

Save the 'frog' year

The World Association of Zoos and Aquariums and the World Conservation Union have announced 2008 as the International Year of the Frog, to create awareness about the global decline of amphibians and promote its conservation efforts¹. The Amphibian Ark (AArk) was set up to create a broad understanding about the amphibian extinction crisis that is deemed to be the greatest species conservation challenge². Conservation organizations and professionals are mobilizing efforts to help save as many of these species as possible³.

The AArk programme that is estimated to cost around US\$ 400–500 million, has implored the zoos, botanical gardens and aquariums in every country to protect threatened frog species from the killer fungus Chytrid (*Batrachochytrium dendrobatidis*)⁴. According to the Global Amphibian Assessment, nearly a third (32%) of the world's 5743 known amphibian species is threatened, while 129 species have become extinct⁵ since 1980. Being adapted to both land and water, amphibians play a significant role in the food chain⁴. Their decline may bear heavy consequences on the world environment and also hinder the prospects of biomedical research, as frogs are known to secrete medicinally important alkaloids⁶.

'Global warming and the accompanying emergence of infectious diseases are a real and immediate threat to biodiversity', according to Sam Scheiner, Program Director for the National Science Foundation Ecology of Infectious Diseases Program⁷. Research from different parts of the world seems to concede with Scheiner's statement. In Europe, decline in frog species was linked with climate change, and species with higher levels of decline exhibited lower ability to disperse⁷. Similarly, higher temperatures corresponded with fungus-driven extinctions of frog in the biodiversity hotspots of Central and South America. The killer fungus is suspected to have originated from African clawed frog (*Xenopus laevis*) that has been transported across the globe for research purposes⁴.

Golden toad (*Bufo periglenes*) of Costa Rica and the gastric brooding frog (*Rheobatrachus silus*) of Queensland,

Australia, have already vanished⁵. In New Zealand, the three largest frog species are at the brink of extinction while four others have severely reduced the



African clawed frog.

population size due to habitat change and the introduction of non-indigenous animal species⁸. The mountain yellow-legged frog (*Rana muscosa*) is close to extinction at the Yosemite National Park, California, with 85% of its population infected with fungus⁴. The population of mountain chicken frog, *Leptodactylus fallax*, one of the largest species considered a delicacy in Dominica and Montserrat, has declined by about 70% due to affliction with chytridiomycosis. Experts at the London zoo are undertaking efforts to conserve the surviving members of the species¹.

Conservation programmes have so far had mixed success. The efforts undertaken by a slew of zoos in USA have helped restore the Kihansi spray toad (*Nectophrynoides asperginis*) after it nearly faced extinction in Tanzania⁵. Researchers from the University of Manchester and the Chester Zoo are rallying around to save the splendid leaf frog (*Cruziohylla calcarifer*) from extinction in the wild and also provide pointers to its betterment in zoos and aquariums³. Various organizations are trying to promote education regarding the conservation of frogs. The Frogs Australia Network, launched in 2004 by the WWF Frogs! and Rio Tinto, plans to create a national approach to conservation and increase the knowledge about frogs⁹.

While the world was abuzz with statistics of precipitous decline of frog species, India added a new amphibian species to its list. *Nasikabatrachus sahyadrensis*, also

known as the Jurassic frog, was discovered from the biodiversity-rich region of the Western Ghats. The frog that is grouped under a new family Nasikabatrachidae, is said to have digressed from the group Sooglosidae that has its close relatives in Seychelles. Such investigations are important from the perspective of amphibian evolution and phylogeny¹⁰. However, there are also instances of illegal frog hunting in the forested hinterlands. Recently, three people were arrested by forest officials in Goa under the Wildlife Protection Act 1972, for alleged hunting of frogs for consumption. Environmentalists have demanded vigilance against illegal hunting of frogs as well as a curb on frog delicacies¹¹.

The patron of the International Year of the Frog, David Attenborough's assertion for 'an immediate and sustained conservation effort to support captive management' could alone save the 'species of these wonderful creatures from becoming extinct'¹².

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