



The pool frog stamp released in the United Kingdom in 2018, highlighting the distinctive ecology of this species



Australia celebrated the southern corroboree frog in 1982, with this stamp demonstrating the species' distinctive colouration



Mountain chickens are deep rooted in the culture of Montserrat, being the subject of a WWF stamp set released by the country in 2006

## THEMATICS

# A quick hop through frog stamps of the world

In this in-depth thematic guide, herpetologist (someone who studies amphibians and reptiles) and philatelist, Steven Allain, takes us on a journey across the world in search of stamps featuring frogs and toads

**O**n Saturday 30 April, it will be the fourteenth Annual Save The Frogs Day, a day with the aim to help raise the awareness of the plight of amphibians globally. Currently 41% of amphibians are threatened with extinction by the end of the century, with threats such as habitat loss, disease, and climate change being the biggest factors.

As part of our stamp journey, we'll



The European tree frog has been the subject of many country's stamps, but the most eye catching is that released by Luxembourg in 1985

highlight what makes these species particularly special among the 7,400 species of frogs known to science! Common names are great, but the words used to name species vary in different languages and geographical locations, so most scientists prefer to use scientific names, especially for those species that occur across a range of countries.

Starting close to home, Royal Mail recently featured a species of frog which not many people will be aware is present in Great Britain. This is the pool frog (*Pelophylax lessonae*), which made an appearance in the 2018 'Reintroduced Species' special issue. Pool frogs went extinct in England in the late 1990s, although they made a return in the mid-2000s thanks to a reintroduction project run by the Amphibian and Reptile Conservation Trust. They're currently restricted to a couple of sites in Norfolk, so you're unlikely to come across them while walking the dog.

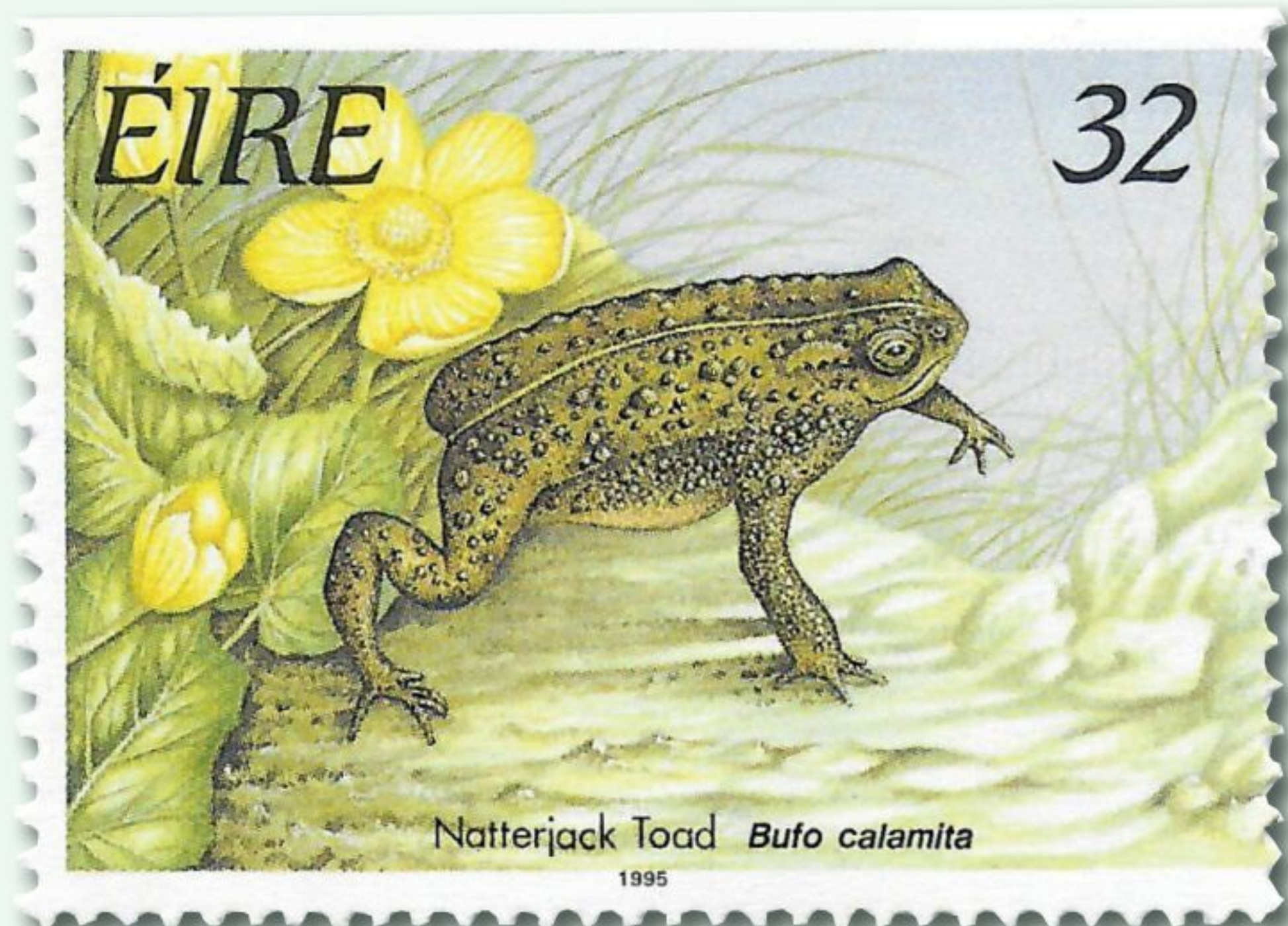
The UK isn't the only country to feature rare frogs on their stamps – Australia has featured the southern corroboree frog (*Pseudophryne corroboree*). These black and yellow frogs are poisonous, and are found



