlot operations, livestock range, industrial expansion, and real estate development. Individuals are kept in captive-breeding programmes in more than 50 institutions across North America and Panama.

Tyler's tree frog



Tyler's tree frog or the southern laughing tree frog is an arboreal tree frog. It is native to eastern Australia. It occurs from southeast Queensland to the south coast of New South Wales. It is generally a coastal species and is not found inland.

This frog is grey-brown to fawn (of various shades) on its dorsal surface, and a whitish-yellow on its ventral surface. Females are larger than males and reach a maximum size of about 50 mm. It has green flecks on the back. The iris is golden in colour and it has cross-shaped pupils. This species is very similar to the Peron's tree frog, (Litoria peronii). The easiest way to tell them apart is by call, but L. peronii has strong black and yellow marbling in the thighs, armpits, hands and feet. L. tyleri has only faint yellow and brown marbling in the legs and armpits, lacking marbling in the hands and feet. This species lacks a strong black line above the tympanum, this line is present in L. peronii. As it is an arboreal frog, the toe pads are larger than its toes and fingers, allowing it to grip well on branches. Its hands are partially webbed, its toes are completely webbed, and the tympanum is visible. During breeding, males can turn a very strong yellow colour.

This species inhabits coastal forest and cleared land. It is normally found around permanent dams, swamps, and ponds. Males call from vegetation around the water body during spring and summer, often after rain. The call of this species resembles a short laughing noise, similar to that of the Peron's tree frog, but without a downward inflection.

Leopard frog



The northern leopard frog is a species of leopard frog from the true frog family, native to parts of Canada and the United States. It is the state amphibian of Minnesota and Vermont.

The northern leopard frog is a fairly large species of frog, reaching about 11 cm in snout-to-vent length. It varies from green to brown in dorsal color, with large, dark, circular spots on its back, sides, and legs. Each spot is normally bordered by a lighter ring. A pair of dorsolateral folds starting from the back of the eye runs parallel to each other down the back. These dorsolateral folds are often lighter or occasionally pinkish in colour. Also, a pale stripe runs from the nostril, under the eye and tympanum, terminating at the shoulder. The ventral surface is white or pale green. The iris is golden and toes are webbed.

Tadpoles are dark brown or grey, with light blotches on the underside. The tail is pale tan.

The northern leopard frog has several different color variations, with the most common two being the green and the brown morphs, with another morph known as the burnsi morph. Individuals with the burnsi morph coloration lack spots on their backs, but may or may not retain them on their legs. They can be bright green or brown and have yellow dorsal folds. Albinism also appears in this species, but is very rare.

Northern leopard frogs have a wide range of habitats. They are found in permanent ponds, swamps, marshes, and slow-moving streams throughout forest, open, and urban areas.

They normally inhabit water bodies with abundant aquatic vegetation. In the summer, they often abandon ponds and move to grassy areas and lawns. They are well adapted to cold and can be found above 3,000 m above mean sea level. Males make a short, snore-like call from water during spring and summer. The northern leopard frog breeds in the spring (March–June). Up to 6500 eggs are laid in water, and tadpoles complete development within the breeding pond. Tadpoles are light brown with black spots, and development takes 70–110 days, depending on conditions. Metamorph frogs are 2–3 cm long and resemble the adult.

This species was once quite common through parts of western Canada and the United States until declines started occurring during the 1970s. Although the definitive cause of this decline is unknown, habitat loss and fragmentation, environmental contaminants, introduced fish, drought, and disease have been proposed as mechanisms of decline and are likely preventing species' recovery in many areas. Many populations of northern leopard frogs have not yet recovered from these declines.

Northern leopard frogs are preyed upon by many different animals, such as snakes, raccoons, other frogs, and even humans. They do not produce distasteful skin secretions and rely on speed to evade predation.

They eat a wide variety of animals, including crickets, flies, worms, and smaller frogs. Using their large mouths, they can even swallow birds and garter snakes. In one case, a bat was recorded as prey of this frog. This species is similar to the pickerel frog and the southern leopard frog.

Wood frog



The wood frog has a broad distribution over North America, extending from the boreal forest of the north to the southern Appalachians, with several notable disjunct populations including lowland eastern North Carolina. The wood frog has garnered attention by biologists over the last century because of its freeze tolerance, relatively great degree of terrestrialism (for a ranid), interesting habitat associations (peat bogs, vernal pools, uplands), and relatively long-range movements.

