

Indian Bullfrog *Hoplobatrachus tigerinus* (Daudin, 1803) of Ousteri Lake, Puducherry

The Indian Bullfrog *Hoplobatrachus tigerinus* (Daudin, 1803) is the largest frog in India, which grows up to 15 cm in length. They are found in various colours ranging from yellow to olive green, with dark irregular markings. They have a pointed snout and long hind limbs. Their toes are nearly entirely webbed. The Indian Bullfrog is a lone forager and nocturnal (http://www.theanimalfiles.com/amphibians/frogs/indian_bullfrog.html). The frogs are mainly aquatic, inhabiting mostly freshwater wetlands, both natural and artificial (especially paddy fields and casuarinas fields). They are absent or uncommon in forested areas and coastal regions¹. Their diet includes invertebrates, small mammals and birds. Breeding takes place during the monsoon season, when adults congregate at ephemeral rainwater pools. They produce a large number of eggs, but the mortality rates among tadpoles, froglets and adult frogs are high.

Ousteri Lake (79°44.22'E and 11°56.85'N) has been recognized as one of the important wetlands of Asia by the International Union for Conservation of Nature and Natural Resources (IUCN) and is the most important freshwater lake in Puducherry, spreading over an area of 390 sq. km with a variety of floral and faunal diversity. The study area experiences mean annual temperature of 30°C. The climate is tropical dissymmetric with the rainfall during the northeast (NE) monsoon. The period 1–8 October 2010

brought excess rain to Puducherry region (around 940.2 mm; <http://www.imd-chennai.gov.in/>). The lake attained its full water-holding capacity due to the NE monsoon. The present survey was done during November–December 2010 in different habitats such as paddy fields, grasslands, casuarina farm, watersheds adjacent to the lake, using opportunistic visual search and photographic method during night-time. We photographed different types of Indian Bullfrog with a variety of colours and dark irregular markings (Figure 1).

At present, the species is considered to be locally common throughout its South Asian range. However, it is predicted that the populations might decline in the near future because of habitat loss and water pollution (<http://www.iucnredlist.org/apps/redlist/details/58301/0>). The global amphibian extinction crisis and its present dynamics are the worst we have ever faced². It was once heavily collected for the international frog-legs trade. Legal export of this species from the range states of India has been banned since the mid-1990s. Loss of wetland habitats through infrastructure development, prolonged drought and water pollution by pesticides and other agrochemicals are now the main threats to the species.

Amphibians are more threatened and are declining more rapidly than either birds or mammals³. *H. tigerinus* (Daudin, 1803) is listed as 'Least Concern' under the IUCN category, in view of its wide

distribution, tolerance of a broad range of habitats, presumed large population, and because it is unlikely to be declining fast enough to qualify for listing in a more threatened category. It is listed in Appendix II of CITES. Export for commercial purposes from India is prohibited. It is included in Schedule IV of the Indian Wildlife (Protection) Act, 1972 (as amended in 1991). Within India, there is a need to monitor populations of this species over the next five years, to determine current population trends (IUCN Red List of Threatened Species). Protection of this species since the mid-1990s has resulted in a rise in its numbers, although populations are still considered to be low. It has been recorded from numerous protected areas throughout its range.

Threats to amphibians in Ousteri lake and its marginal areas involve alterations to both freshwater and terrestrial habitats due to anthropogenic activities. Conserving the amphibian diversity of Ousteri lake should be considered as an important goal. Protection and conservation of high-quality freshwater ecosystem habitats for the diversity of frogs are needed for improvement of fresh-water habitats and frog diversity in the lake.

1. Fugler, C. M., *Fish. Inf. Bull.*, 1983, **1**(4), 1–51.
2. Amphibian Conservation Action Plan IUCN/SSC Proceedings, 2005.
3. Stuart, S. N. *et al.*, *Science*, 2004, **306**, 1783.

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Figure 1. Different colours of Indian Bullfrog in Ousteri Lake, Puducherry.