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FROGS

## Australian Green Treefrog

# *Ranoidea caerulea*

*Ranoidea caerulea* is a large, calm and plump tree frog of 7-12 cm from northern and eastern Australia and southern New Guinea. It is hardy, can live for more than 20 years and is regarded as one of the easiest frogs to keep. The biggest problem in captivity is that it eats anything it can fit its mouth around and easily becomes too fat.

Family: Pelodryadidae  Former name: *Litoria caerulea; Pelodryas caerulea*  **Mild skin toxins**

KEY FACTS

### THE ANIMAL

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|---|---|
| Adult size | **7-12 cm**<br>snout-vent length |
| Lifespan | **7-20 years** |
| Active | **At night** |
| Lifestyle | **Arboreal** |
| Habitat | **Savanna, dry forest and wetland** |
| Skin toxins | **Mild**<br>Wash your hands after contact and keep your fingers away from your eyes and mouth |
| Difficulty | **Beginner** |

### CARE

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|---|---|
| Min. enclosure | **45 × 45 × 60 cm**<br>L × W × H for 2 adults |
| Temperature, day | **24-28 °C** |
| Temperature, night | **19-22 °C** |
| Humidity | **80-95%** |
| Water | **Water section**<br>depth 2-10 cm |
| UVB | **Optional**<br>Ferguson zone 1 |
| Diet | **Insects** |
| Kept | **Singly, in pairs or in groups** |

### BREEDING

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| Reproduction | **Egg-laying** |
| Development | **Tadpoles in water** |
| Egg-laying site | **In water** |
| Sexually mature | **24 months** |
| Eggs per clutch | **150-2,000** |
| Clutches per year | **3-4** |
| Hatching | **1-3 days** |
| Larval period | **30-60 days**<br>from hatching to metamorphosis |
| Larval diet | **Algae/plants and complete diet** |
| Parental care | **None** |

### PROTECTION AND PAPERWORK

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|---|---|
| CITES | **Not listed** |
| IUCN | **Least Concern (LC)** |

## About the species

*Ranoidea caerulea* is one of Australia's largest tree frogs. Adults measure 7-12 cm from snout to vent. The body is broad and sturdy, the mouth large, and the fingers and toes carry large, round adhesive discs. Above the eye and the eardrum lies a thick skin fold, the iris is golden, and the pupil is horizontal.

The back is normally grass green, but the frog can change colour according to mood and surroundings and turn brown. Some animals have small, irregular white spots, and animals with more spots have been bred in captivity. The male has a wrinkled, grey to yellowish vocal sac; the female's throat is white and the skin tighter. Females are normally the largest.

The species was the first Australian frog to be scientifically described, by John White in 1790. The species name caerulea means blue: the first specimens were damaged by the preserving fluid, which dissolved the yellow pigment layer in the skin, so the frogs looked blue. The species has since been moved between several genera and is often known under the older name *Litoria caerulea* and more recently also as *Pelodryas caerulea*. Since 2020 it has been known that it is in fact a species complex, and that some of the populations in New Guinea belong to another species.

Skin toxicity: The frog has large skin glands in the neck, and the secretion contains peptides (caerins) with antibacterial and antiviral activity as well as caeruleins, which act as a digestive hormone. The species is not known to be particularly toxic to humans, but the skin secretion is biologically active. Wash your hands after contact, and do not touch your eyes and mouth afterwards.

The temperament is calm and trusting, and the frog likes to sit out in the open.

## Distribution and habitat

*Ranoidea caerulea* lives in northern and eastern Australia: in northern Western Australia from the Kimberley, in the northern Northern Territory, in north-eastern South Australia and in most of Queensland and New South Wales. Outside Australia it occurs in the lowlands of southern New Guinea, in both the Indonesian and the Papuan parts, from Papua in the west to the area around Port Moresby, and it is particularly numerous on Daru. In New Guinea the occurrences are scattered. If the species complex is split further, the populations here may be assigned to a different species.

The species has been introduced to Florida, where only small populations exist, and to New Zealand, where the population is probably extinct. The introduced populations are not part of the native range.

> **Native range:** Australia, Indonesia and Papua New Guinea.