The ecology and conservation of the wood frog has attracted research attention in recent years because they are often considered "obligate" breeders in ephemeral wetlands (sometimes called "vernal pools") that are themselves more imperiled than the species that breed in them. The wood frog has been proposed to be the official state amphibian of New York.

Wood frogs range from 51 to 70 mm in length. Females are larger than males. Adult wood frogs are usually brown, tan, or rust-colored, and usually have a dark eye mask. Individual frogs are capable of varying their color; Conant (1958) depicts one individual when light brown and dark brown at different times. The underparts of wood frogs are pale with a yellow or green cast.

A small brown frog with a dark eye mask in the woods is likely to be a wood frog. No other species has a similar appearance to the wood frog in North America. The first evasive leap is slow and short.

Pouched frog



The pouched frog (Assa darlingtoni), or hip pocket frog, is a small, terrestrial frog found in rainforests in mountain areas of south-eastern Queensland and northern New South Wales, Australia. It is the sole species within the genus Assa, and is part of the family Myobatrachidae.

It is a small frog about 2.5 cm long, red-brown in colour, with some individuals having reverse V shaped patches and/or with light brown dots randomly on their backs. Most specimens have a darker brown stripe that runs from the nostril through the eye down the side of the body. A skin fold is present on either side of the frog running from its eye to its hip. Its hands and feet are completely free of webbing and discs, but the tips of the fingers and toes are swollen. The eye is gold with brown flecks and when the pupil is constricted it is horizontal. There is a 'pocket' on its hip where the frog's tadpoles travel to after hatching.

This frog hides under logs, rocks, and leaf litter in rainforests and adjacent wet sclerophyll forests. It may call through the day but calling is most intense during dawn and dusk. Its call is a very quiet eh-eh-eh-eh-eh, usually six to ten notes. This frog crawls rather than hops. Females are believed to first start breeding between 2 and 3 years and a single female may produce 1–50 eggs a year. Eggs are laid on the land (under decomposing logs, rock or leaf litter) as the tadpoles do not need water for metamorphosis. Breeding takes place during spring and summer. Both male and female frogs guard the nest of eggs and the male carries the tadpoles in the pouch once they have hatched. The tadpoles will reside in the pouch until they have morphed.

This species formerly experienced declines, however it has recovered.

Banded bullfrog



The banded bullfrog is a type of frog in the microhylid (narrow-mouthed frog) family. It is also known as the Asian painted frog, Malaysian painted frog, Burmese painted frog, rice frog, and bubble frog. In the pet trade, it is sometimes called the chubby frog. They have round bodies with mahogany brown backs and cream stomachs. The distinctive stripes down the side can range from copper-brown to salmon pink in color. Males have darker throats than females. Frogs grow to about 8 cm with females generally being larger than males. They may live for as long as 10 years. Although prevalent in the pet trade, very little is known regarding its behaviour in the wild. They exude a sticky mucus when threatened, which is not toxic but has an unpleasant taste. A former subspecies in South India and Sri Lanka is now known to be a separate, related species, Uperodon taprobanicus.

This frog is native throughout mainland Southeast Asia, including eastern India, Malaysia, Bangladesh, and Myanmar, and usually lives on the forest floor, in rice fields, and even inside homes. These frogs are voracious eaters, and will eat flies, crickets, moths, grasshoppers, earthworms and more. Painted frogs hide under leaf litter during the day hours and eat in the evening.

Like many other narrow-mouthed frogs, painted frogs have the ability to expand themselves when threatened, and to secrete toxic glue-like substances from their bodies as a defense mechanism. They are also able to survive dry conditions by burying themselves in the ground and waiting for rain.

The males call while afloat in pools of water. The pulses of the calls recorded in India were 28–56 per second with a frequency range of 50–1760 Hz. In Thailand the dominant frequency was 250 Hz (duration 560–600 ms long) and 18–21 pulses/call.

The tadpoles can metamorphose in as little as two weeks.

These frogs are big eaters and are very slow. They are primarily ant specialists, consuming up to a couple hundred ants in one night, and can often be found sitting along an ant trail picking off individuals one by one. Mealworms can be fed once a week or so if one Asian Painted Frog is kept at home, but should not make up most of its diet. They can be used as a laxative.