Like the mountain chicken, the Hispaniolan giant tree frog was also featured on collaborative stamps with the WWF, released by Haiti in 1999

in New South Wales. Unfortunately, they're currently listed as Critically Endangered with fewer than 200 frogs left in the wild. Thankfully, conservationists are working hard to safeguard this species, including captive breeding at institutions such as Taronga Zoo.

You'd be forgiven for thinking that an animal called the mountain chicken would be a species of bird. However, it's a species of large frog, *Leptodactylus fallax*. It's another Critically Endangered species but this time native to the Caribbean islands of Dominica and Montserrat. Mountain chickens get their name from the fact that these frogs were once a local delicacy, and



Being the only toad native to Ireland, the natterjack toads were in the spotlight in 1995 through the circulation of this stamp



Despite being common across Europe, midwife toads have not featured on many stamps from the continent. The best is this example from Spain, printed in 1975

not surprisingly, they taste like chicken. Conservationists are currently trying to help the species recover from threats, such as those of disease and habitat loss. Elsewhere in the Caribbean, endemic frogs have been featured on the stamps of Haiti. The stamps celebrated the giant tree frog (*Osteopilus vastus*, formerly *Hyla vasta*) which is only found in Hispaniola, and is threatened by habitat degradation and deforestation. This species like many, has variable colouration, with some individuals being brown, whereas other may be grey, and others green. This variation helps the frogs to blend into their surroundings, while also being able to survive in different habitats.

