Frogs have survived everything from predators to asteroids, but the human hordes are proving to be their most deadly enemy. GRAEME O’NEILL takes up the cause.

**Where have all our frogs gone?**

**ROGS** are the great survivors. They have run the gamut of predators, parasites and climate change for at least 250 million years and weathered repeated climate change - even asteroid impacts that disrupted the Earth’s ecosystems, causing mass extinctions.

But there are ominous signs that frogs are now in serious trouble. In the past two decades many of the world’s frogs and toads, some formerly abundant, have vanished or become rare.

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Mr Marantelli and Melbourne zoo has recently helped rescue one of the world’s most endangered frogs from extinction. The tiny Romer’s tree frog, Philautus romeri, was once common in the sub-tropical heathlands and grasslands of the Fleurieu Peninsula, but numbers are increasing human numbers events, including a small refuges on Lantau Island and nearby Chep Lap Kok Island.

Several years ago the Hong Kong Government decided to build a new airport on Chep Lap Kok; bulldozers flattened the island and it was covered in concrete and asphalt. Unfortunately, Mr Birkett and Mr Marantelli says, that some Australian researchers took every Romer’s tree frog on the island into captivity, intending to breed them and return them to favorable habitats on the Fleurieu Peninsula and elsewhere in the archipelago.

Microbes in the peat layer decomposes, keeping the environment clean. The frogs spawn in a stable plastic dish and are moved after hatching and fed on food from the archipelago.

In January the zoo sent a consignment of 350 Romer’s tree frogs back to the university; another 1400 are expected to be released.

The zoo is also breeding and displaying local frogs at its Frog House and will, in future, focus on Victorian species.

Mr Birkett describes Melbourne suburbs, the night is falling silent as frogs disappear from ponds and gardens, perhaps because of the impact of chemical pollutants.

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**Little mate:** John Birkett with a Romer’s tree frog at Melbourne Zoo. Pictures: PAUL TREZISE

Melanin, the dark pigment in sustained human skin, absorbs and dissipates UV radiation. According to Mr Birkett, melanin also protects frog eggs - the dark spot at the centre of the egg protects the precious repository of genes in the cell nucleus.

American researchers reported to the Adelaide congress that US frogs, particularly those at altitudes where UV radiation was normally more intense, were dying from microbial infections that normally would not be lethal.

All the Queensland extinctions have happened at altitudes above 450m; at least three other species that range between sea level and higher altitudes have become rare or disappeared from the highest parts of their territory.

In Victoria the Bar Wag Baw frog, Platypodophryne, is at risk on three fronts. It lives at altitudes above 1500m on the Bar Baw Plateau, where at altitudes above 1500m on the Bar Baw Plateau, ozone depletion becomes more pronounced over temperate and polar latitudes.

The extension of ski-resort development on the plateau is also threatening its habitat. But the greatest long-term threat may come from the greenhouse effect.

A similar threat faces the striking crocodile frog, Neobatrachus porosus, which lives only in phragmites-moss beds above the treeline around Mt Kosciusko.

Mr Birkett’s colleague Gerry Marantelli, one of the authors of the Frogwatch Field Guide to Victorian Frogs, is a frog fanatic; he has converted the three-car garage under his house into a laboratory where he breeds and studies frogs.

Mr Marantelli says Victoria’s spotted tree frog, Litoria sphencter, has undergone a precipitous decline across Victoria’s central-eastern highlands, where it was common.

A riverine specialist, the spotted tree frog has become possibly the most thoroughly studied frog in Australia. By the late 1980s, it would be found at only two sites in the highlands.

Two other Victorian frogs are listed in the International Union for the Conservation of Nature and Natural Resources’ Red Book of endangered species: the southern barred or stuttering frog, Mixophyes balfour, and the great burrowing frog, Helsetopus australis.

Three of Australia’s five Mitophyes species are endangered; M. balfour, one of Victoria’s largest frogs, is restricted to a few streams in forested gullies in far east Gippsland.

Its range extends into NSW, but the southern barred frog has not been seen in Victoria since 1985.

The great burrowing frog has also vanished from most of its range in eastern Gippsland and recent detailed surveys have failed to find any populations.

It is quite possible, Mr Marantelli says, that some Australian frogs have become extinct without being collected and described scientifically.

Several Australian species, like the Alexander toadlet of the Gulf of Carpentaria, are known only from single specimens collected earlier this century, he said. Meanwhile, 200 years after European settlement, species are still turning up. This year Tasmanian frog experts found new species, tentatively named the ‘cloud frog’ and given a formal scientific name. Researchers are excited by the discovery of a frog with blue skin and orange feet, living in yabby burrows within a few kilometres of one of the state’s largest population centres, Alonnah. Mr Marantelli says: “If this thing has remained undiscovered for two centuries, we have to worry what else we might find.”

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**Small fry: A tree frog epitomises the species’ vulnerability.**

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