Rainforest rocket frog



The rainforest rocket frog, is a terrestrial, diurnal frog found in humid lowlands of Costa Rica and Panama. It is generally very common and therefore considered to be of least concern by the IUCN. The taxonomy is in need of a review, as it may consist of a complex of several species.

Burmeister's leaf frog



Burmeister's leaf frog and common walking leaf frog is a species of frog native to the Atlantic Forest biome in Brazil.

Individuals show sexual dimorphism in size. Males have a mean body length (snout vent length) of $(63.4 \pm 4.5 \text{ mm})$, and females have a mean body length of $(76.7 \pm 3.2 \text{ mm})$

Green frog



The green frog is a species of frog native to eastern North America. The two subspecies are the bronze frog and the northern green frog.

This species is a mid-sized true frog. Adult green frogs range from 5–10 cm in body length (snout to vent, excluding the hind legs). The typical body weight of this species is from 28 to 85 g. The sexes are sexually dimorphic in a few ways: mature females are typically larger than males, the male tympanum is twice the diameter of the eye, whereas in females, the tympanum diameter is about the same as that of the eye, and males have bright yellow throats. The dorsolateral ridges, prominent, seam-like skin folds that run down the sides of the back, distinguish the green frog from the bullfrog, which entirely lacks them.

Green frogs usually have green heads while the body is brown, gray, or dark green. The green head can be more or less prominent on certain individuals, with some frogs only having green on the side of their heads while other frogs are green all the way down their back. The belly is white with black mottling. Male green frogs in breeding condition have yellow throats. Green frogs are darker colored on colder days to help absorb heat. Green frogs can sometimes be blue due to a genetic mutation known as axanthism that prevents the frog from producing yellow pigments (yellow and blue pigments together make the color green). Green frogs live wherever shallow freshwater ponds, road-side ditches, lakes, swamps, streams, and brooks are found. Green frogs can be found in vernal pools and other temporary bodies of water, but will usually not breed in them. This species is very opportunistic and is quick to colonize new water bodies such as swimming pools and artificial ponds.

Most often seen resting along the shore, they leap into the water when approached. By inhabiting an ecotone, in this case the terrestrial and aquatic habitat boundary, green frogs (and other aquatic ranid frogs), by employing a simple leap, leave behind their many and faster terrestrial enemies that cannot similarly cross that boundary.

Green frogs are commonly found sitting on the shore line pointed towards the water. If approached, the frog will quickly jump into the water and either swim to the bottom or float at the surface with only their eyes out. This species is usually diurnal, although they are active at night when temperatures are warm.

Green frogs start to awaken once daytime temperatures rise above 10 °C, though they will not breed until temperatures are consistently warm.

Tadpoles are detritivores that sift through the substrate looking for morsels. Tadpoles consume decaying plant matter and will also feed on dead animals such as frogs that drowned. Tadpoles can be found sunning themselves in shallow water, retreating into deeper water when disturbed. They are active during the winter and can be seen moving around under the ice.

Green frogs will attempt to eat any mouth-sized animal they can capture, including insects, spiders, fish, crayfish, shrimp, other frogs, tadpoles, small snakes, slugs,[10] and snails. Green frogs practice "sit and wait" hunting and therefore eat whatever comes within reach. Tadpoles will eat nearly anything organic, including diatoms, algae, and tiny amounts of small animals such as zooplankton.

Strawberry poison-dart frog



The strawberry poison frog or strawberry poison-dart frog is a species of small poison dart frog found in Central America. It is common throughout its range, which extends from eastern central Nicaragua through Costa Rica and northwestern Panama. The species is often found in humid lowlands and premontane forest, but large populations are also found in disturbed areas such as plantations. The strawberry poison frog is perhaps most famous for its widespread variation in coloration, comprising approximately 15–30 color morphs, most of which are presumed to be true-breeding. O. pumilio, while not the most poisonous of the dendrobatids, is the most toxic member of its genus.

The frog is diurnal and primarily terrestrial, and can often be found in leaf litter in both forested and disturbed areas. Studies have shown that the optimal habitat is determined by the male, considering the resource benefits and defense costs. Males tend to expend more energy defending smaller but higher quality areas. There has also been evidence that the better competitors and fighters are the males guarding smaller sites with higher female density. In most Anura the louder the vocalization when competing usually means they are larger in size and in better health. However, in the O. pumilio species researchers have determined that these frogs call out at a lower rate to limit their energetic expenditures. Females, on the other hand, simply distribute themselves according to tadpole rearing sites.