### HABITAT

*Ranoidea caerulea* is highly adaptable and is found in many habitats: humid coastal areas, humid and dry forest, swamps and, in dry regions, almost desert-like steppe, as long as there are bodies of water to breed in. It also lives close to humans and likes to sit on window sills, in water tanks and downpipes and in bathrooms, where it is cool and damp. Downpipes and tanks amplify the males' calls.

The frog is most active at night. During the day it rests in cool, damp and dark places, often with several animals close together. The skin secretes a waxy coating that limits evaporation, and in dry periods the frog hides in tree hollows, under bark and stones, or digs down and surrounds itself with a cocoon of shed skin and mucus.

The breeding season falls in spring and summer in the southern hemisphere, from September to March, when the males call from the vegetation around the breeding ponds. Temperature and humidity in the wild are not documented.

Read more: Humidity, misting and ventilation

## Care

### THE ENCLOSURE

A pair of *R. caerulea* can be kept in an enclosure of 45 × 45 × 60 cm. A group of 3-4 animals needs at least 60 × 45 × 60 cm. Height matters more than floor area, because the frog climbs, and the lid must fit tightly but have good ventilation.

Plant with sturdy plants such as pothos, *Monstera*, *Philodendron* or bromeliads, because the frogs are heavy and rough on the planting. Branches and cork bark provide perches. The substrate can be coconut fibre or fine soil, which does not harm the frog if it swallows a little, or simply a bare glass floor. Avoid pebbles and gravel. The frog is not shy and has no great need for hiding places, but give it a couple of shaded spots.

A water area of 8-10 cm is an advantage, so that it is easy to control the humidity and, if desired, to breed; it must be easy to climb out of, e.g. via branches or large stones, because the frog does not swim very well. The species eats a lot, so droppings and leftovers must be removed regularly. Keep only animals of the same size together, because larger animals eat smaller ones.

### TEMPERATURE

Keep the enclosure at 24-28 °C during the day and 19-22 °C at night. A small difference between warm and cooler spots in the enclosure lets the frog choose for itself.

Heat with a thermostat-controlled heat mat on the side of the enclosure or a weak heat bulb in a well-ventilated enclosure. Do not use heat rocks, and do not let the frog sit directly on a heat source. Have one thermometer high up and one low down, because the heat collects high up. A proper winter rest is not necessary; a cooler period is only used to kick-start breeding (see breeding).

Read more: Heat and temperature

### HUMIDITY AND MISTING

Mist the enclosure once a day so that the humidity is kept at 80-95 %. With a large water area that retains moisture, it is enough to spray every 3rd-4th day. Thanks to its waxy skin, the species tolerates drier air than most tree frogs, but it must always have access to water, and stagnant, humid air can cause respiratory problems. Good ventilation is therefore just as important as spraying.

Spray with rainwater or dechlorinated tap water, preferably in the evening, when the frog wakes up. Let the substrate dry out a little between sprayings, so that it does not become muddy.

### WATER AND WATER QUALITY

*R. caerulea* must always have access to water. A permanent water area of 8-10 cm with easy access out is good, but a large, shallow water bowl that is easy to take out and clean can also be used. A water depth of 2-10 cm is therefore suitable. The frog likes to sit in the water and absorbs it through its skin.

Use rainwater or tap water that has been treated against chlorine or has stood for a couple of days. Distilled water lacks minerals and should not be used in the water bowl. Change the water often, because the frog eats a lot and makes a corresponding mess. A water area can be kept clean with a small filter. Never use soap or cleaning products, because amphibians absorb substances through their skin.

### LIGHTING AND UVB

The frog needs no light other than what the plants require. Fluorescent tubes are preferable to incandescent bulbs, because they give off less heat, and overheating and drying out stress the frogs. Keep the light on for 12-14 hours a day. UVB is optional; if you choose it, use a weak source (Ferguson zone 1) with plenty of shade, and replace the tube every six months. In any case keep a fixed daily rhythm with dark nights.

Read more: Lighting and UVB

### FEEDING

Adult *R. caerulea* eat crickets, locusts, blowflies and Dubia roaches and also take earthworms. Waxworms, mealworms and other larvae are treats in small amounts. Juveniles of 10-35 mm eat fruit flies, houseflies, small crickets and silverfish. Avoid pinkie mice, which fatten and are an unnatural diet, and never give fireflies of the genus *Photinus*, which can kill the frog.