Did you know that Europe has tree frogs? They may not be present

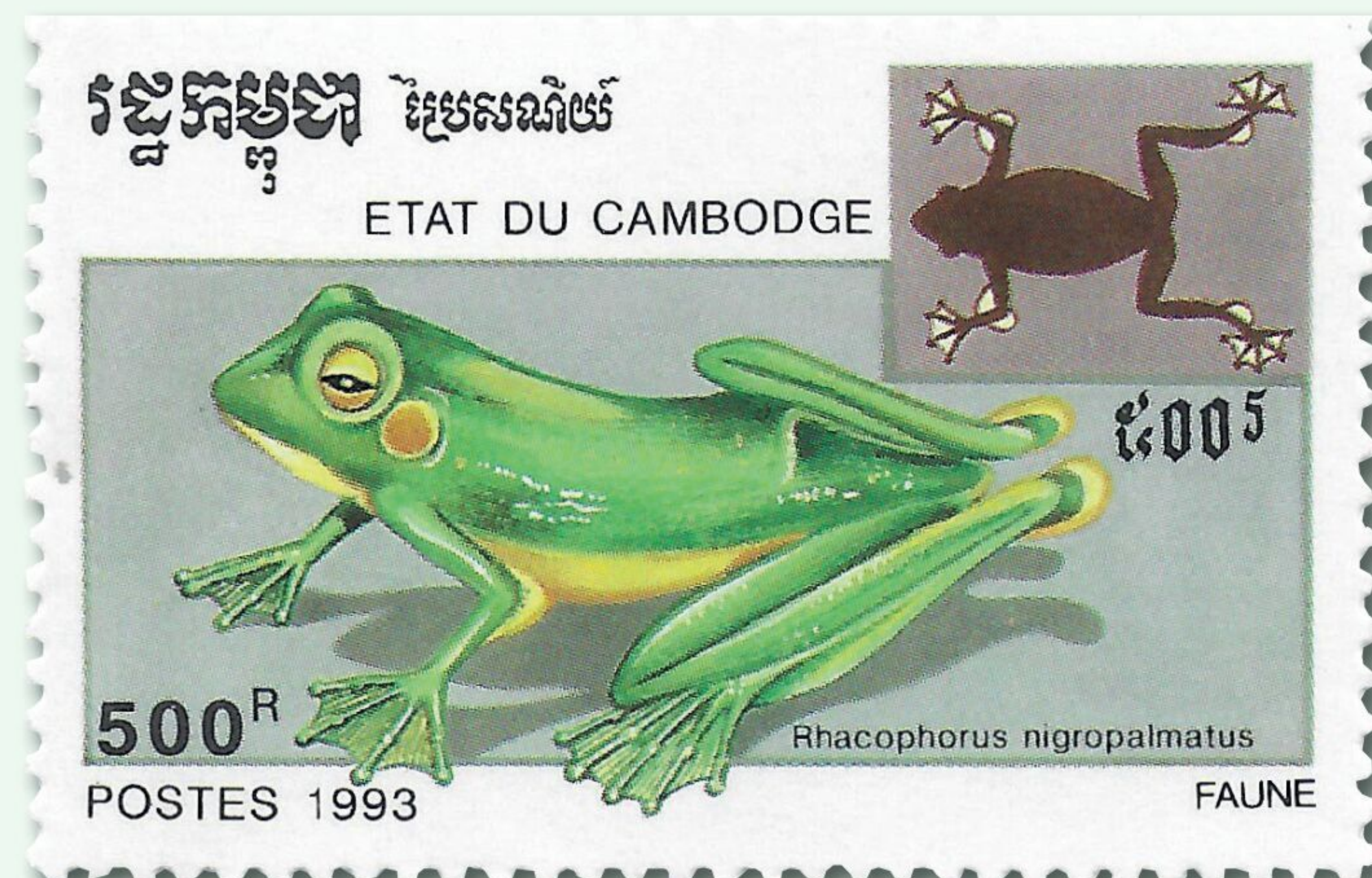
here in the UK, but these small green frogs are quite widespread across the rest of the continent. The European tree frog (*Hyla arborea*) is small green frog, growing to 5 cm in length. Populations in some European countries are declining due to pollution, and the destruction of wetlands. The species is known for their loud calls, which sounds like high-pitched chirruping. These calls can often be heard emanating from the vegetation surrounding a pond, or within the pond itself. If you're ever visiting the continent, be sure to listen out for them!