Though brightly colored and toxic, these frogs are relatively small, growing to approximately 17.5–22 mm in standard length.

Golden toad



The golden toad is an extinct species of true toad that was once abundant in a small, high-altitude region of about 4 square kilometres in an area north of the city of Monteverde, Costa Rica. It was endemic to elfin cloud forest. Also called the Monte Verde toad, Alajuela toad and orange toad, it is commonly considered the "poster child" for the amphibian decline crisis. This toad was first described in 1966 by herpetologist Jay Savage. The last sighting of a single male golden toad was on 15 May 1989, and it has since been classified as extinct by the International Union for Conservation of Nature.

The golden toad was one of about 500 species in the family Bufonidae—the "true toads". Males were orange and sometimes slightly mottled on the belly, while females showed a greater variety of colors, including black, yellow, red, green, and white; both sexes had smooth skin. While males had brilliant orange that attracted females to mate, females are covered with a dark, charcoal-colored outlined with yellow lines. Sexual dimorphism played a key role in identifying females, who were typically larger than males. Body length ranged from 39 to 48 mm in males and from 42 to 56 mm in females. Males had proportionally longer limbs and longer, more acute noses than females. Females also had enlarged cranial crests above the level of the orbit (eye socket), while in males the crests were much lower.

Individuals spent the majority of their lives in moist burrows, in particular during the dry season. The average lifespan of the golden toad is unknown, but other amphibian species in the family Bufonidae have an average lifespan of 10–12 years.

The golden toad inhabited northern Costa Rica's Monteverde Cloud Forest Reserve, in a cloud forest area north of the city of Monteverde. It was distributed over an area no more than 8 km2 and possibly as little as 0.5 km2 in extent, at an average elevation of 1,500 to 1,620 m. The species seemed to prefer the lower elevations.

Mink frog



The mink frog is a small species of frog native to the United States and Canada. They are so named for their scent, which reportedly smells like a mink. The scent is more akin to that of rotting onions to those unfamiliar with mink. It is also sometimes referred to as the north frog.

The mink frog is a small frog, growing up to 4.8 to 7.6 cm. The dorsum is generally green in color, with darker green and brown blotching and the belly is a cream, yellow, or white. They are sexually dimorphic in that males typically have a bright yellow colored throat, while females have a white colored throat, and the tympanum of the male is larger than the eye, while the female's is smaller than or the same size as the eye. The frogs have a pale-colored underside and bright green lips.

The mink frog is predominantly aquatic, living among the vegetation (especially among lily pads) in ponds, swamps, and streams around wooded areas. They feed on a wide variety of things, including spiders, snails, beetles, and other invertebrates. As tadpoles they consume primarily algae and decaying plant matter.

Golden poison frog



The golden poison frog, also known as the golden frog, golden poison arrow frog, or golden dart frog, is a poison dart frog endemic to the Pacific coast of Colombia. The optimal habitat of P. terribilis is the rainforest with high rain rates (5 m or more per year), altitudes from sea level to 200 m elevation, temperatures of at least 26 °C, and relative humidity of 80–90%. In the wild, P. terribilis is largely solitary and territorial; however, captive P. terribilis specimens can live in much larger groups. They may appear innocuous due to their small size and bright color, but wild frogs are lethally toxic.

The golden poison frog is endemic to humid forests of the Pacific coast of Colombia in the Cauca and Valle del Cauca Departments in the Chocó Rainforest. Its range is less than 5,000 square km. Destruction of the rain forests has limited habitat size and put P. terribilis on international endangered species lists. It is only known from primary forest. The eggs are laid on the ground; the males transport the tadpoles to permanent pools.

The frog is the largest species of poison dart frog, and can reach a size of 55 mm as adults, with females typically being larger than males. Like all poison dart frogs, the adults are brightly colored, but they lack the dark spots present in many other dendrobatids. The frog's colour pattern is aposematic (which is a warning coloration to warn predators of its toxicity). The frog has tiny adhesive disks on its toes, which aid climbing of plants. It also has a bone plate in the lower jaw, which gives it the appearance of having teeth, a distinctive feature not observed in the other species of Phyllobates. The frog is normally diurnal. P. terribilis occurs in three different color varieties or morphs.