Juveniles are fed daily or every other day. Adults are fed 2-3 times a week. Give only as much as the frog eats in 10-15 minutes, and gut-load the feeders the frog is to receive with greens and grain beforehand. Dust the food with a calcium and vitamin powder.

The species easily becomes too fat, and there is a good sign to look for: if the skin fold hangs more than halfway down over the eardrum, the frog is getting too much to eat; if it does not hang down at all, the frog is too thin and possibly ill.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

### BEHAVIOUR AND HANDLING

*R. caerulea* is calm and not shy and often sits in plain view. It does not hop much, but waits for prey to pass by and then leaps the last 10-15 cm. The species is not social outside the breeding season and can be kept alone, in pairs or in groups of animals of similar size. The males call loudly with a deep, repeated "brawk", especially when the humidity rises, so the enclosure does not belong in a bedroom.

The species tolerates handling better than most amphibians, but should still be handled only when necessary. The skin is delicate, so your hands must be rinsed free of soap and cream and be moist, or you can use a clear tub. Wash your hands afterwards.

## Breeding

### SEXUAL MATURITY AND SEXING

The sexes are recognised by the throat: the male has a wrinkled, grey to yellowish vocal sac, and the female's throat is white with tighter skin. The males may develop dark nuptial pads on the thumb, and the females are normally the largest, but size alone is not a reliable distinguishing feature. Juveniles cannot be sexed, so buy a small group of 4-5 animals if you want both sexes. The animals become sexually mature after about two years.

### MATING

In the wild the species breeds after heavy summer rain. In captivity, breeding can be triggered by stopping the misting for 5-6 weeks and lowering the temperature to about 22 °C, with 10 cm of water and 10 hours of light. After that you gradually return to normal conditions and mist heavily. A rain chamber can also be used. The male clasps the female behind the front legs, and she lays the eggs while he fertilises them. A pair can lay 3-4 clutches a year.

### EGGS AND TADPOLES

The female lays 150-2000 eggs per clutch, typically several hundred, in still water. She shoots the eggs out with such force that they pass through the male's cloud of sperm. The eggs are brown, 1.1-1.4 mm and surrounded by clear jelly. They float at first and sink within a day. There is no parental care, so remove the adults or move the eggs to a separate tank.

The tadpoles are 8 mm when they hatch and grow up to 44 mm before metamorphosis. They swim in all layers of the water and live on algae and, in captivity, on dry food for aquarium fish. Feed daily, change the water often, and spread them across several tanks if there are many.

Read more: Rearing tadpoles

### METAMORPHOSIS

The eggs hatch after 1-3 days. The tadpoles take at least a month to develop, typically about six weeks, and most have completed metamorphosis within two months. Under good conditions it can take as little as 2-3 weeks, while individual tadpoles can remain in the water for up to a year, especially at low temperatures.

When the front legs appear, the tadpole must be able to get out of the water easily. Lower the water level, and add sloping stones, cork or floating plants so that it can climb out and not drown.

### REARING THE YOUNG

The newly metamorphosed froglets can be very small and must be fed daily with fruit flies and tiny crickets, dusted with calcium, until they can take larger food. Keep them in a humid rearing enclosure with plants and a shallow water bowl.

Sort the froglets by size, because cannibalism occurs among both juveniles and adults. It is better to buy half-grown animals than newly metamorphosed ones, because they are far hardier. How quickly the juveniles grow to adult size is not documented.

## Health and common mistakes

*R. caerulea* is hardy, but the same problems recur:

- Obesity: too much food gives fat folds over the eyes and eardrum and shortens life. Follow the fold over the eardrum, and feed sparingly.
- Skin infections: reddish or bluish discolouration and white, cottony or fungal-looking areas, especially on the lower belly, around the vent and on the inside of the hind legs, are caused by bacteria and fungi and require prompt treatment.
- Respiratory problems with poor ventilation.
- Cramps or tremors in the legs when handled are a warning sign, often associated with calcium and vitamin deficiency.
- Chytrid fungus (*Batrachochytrium dendrobatidis*) is found in wild Australian frog populations. Never release frogs or tadpoles into the wild.

A healthy frog sits mostly in the upper part of the enclosure, is robust and muscular and has a big appetite. A sick frog more often sits on the bottom and looks slim. Seek a vet with knowledge of amphibians, and isolate the animal if it is not thriving.

Read more: Quarantine and hygiene

## Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.