Another species found across Europe is the natterjack toad (*Epidalea calamita*). Unfortunately, natterjack toads have a restricted range here in the UK and

Ireland, mainly being found on coastal sites. They can be distinguished from other toads by having a yellow stripe down their back. Extensive conservation efforts are aiming to ensure the survival of their populations within the British Isles, including reintroductions to formerly inhabited sites. In Britain, the natterjack toad is listed as Endangered but across Europe, natterjack toads are Least Concern. This highlights how a species can have a varying conservation status throughout its range. Just because it is common in one location, it doesn't necessarily mean it will be common elsewhere. This is especially true of species that have a large range, or one that also extends to islands.

Did you know that there is a group of toads that carry eggs on their hind legs, until they're ready to hatch, at which point the male deposits them in a pond? They're small, light brown in colour, and very secretive (which is probably why you've never seen one). Six species are known, being present across Europe and North Africa. The most widespread of these is the common midwife toad (*Alytes obstetricans*), found across North-west Europe and Iberia, with introduced populations in Great Britain. They can grow to 5 cm in length, and their secretive behaviour often makes them difficult to locate. Another quirk of their biology is the fact that males make a high-pitched beeping sound, which has been likened to a smoke alarm with a dying battery.

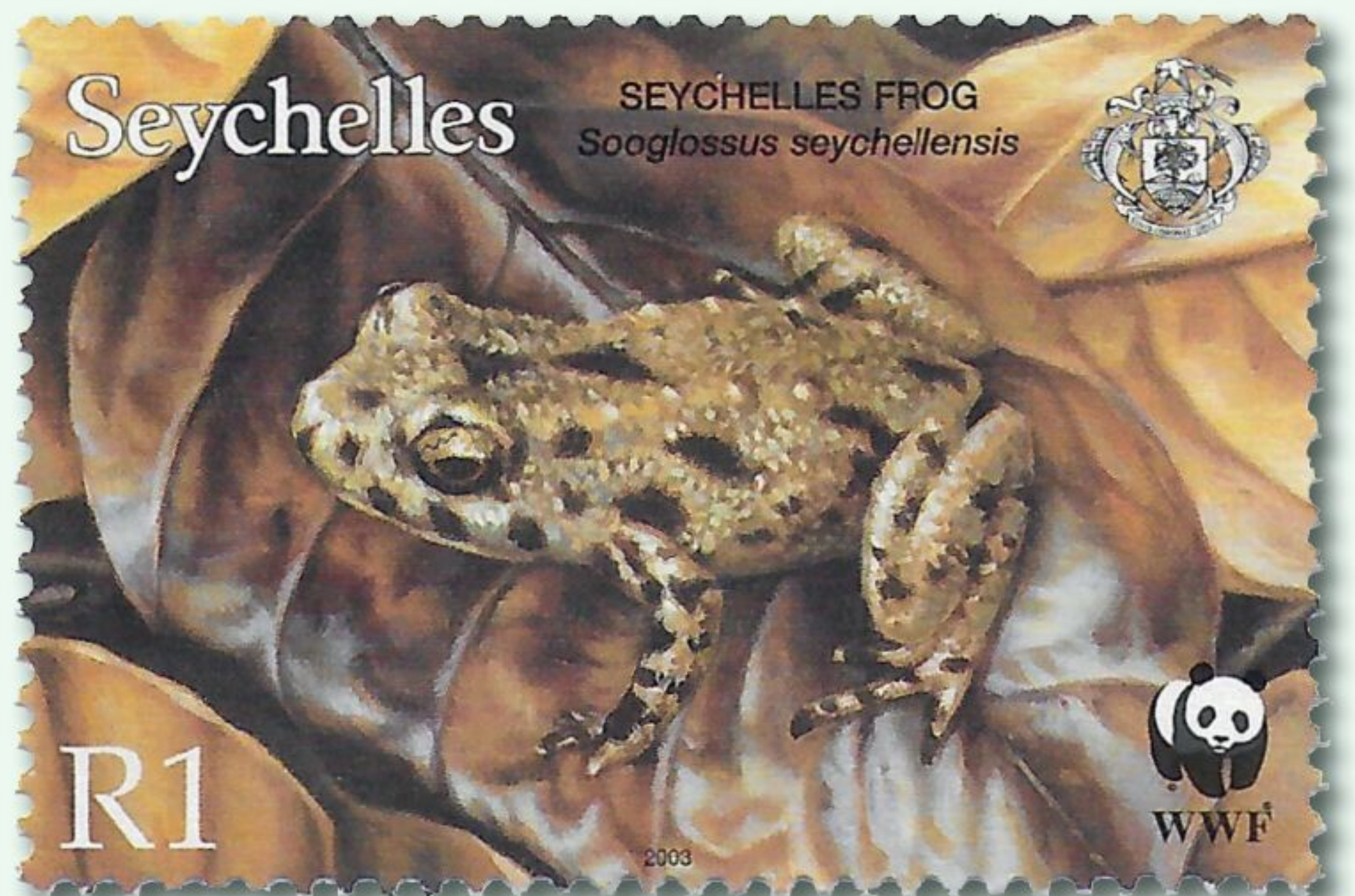
Other frogs have the ability to fly (well, glide) from tree to tree in the tropics of South-east Asia. It may also surprise you to learn that you're also



