

The Purple Frog

The purple frog is described as a “living fossil” because it has evolved in its own unique direction for over 130 million years. It has a shiny purple plump appearance, which looks like a cross between a frog and a fat aubergine with a white nose. If you were a purple frog, how would you feel about changing temperatures? How do you think your ancient frog ancestors saw the world compared to those alive today?

Little known facts on the purple frog

- The purple frog spends most of the year underground. It only comes to the surface to breed during the Indian monsoon season.
- It was only formally discovered in 2003 in India, as its burrowing lifestyle meant it had escaped identification by biologists before this date.
- The purple frog mainly eats termites, as it has a small narrow mouth, which stops it from eating larger items of prey.
- Purple frogs require damp, loose soil, which they can borrow into. They use their hind legs as spades in order to throw soil over their back.
- The purple frog does not make a “ribbit” noise when it calls. Apparently, it sounds more like a chicken when it croaks!

But why is the purple frog important?

- The purple frogs evolved about 130 million years ago, and survived the extinction of the dinosaurs. As there are no fossil records from this time the purple frog is a “living fossil” able to tell scientists a lot about the early evolution of frogs.
- The purple frog is listed as being in decline by the IUCN Red List of Threatened Species.
- Because amphibians are particularly sensitive to environmental change, they serve as “canaries in a coal mine” showing us subtle responses to environmental changes, which humans might not otherwise notice.

How climate change will affect the purple frog

- The main threat to the purple frog is removal of its forest habitat for agriculture. The cutting down of forests is a source of carbon, as living forests act as a carbon sink (store). Climate change will also reduce the specialised habitat needed by purple frogs, as they are not able to survive in hard, dry soils.
- Amphibian skin is extremely thin, which means that frogs are extremely sensitive to even minor changes in temperature, humidity and air or water quality.
- Globally, frogs are in a big decline due to the spread of a frog fungal disease, chytridiomycosis, which is caused by chytrid fungus.
- Amphibians are at risk from this disease because the chytrid fungus prevents them absorbing moisture through their skin, so they dehydrate. Future climate change is likely to produce conditions that are more favourable for the fungus, which will put frogs under greater stress.
- The slow collapse of frogs and amphibians globally is being seen as the first sign of a global mass extinction taking place due to human-induced climate change.

The world without the purple frog

The purple frog has only recently been formally discovered. This shows how little we know of the nature on our planet and how creatures such as the purple frog might go extinct before we discover that they even existed.