Cambodia released a stamp set in 1993 highlighting the diversity of gliding animals found in the country, Wallace's flying frog was among them along with a diagram showing where its gliding surfaces could be found



Malaysia is one of a handful of countries to display horned frogs prominently on their stamps, including this example from 2007



Living in leaf-litter, the small Seychelles frog is capable of easily blending in, as demonstrated by a stamp released in conjunction with WWF in 2003

able to find gliding snakes, lizards and mammals here. Wallace's flying frog (*Rhacophorus nigropalmatus*) can be found across the Malay archipelago, named after the 19th-century biologist Alfred Russell Wallace who collected the first specimen. Despite their gliding ability, these green frogs are quite large and photogenic.

It may surprise you to learn that a number of amphibians are extremely well camouflaged. Natural selection has acted to ensure that only those with the best camouflage survive, meaning that in some environments, these frogs are extremely hard to find. An example of one of the best camouflaged frogs is the long-nosed horned frog (*Megophrys nasuta*), found in southern Thailand through to Sumatra and Borneo. Looking down on them, the horned frog looks just like a pile of dead leaves. Thankfully,

they're listed as Least Concern due to their wide geographical range, although the species may be multiple, containing currently unrecognised 'cryptic species' that are morphologically similar to one another. The only real way to resolve these sorts of issues is through the use of DNA comparisons.

On the other end of the spectrum, there are some frogs that wish to be seen, such as the dyeing poison dart frog (*Dendrobates tinctorius*), found in northern South America. They advertise the fact they're highly toxic to would be predators, in an attempt to stay safe. This is known as aposematism. The dyeing poison dart frog is a popular pet, and currently listed as Least Concern. This strategy works well for the most part, although it can also lead to other species evolving a similar colouration, in an attempt to mimic the toxic species.



The dyeing poison dart frog is brightly coloured to warn predators that it is toxic, as shown on this 1981 stamp from Suriname

There are a number of toxic amphibians found across the world (including some we've already met), most of which display some level of warning colouration. Poison dart frogs get their name from the fact that the tribes of South America tip their darts with the poison skin secretions from the frogs, to help them hunt monkeys and other animals in the treetops above.

Some species of amphibians have a huge natural range. The guttural toad (*Sclerophrys gutturalis*, formerly *Bufo gutturalis*) can be found throughout most of sub-Saharan Africa. The guttural toad is a generalists, meaning that they can feed off of a wide variety of food sources, and are tolerant of a range of varying temperatures. They can be found in a wide range of habitats from lakes, savannahs, and arable land. The Seychelles frog



Guttural toads are widespread across sub-Saharan Africa, this stamp produced by Lesotho in 1994 best captures this species



*(Sooglossus sechellensis)* is conversely, a specialist with a specific habitat type and temperature range it needs, to be able to survive. This small brown frog is one of a handful of representatives that belongs to a unique family, only found in the Seychelles. The Seychelles frog only inhabits an area around 30 km<sup>2</sup>, making them extremely vulnerable to threats like habitat loss, and climate change, and invasive species. The introduction of non-native species to new areas can be a huge problem for island restricted species, as they have nowhere else to run to. A country which is often thought of when invasive species are mentioned is New Zealand. The Hamilton's frog (*Leiopelma hamiltoni*) can now only be found on Stephens Island. Before the introduction of non-native mammals from Europe (such as rats) and Australia, these frogs were once widespread across the lower South Island, and upper North Island. Now this species is now the focus of extensive conservation efforts, in an attempt to safeguard them from extinction.

Something else that's important to consider is the conservation status of species, which we've highlighted throughout for those species that have a considerable risk of extinction. This is often established by the International Union for the Conservation of Nature (IUCN) through their Red List, which is compiled by experts working with that particular species. If you've ever heard that a species is endangered, this classification will have likely been assigned by the IUCN Red List. In the 21st century, amphibians are going through the perfect storm of factors leading to declines. Aside from those already mentioned, pollution and over-harvesting are all leading to declines in global populations. For many

New Zealand is known for its pride in its native fauna, this stamp from 1984 is the first example from the country featuring an amphibian on a postage stamp

## FROG AND TOAD STARTER CHECKLIST

- Edible frog* (*Pelophylax esculentus*), Liechtenstein, 1974
- Galam White-lipped Frog* (*Amnirana galamensis*), Gambia, 1982
- Greenhouse frog* (*Eleutherodactylus planirostris*), The Bahamas, 1984
- Greater leaf-folding frog* (*Afrixalus formasinii*), Mozambique, 1985
- Natterjack toad* (*Epidalea calamita*), United Kingdom, 1986
- Fiji tree frog* (*Platymantis vitiensis*), Fiji, 1988
- Surinam horned frog* (*Ceratophrys cornuta*), Peru, 1988
- Marbled reed frog* (*Hyperolius marmoratus*), Zambia, 1989
- Splendid leaf frog* (*Cruziohyla calcarifer*), Honduras, 1995
- Cinnamon frog* (*Nyctixalus pictus*), Malaysia, 2007
- Bleeding toad* (*Leptophryne cruentata*), Indonesia, 2011
- Venated gliding frog* (*Rhacophorus malabaricus*), India, 2012
- Bushveld rain frog* (*Breviceps adspersus*), Zimbabwe, 2014
- Green paddy frog* (*Hylarana erythraea*), Thailand, 2014
- Fire-bellied toad* (*Bombina bombina*), Belarus, 2015
- Heredia robber frog* (*Craugastor escocoes*), Costa Rica, 2017
- Armoured mist frog* (*Ranoidea lorica*), Australia, 2018
- American green tree frog* (*Dryophytes cinereus*), USA, 2019
- Mediterranean painted frog* (*Discoglossus pictus*), Malta, 2021

poorer communities in the developing world, amphibians are a vital and numerous source of protein. It's not just the French that eat frog's legs, it's a common practise across south-east Asia, Africa and the Americas. Due to this demand in frogs, and the pet trade, a number of amphibian pathogens have been spread around the globe such as the amphibian chytrid fungus which causes the fatal condition chytridiomycosis. Amphibians have been a part of our planet's fauna for 300 million years, now however, they face they're greatest challenges as humankind races to save them.

That brings our quick whistle-stop tour to an end. You've hopefully learnt a little about the wide variety of frogs and

toads which have been commemorated in stamp form. By reading this, my wish is that your curiosity about amphibians has increased, and you may even be inspired to collect philatelic material which pays tribute to these fascinating creatures. I also hope I've educated you about the diversity of frogs and toads found around the world, and the threats that they face. There are a number of resources out there if you wish to discover more about this often overlooked group of animals, which is another reason why I chose to include their scientific names. Who knows which country will be next to commemorate frogs and toads on their stamps, either way, they will certainly be added to my growing collection!